Effective IT Project Management

Using Teams to Get Projects Completed on Time and Under Budget

ANITA ROSEN

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Summary of Contents

Contents

List of Figures

Preface

I developed this book as a catharsis for the frustrations I continually face when I am hired to save projects that are out of control, over budget, and seem as if they will never get released. Every "problem project" has at least one of the following characteristics: Management is not supporting the project process, the project team, or the project manager; the team isn't working together; or an effective foundation of analysis was not created at the beginning of the project.

Early on in my career a boss commented that I got all the easy projects. "I thought I had given you some difficult projects," he said, "but apparently I didn't." This statement surprised me since I had just successfully released two projects that were in total disarray when they were assigned to me. I reminded him about the status of the projects when I inherited them. He replied, "I guess, after all, they were not as difficult as I thought they were. They went very smoothly." It was then that I real-

ized I had an aptitude for project management. For more than twenty years now, I have successfully taken out-of-control projects and turned them into projects that meet the needs of the user and get out on time and on budget. My secret is not really a secret; it's just good common business sense.

This book is a culmination of my experiences. Its goal is to provide the reader with my hard-learned lessons. The breakdown of projects into eight recognizable phases and the idea that management should buy in at the end of each of these phases are not new concepts. The compelling aspect of this book is the assortment of tips and techniques it provides to management, to team members, and especially to project managers. The revelation isn't in having a project team, it is in having practical, clear, nonbureaucratic guidelines that are easy to follow but ensure that projects get out on time and on budget. If the principles illustrated in its pages are followed, I can assure you that your projects will never be late or over budget. I would like to hear from you. Visit me on my Web site, www.anita rosen.com.

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Introduction

General Stonewall Jackson, the "winningest" general in the American Civil War, was asked by a reporter what the secret was to his success. General Jackson replied "I'm the firstest with the mostest."

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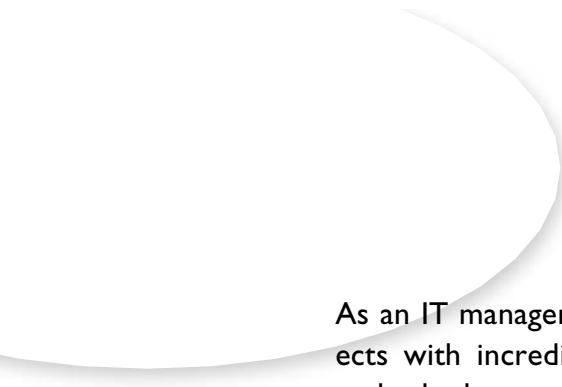
As an IT manager you face innumerable problems and projects with incredible pressure to finish them on time and under budget.
For example:

➤ The company is looking at running more effectively and efficiently. How can IT projects be better executed?

➤ Other departments are always complaining that it takes IT too long to develop new solutions. How can IT shorten development processes and provide user departments with more insight into the steps necessary to create an effective new solution.

➤ The last project nearly killed everyone in IT. IT won't be able to keep up their current pace for long. There has to be a better way to manage new projects.

➤ The company is looking at ISO 9000 certification. The most logical place to start an ISO 9000 implementation process is within the project life cycle (PLC). What is an effective PLC process?

➤ It always seems that every project release is a scramble. No one ever really knows what is going to be in the final project or when the project will actually be released until the date it is released. How can better information be provided for projects?

➤ Project decisions seem to be made in the hallways. There is never a forum where all the facts can be laid out and discussed. How can the process be better managed?

More and more IT managers are realizing that project management processes can help them address these problems. The project life cycle is one such process.

The project life cycle, or PLC, is the process of identifying, creating, releasing, managing, and discontinuing a project. This straightforward process is an invaluable tool for helping IT managers to successfully complete a project on time and under budget. The PLC is made up of a series of distinct phases. Employees throughout the company may become involved with the project at various times throughout the project's life.

The adage goes, how do you eat an elephant . . . one bite at a time. The same applies to developing a project. It is best to break the development process into manageable units. This book consists of eight chapters. Each chapter represents one phase in the life cycle of a project.

Here's an overview of the eight phases:

Phase 1—Project Concept

All new projects or new releases must be evaluated to make sure they strategically fit the company direction. Phase I provides the forum for introducing new project ideas and obtaining approval to continue project definitions. The ob-

jective of Phase 1 is to introduce a new project idea or next-generation idea to the company, to gain agreement on relevance to strategic direction, to produce a project road map, and for executive staff to receive a snapshot of the projected costs so they can decide if it is beneficial for the company to develop this project.

Phase 2—Project Design

The objective of Phase 2 is to define and design a project that satisfies the requirements identified in Phase 1, Project Concept, and to establish a core team of people responsible for representing their organizations in the development of this project. The objective of Phase 2 is to create a project team, an integrated schedule, and a Development Cost Baseline, as well as to freeze the Project Requirements Document (PRD). By the end of Phase 2, the team can present the actual release date, the final Feature/Functionality List, and the projected costs of developing the project.

Phase 3—Project Development

Phase 3 focuses on developing a project that satisfies the requirements created in the Design Document and the Project Requirements Document. IT develops the project and verifies that it works. As they complete their verification they pass the project to the Quality Assurance group (QA) so that the Quality Assurance group can begin testing the project to assure it meets company quality guidelines. IT also passes the project to Documentation so that they may begin creating user manuals and help files that will support the project.

Phase 4—Quality Assurance

There are two mutually exclusive processes taking place in Phase 4, the Quality Assurance of the project, and if the proj-

ect will be sent to customers, the development of the Project Launch Plan. The Quality Assurance group receives the finished project from IT and the user manuals and help files from Documentation. The Quality Assurance group then tests the project and uses the documentation to make sure the project, along with the supporting documentation, meets the Design Document specifications, the Documentation Plan, and the Project Requirements Document. If the project will be given to customers, the Communications and Business Development groups develop the Project Launch Plan. This plan includes all the marketing deliverables necessary to launch a project. A Project Launch plan will include due dates and release dates, an advertising plan, and a PR and press tour schedule. If the project is for customers, Business Development works with sales to identify, contact, and sign up customers who will test the project at their location. For internal projects, the Quality Assurance group will work with the Help Desk and the project manager to identify internal beta sites. For projects that include hardware, software, or services that need to be scheduled or installed, the project manager will develop a release plan.

Phase 5—Beta

Beta testing takes place after the Quality Assurance group agrees that the project, user manuals, and help files are functional and that they meet the Design Document and the Documentation Plan specifications. The project is then sent to a select group of users who have agreed to test the project and to confirm that its features work in a commercial environment. The Quality Assurance group takes the lead in monitoring the user test process. IT continues to fix bugs. Meanwhile, if the project will be available to customers, Business Development is focused on actualizing the Project Launch Plan.

Phase 6—Release

After the beta sites sign off on the quality of the project, the team enters Phase 6. Phase 6 is the time it takes for the project to be staged and sent to users. The team finalizes its decision and the scope of the release (monitored or normal). Help Desk tests to make sure that they are ready to take over full support of the project, and that user training is ready. If the project is being released to customers, Business Development and Communications confirm that the launch plan is ready.

Phase 7—General Availability

General availability is the phase when a project is in use. Help Desk is assisting end users, end users are being trained, and IT is managing the daily use of the project and fixing any bugs. It is good business practice for executive management to review projects on a yearly basis. The yearly phase review is used as an after-the-fact tool to measure the effectiveness of the estimates created during the earlier PLC process; it also helps to identify if projects are effectively being used or need new features, or if they should enter End of Life.

Phase 8—End of Life

At some point in time, the project becomes obsolete or more expensive to support than the benefit generated from its use. End of Life is the process whereby the project history can be reviewed and a decision can be made on how to discontinue a project.

Having a set PLC process ensures that all participants know what is expected of them, when it is expected, where they get information from, and to whom they give information. With a defined process, there is less chance for surprises, fires, and items to be forgotten. A thorough PLC process

ensures prerequisites are completed when needed, since employees understand what is expected of them. Processes are already created, so they don't need to be re-created for each release.

For the executives, having a clear process provides them with the tools to focus on strategic direction instead of worrying about implementation. Executives can feel comfortable with the knowledge that projects are proceeding as planned when they have a process that includes monitored phases and standard deliverables. Periodic reviews of the project flow provide executives with the ability to get clear, standard snapshots of a project throughout the development process. Instead of fires and excuses, executives now have information.

Many projects are the result of a great idea. Execution is the difference between a successful project and one that does not meet user needs, that comes in late, or that is over budget. These needs might be features, functionality, the time to market, or an understanding of the project as a component within the market. The PLC process provides a road map to ensure all components are reviewed at the beginning of a project and revisited throughout each development phase. This road map provides management with the tools to fine-tune the project and with an accurate availability date in the early stages and throughout the project development process.

Many IT organizations think they don't need processes because they are too small or that a documented process is too bureaucratic. PLC is as bureaucratic as the company makes it. Companies of all sizes need to plan their projects properly. Executives need to be focused on driving business direction, not on making sure individual contributors know what to do next. The PLC process is an excellent means for making sure everyone is in agreement on what needs to be

done; it provides the infrastructure to ensure deliverables are completed in the correct order and on time. Having a PLC process in place provides the infrastructure for companies to implement new ideas with less confusion since all employees have a road map on how to get a project out the door.

A defined project life cycle process does not guarantee that projects will be developed on time and on budget. A written corporate project life cycle process provides a company with a definition of what is created and when it is created. Without an understanding of why these things are created, a scope of what is created, and an understanding of how each department's deliverables fit into the company as a whole, a defined project life cycle becomes just another bureaucratic process. The purpose of this book is to provide employees with a road map to understand what, when, and why procedures and deliverables are created, in order to create an informed, intelligent decision-making process. Now that you have an overview of the process, the next step to consider is your team.

Building Your Project Team

The number of people on your team will vary depending on the size and visibility of the project. No matter what size the project is, the same functions need to be executed. Here are some of the functional roles you'll need to fill for a successful team:

IT

IT is the functional area responsible for programming, managing, and integrating the project's hardware and software.

They are also responsible for defining, designing, and developing a project, as well as for conducting its initial testing and fixing any errors before it is released. IT is the key member on the project team and needs to be available to provide technical information both written and verbal to all members of the team.

Communications

Communications is the functional area responsible for all communications inside and outside of the company. Smaller companies do not need a separate communications person for internal projects; the Project Manager will handle all the internal corporate communication. Larger companies with offices scattered around the United States or around the globe will need a person to provide communications to end users. If the project being developed will be made available to people outside the company, the corporate communications person will need to interact with public relations, advertising, industry analysts, and other outside agencies.

Business Development

The Business Development person is responsible for project direction, industry analysis, and competitive analysis, as well as for understanding the user and identifying and driving project direction. Business Development works with all areas of the company to make sure the project is focused on the user and is presented in the best possible light.

Project Manager

The Project Manager's responsibility is to make sure each member of the team understands his or her interdependencies. The Project Manager facilitates communications among

departments, as well as manages processes and confirms the deliverables within each stage of the project life cycle have been met. When deliverables slip, it is the responsibility of the Project Manager to escalate this information and to facilitate resolution. In smaller companies the Project Manager's duties usually incorporate those of Business Development and Communications.

Quality Assurance

Quality Assurance (QA) is responsible for defining, designing, developing, and implementing a test plan. QA tests the project to confirm that it meets the design specifications outlined in the Design Document and the PRD. QA uses the documentation developed by Documentation to ensure that it correctly explains how to install and use the project along with identifying how errors are to be handled. QA is responsible for managing the user test procedures defined in the Beta Plan and for confirming that bugs have been fixed.

Help Desk

Help Desk is responsible for defining, designing, and developing a detailed plan that articulates how the company will support a project after it is released. The Support Plan defines how Help Desk personnel are trained, how users will access help, how bugs will be tracked and fixed after release, what training will be available to end users, and how updates and fixes will be sent to users.

Documentation

Documentation is responsible for defining, designing, and developing all the documentation required to install, support, and answer any questions a user would have regarding a

project. Documentation defines what publications will be produced in the Doc Plan; these may include online help, E-Learning courses, or manuals. Documentation works closely with IT to develop these documents, and works closely with QA to assure documents are appropriate for end users.

Users

Although not actually on a team, users are so important to the success of a team they need to be thought of as a silent team member. The people who will use what the team is developing, users may be employees, partners, customers, or the general public.

Phase 1—Project Concept

When Buddha was asked how a person could get to Nirvana, he replied, "There are many roads to Nirvana. If you follow my road, you will get there."

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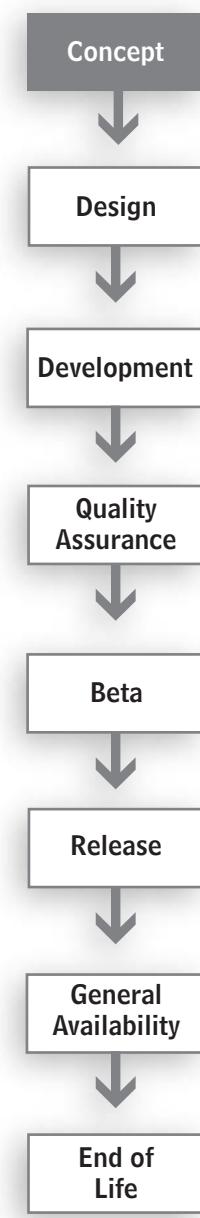
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1.1 Project Concept Overview

The objective of Phase 1 is to introduce a new project idea or next-generation idea, to gain agreement on the idea's relevance to the company's strategic direction, to produce a project road map, and for the executive staff to receive a snapshot of the estimated costs and revenue so they can decide if it is beneficial for the company to develop this project.

Phase 1 is broken into two steps. The first step is to identify an idea and present it to management so it can be reviewed for acceptability. The second step is to briefly analyze the idea to see if it is viable.

Many projects are simply part of standard operating procedures. These projects tend to be software updates and roll-outs of new hardware. Many companies have a timetable by which they live. This timetable outlines what software and hardware will be updated and how often. For existing applications this is a very effective strategy to ensure that current applications and equipment are managed efficiently. One of the black holes of many companies is identifying where new projects come from. Many times a senior executive identifies

a new trend and spearheads an initiative to execute on this trend throughout the company. Other projects are a reaction to competitors or industry issues. Some projects bubble up from the Help Desk or from employee complaints. Many times a project will find its way into IT after a renegade department purchases hardware and software and then needs IT to manage the project. In short a Project Concept can come from anywhere. This chapter outlines one foolproof process that can be used to identify the viability of a Project Concept.

Once there is initial approval, a Phase 1 lead person is assigned to report to executive staff on the scope, cost, and relevance of the proposed project. Management will decide who the Phase 1 lead person is. The Phase 1 lead person can come from any discipline within the company, can have multiple responsibilities, and can become the Project Manager. Typically the Phase 1 lead person will come from a business development group or within the IT organization. A lead technical person will also be identified. The Phase 1 lead person will provide the technical lead person with his or her assessment of the user base and the proposed features. The technical lead will need to create an estimated schedule.

1.1 in a Nutshell

All new projects or new releases must be evaluated to make sure they strategically fit the company or division's direction. Phase 1 provides the forum for introducing new project ideas and obtaining approval to continue project definitions.

➤ Phase 1 is broken into two steps.

- Step 1: an idea is presented to management
- Step 2: management has the idea vetted for feasibility

➤ Management will need to identify a Phase 1 lead person and a technical lead person to develop the Project Concept.

1.2 Reviewing Project Ideas

All project ideas should be submitted and reviewed periodically. Ideas for new applications can come from anywhere within an organization. It is best not to stifle the flow of ideas, since this process may be used to spot trends or issues within the organization.

Some organizations find market advantages by pushing the information technology envelope. For example, Federal Express was one of the first companies to embrace tablet computers. Tablet computers provided Federal Express with the technological infrastructure to receive accurate information on packages in the field as they were picked up and delivered.

Reviewing ideas that come from within the organization can provide insights into efficiencies and help the organization create best-use practices. Many times employees who are using the applications on a day-to-day basis have insight and recommendations on how to better streamline processes. Employees may request that screens be simplified, that additional information be savable, or that records be easily sorted by specific fields. Customers may call salespeople asking for information in the corporate database that can be made directly accessible to customers, thus streamlining the sales job. Many times departments within a company become frustrated with an existing process and go around the system, purchasing new equipment and software to better perform their job. The PC is the most visible example of this. In the 1980s, PCs entered most companies through the backdoor. When employees had problems and needed help with PC technologies, they turned to IT. Reluctantly IT took ownership of corporate PCs. More recently the Internet crept into companies. Most IT organizations were quick to take control so they could provide employees with fast Internet connections, corporate security, and intranet sites. Many times new employees, those who have worked at other com-

panies, have had different experiences using tools that make their job easier or provide better services to customers. Companies can leverage these experiences to create more efficient applications.

Ideas that come from these experiences should be written down and submitted to the company. The company should develop a method to capture and vet these ideas. For example, the billing department may put in a request that customer statements be made available online, saving the company money on statement printing and mailing costs.

Keep this process simple. To start with, create an idea-proposal process. An easy way to gather ideas is to create a simple form on the company's intranet Web site whereby employees can provide requests and propose solutions. This form can include a space for the proposed idea, the estimated savings to the company, and the projected benefits to the company and the employees. Periodically, requests created by this form should be reviewed for their viability. Requests that are popular and provide a high rate of return or cost savings can then be vetted to see if they are feasible and should be funded.

Some companies receive hundreds of suggestions a month, a quantity too numerous to vet by a management team. In a situation like this, a lead person should be appointed with the responsibility to review all submitted suggestions and provide a summary of suggestions based on similar suggestions, possible cost savings, or overall company interest. The goal of the lead person is to identify the ideas to be reviewed in more detail. The lead person presents his initial findings to management so they can decide if the project should be funded.

1.2 in a Nutshell

Periodically management should have meetings to review all submitted ideas and see which ideas look promising. This will

either be a direct list of submitted ideas or the summary list provided by the lead person.

➤ The frequency of these meetings should be based on the size of your organization, the need for change, and the number of ideas requested.

➤ Keep the idea proposals simple. The focus of these meetings is not to fund the project, it is to review proposed ideas and identify the ones to be investigated further.

➤ Many companies leave this step out since they think it adds too much bureaucracy. It is worthwhile to look at all ideas that are submitted. There may be a theme to the ideas that will highlight small user trends before they become big issues.

➤ Once the ideas have been reviewed, the top ideas need to be investigated further by the appointed Phase 1 lead person.

It's true: After an idea has been developed, the first step in realizing a Project Concept Plan is to have a clear understanding of the request.

1.3 Figuring Out a Project's Feasibility

Many ideas sound good on paper but are not a good fit for the company. For instance, the company may lack the sophistication to implement and run a technically complicated application, or an application may require a very structured approach to business that does not match the company's way of doing business.

A good exercise for figuring out the feasibility of a project is to map out the effect of adding a new project to the com-

pany. The chart in Figure 1.1 provides a good visual aid to use when mapping out a project's feasibility. The horizontal bar identifies IT's experience with a proposed project. The vertical bar identifies end-user experience with the applications and hardware that make up the project. The lowest risk projects are in quadrant 1, where both IT and end users are familiar with and knowledgeable about developing or using a project. The highest risk projects are in quadrant 4, where IT and end users are unfamiliar and will need additional training. A quadrant 1 project uses technologies that are familiar to your IT people and produces solutions that are familiar to your user community. A quadrant 2 project takes advantage of your IT organization's existing skills and uses already existing IT equipment but changes the way the end-user community works; hence, end users will need heavy training or new equipment. For a quadrant 3 project, IT will need to purchase new technology and train or hire new IT people, but end users can use existing hardware and

Figure 1.1 Resource Matrix
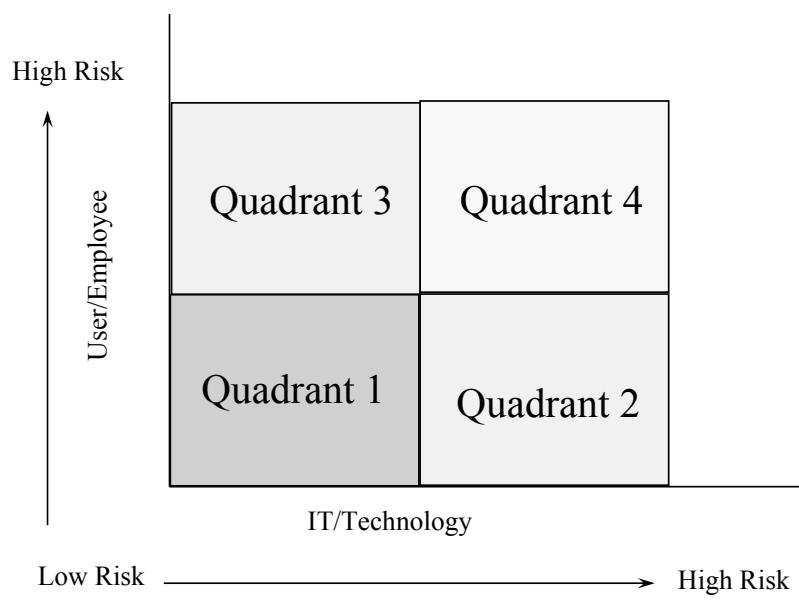
will need minimal or no training. Quadrant 4 projects result in IT and end users being retrained and both IT and end users needing new hardware and software. Projects in quadrant 1 will have the highest success rates and lowest hidden costs. As projects move out of quadrant 1 and into quadrants 2, 3, and 4, the risk increases as the unknowns, learning curves, and purchases increase. It is important to understand up front a project's risk level since higher-risk projects typically have more hidden costs, may take longer to implement, and are at a higher risk to miss targeted savings. Take the time up front to map out the risk of the project. It may save millions in the long run.

Quadrant 1 Example: IT is adding a new feature to an existing application. Both IT and the user community are familiar with the hardware and software used.

Quadrant 2 Example: The company is adding a new customer service application that will be deployed on portable tablet computers. The software is a module that works with the company's existing database application. IT is familiar with the server software and hardware, but hardware needs to be purchased and deployed for the user community, and employees need to be trained on using this new application.

Quadrant 3 Example: IT is adding a new search engine to the company's intranet. Employees are familiar with search tools, although IT has to add new hardware and train someone to develop Web server applications on UNIX platforms.

Quadrant 4 Example: The project is to install a sales force automation application. The application calls for new equipment and will be run on an unfamiliar database. IT does not have any people proficient with the database the software runs on. The software will also change the

way the sales organization does their job. Massive train-
ing will be needed in order to deploy this new solution.

Look at the infrastructure created by this project. If the IT
department consists of COBOL programmers and this proj-
ect needs Java programmers it may be high risk, since the
technical strengths found in IT are not being leveraged. Like-
wise, if the Help Desk organization has a strong database
background and this project needs data communications sup-
port, this project may cost more than anticipated, since the
installation plan will need to include training or hiring Help
Desk people. Depending on the project, Help Desk staff may
not have the skills to cover for one another, adding costs to
the project. Cost-effective projects typically reuse internal
infrastructure, allowing existing and new employees to easily
migrate between projects. When migrating your existing ap-
plications to take advantage of Internet technology, you may
need to migrate existing employee skill sets. If you need to
change the skill set of existing employees, identify this up
front, so you can factor in the cost and time of training. It is
not necessarily practical to replace existing employees be-
cause they are not familiar with a new technology. Early in
this process identify the skill sets necessary for the project
to be successful. Experienced developers who have worked
on previous, non-Internet versions of the application may
bring more to the table than hiring a recent college graduate
proficient with Java. IT will have to figure into its cost and
schedule the time it will take to get existing employees
trained with new technologies. This education process
should be started once the Project Concept has been ap-
proved. The Design phase will give IT the time to send em-
ployees to training classes and, if necessary, hire additional
people who can augment the team with their experience.

Finally, the company should look at the project's ability to
reuse known technology. When creating new technology it

is wise to limit the number of unknowns. Creating new technology based on new technology can lead to a disaster. Many companies have learned this the hard way. There are many stories of programmers designing solutions based on a vendor's nondisclosure presentation. The company reaches a critical point in the development process only to realize the infrastructure technology they need does not exist. The Resource Matrix is one tool that management can use to assess the risk of a project.

1.3 in a Nutshell

Many ideas sound good on paper but are not a good fit for the company. Initially ideas need to be reviewed to assure feasibility. The following is an example of a simple list that a project should be reviewed against.

➤ Is the infrastructure created by this project reusable?

➤ Is the project based on technology the company is already using and for which it has in-house expertise?

➤ Can the technology be developed using off-the-shelf applications and known technology, or will your IT organization be creating new applications?

➤ Will the new project slip seamlessly into your current employee or customer offerings or will you need to install additional hardware or provide additional training?

➤ If the organization is set up as a profit center, is the project's return on investment (ROI) or margin acceptable?

It's true: The Resource Matrix shows how risky a project may be. It is a tool to provide management with a risk assessment early on.

1.4 The Business Requirements Document

Every project, regardless of its size or level of complication, needs to have a defined business view. The Phase 1 lead person creates a document identifying the following information:

- Who is the end user?

- Why do they need this new project?

- How will this affect them?

- How will this affect the way they currently work?

- What additional training will they need?

- What features do they need in the eventual solution?

- What benefit do they believe they will obtain from this project?

There are many projects created without a Business Requirements Document. When asked why this document doesn't exist the typical response from management is that the information found in a Business Requirements Document was intuitively obvious or that creating a Business Requirements Document seemed bureaucratic. Some projects are top down; management is trying to streamline the company. Many times management doesn't think it is necessary to pull employees whose jobs will be affected into the process.

Don't fall into the trap of not creating a Business Requirements Document. It is very important to answer the questions posed in a Business Requirements Document. This information solidifies the project's position. Having the information written down explains and verifies the decision-making process. Many times the people involved at the beginning of a project are no longer involved with it later, or they become involved at a later stage in the project. Ideas that seemed intuitive today may not look intuitive in the future.

Additionally, many times people believe they are in agreement. Later, they all believe their own recollection is correct, even though their recollections of why they created the project and what business problem the project solved are all different. Writing information down confirms that there is agreement on the ideas discussed. The information identified in the Business Requirements Document is the basis for all decisions made throughout the project's life cycle. Many projects evolve over time. A written document provides a record for when the project changes or new players join on.

Every Business Requirements Document needs to ask and answer the same questions. For add-on projects, the existing user base should be interviewed. Don't shortcut the process. It is necessary to ask and answer all the questions. Businesses are always changing; a small change in business may result in a new need or may refocus existing needs. The main questions that should be identified in this document are: (1) What are the expected user demographics? (2) What are the existing user requirements? (3) What are the future user requirements? (4) What are the IT/Help Desk recommendations?

The following explains how to identify the questions that need to be asked and where to find the information in order to create a Business Requirements Document.

1. User Demographics

Knowledge of a user's demographics is necessary in order to identify who will use this project. By creating a generic picture of the typical user, questions asked in later steps will be easier to answer. The typical questions to be answered are: How should this project be visually and verbally presented to the end user? What level of online help should be available? What management tools are needed? What level users should the Help Desk organization be prepared to handle?

What level of user documentation will be needed? Does the end user have access to prerequisite hardware and software? All of the answers generated from this information are instrumental in creating an effective project and an accurate budget.

The first step in identifying the user's demographics is to identify who the end user is. For example: Executive staff wants specific information from the sales organization, so branch sales managers will need to file a new report. IT was asked to create a report that the managers can use to input sales data. By visiting a branch office and seeing how the sales organization works, it becomes apparent that the salespeople are currently gathering the requested information in their Palm Pilots. Instead of creating an input screen for the sales managers, it would be more effective to create a report that can be compiled from data residing on the salespeople's Palm Pilots. Salespeople will need a way to transmit data from their Palm Pilots to the branch's server, and managers will need to access reports that are compiled from the downloaded data.

Understanding who has the data, who uses the data, and who needs the data helps to identify what the project and documentation should look like and what type of user interface is needed. The interface will be different if it will be accessed by a manager sitting in front of a PC, or a salesperson using her Palm Pilot, or a loading-dock worker using a shared PC.

2. Current User Requirements

Understanding why and how the users are performing tasks associated with their job, what they like about their situation, and what changes and features they would like to see is essential in understanding a future release. If the new project changes the way end users work it may be necessary to iden-

tify and predict the user's reaction. A user base that is opposed to change will need more hand-holding during release. This additional support will need to be built into the cost of the project.

Many times companies overlook talking to their users. They believe they know their users and have enough user information. In some instances companies and organizations have failed to keep up with end users. An example of this was in the Second Gulf War. Many U.S. soldiers visited sporting goods stores to buy equipment since army-issued equipment did not meet their needs. If you don't talk to your user, basic needs may be overlooked and positive features may be designed out.

How to Approach the User. It is necessary to talk directly to users to get accurate information. Talking to your Help Desk organization is another step in creating a Business Requirements Document. Don't shortcut the process. Take the time to talk to users and the people who support them. The people who use the project are the final judges; they will make or break a project. The easiest way to talk to users is through a questionnaire sent via e-mail or placed on the company's intranet. A Web site questionnaire may be an easy way to get timely feedback. In some situations, you will get better, more accurate information by talking to the user directly by phone or by personally visiting him. Many existing users will be flattered to be asked their opinion. By going to the source you get timely, accurate information.

Designing a User Questionnaire. When designing a questionnaire, decide what user questions you want answered. Then design the survey questions that will provide you with experiential information. This is harder to do and harder to analyze than a direct question, but the information received will be more accurate. Trial lawyers

don't ask prospective jury members if they are preju-
diced. They ask them what experiences they have had
with a particular group and ask them what they have been
told about that group. Experiential questions give better
information. For example, the proposed project is for the
company to provide end users in your organization with
an authoring tool to create training for the Web. The
two choices of authoring tools are either hosted on a
server or reside on the user's desktop. The goal of your
survey is to find out if users have a preference. A direct
question might ask: Would you prefer to use an authoring
tool that you access over the Web or one that resides
on your PC? An experiential question would ask: Power
Point is an authoring tool you currently use. On a scale
of 1 to 10, how interested would you be in using Power
Point if you had to access it over the Web? This second
question will give you better feedback.

Filling in the Survey. Now that a survey has been cre-
ated, try it out on someone who matches the user's de-
mographics. Fine-tune the questionnaire to make sure
the objectives are met. Take a sample of ten to fifteen
current users and call them. If they provide similar an-
swers you probably have a good idea regarding their
needs. If the answers seem skewed, call ten more users.
Ten to fifty users should be all that are needed for most
corporate applications. Statistically two thousand re-
sponses give you a 97 percent accuracy rate; this is
needed for large focus surveys like a presidential election
but is overkill for most corporate projects. If customers
on your Web site will use your application, you may want
to perform two surveys. One survey can be performed
by personally contacting a small group of users, and the
other survey can be placed on your Web site. Depending
on your Web traffic, it may be relatively easy to get two
thousand responses from your customers. Offering a

free gift for taking the survey, a gift such as a T-shirt, will generate a much higher response. You can use the phone call survey as a way to check your Internet survey results. For large or very important projects, you may want to create a focus group. In a focus group five to ten users are asked to attend a roundtable meeting. At the meeting the group is asked questions, and their responses are recorded. Since a group of users may give different answers, create a set of experiential questions. One warning: Don't bias the questions. Don't give the people questioned any more information than they would receive if they were asked to evaluate the project without any access to a company representative. There are many examples of projects that failed despite using extensive focus groups. One reason is the ways in which focus groups are conducted. In the early 1980s, soon after IBM released the PC, they came out with a "chicklette" keyboard. Focus groups loved the new keyboard but critics slammed it and users didn't buy chicklette PCs. Upon further study it was found that focus group leaders trained potential focus group members up front by extolling the virtues of a chicklette keyboard. The focus group members were given information that was different from the information provided to the buying public, skewing the results.

3. New User Requirements

Internet technology is a good example of a new technology that may present a different paradigm than expected. You may have a current practice that will be migrated to the Web. Due to the accessibility of the Web, different people from those you traditionally serve may access this new application. For example, a financial services company sends out a newsletter to their customers providing information on

government regulations. They plan to migrate this service to their Web site. The proposed Web newsletters will provide keyword search capabilities and a history of past newsletters. Previously the customer's librarians received and filed the newsletters. When the newsletters move to the Web, the customer's government compliance people may want direct access to the site. Does the company have a relationship with the librarians or the government compliance people? Do they know if the government compliance people have needs that could be easily fulfilled online? Talk to a few and find out how they intend to use this application. Understanding the needs of new users will provide for a richer, better-focused feature set, and happier end users.

4. Future User Requirements

Apply the user demographics defined previously to define who the target user is. The future user may or may not be your existing user. Call potential users or invite them to a roundtable meeting. Future users may have very different needs from existing users. Don't overlook these differences. For example, your salespeople may be calling on corporate executives. You plan on having your products available to sell on the Web. You may find that executives do not visit your Web site, delegating this duty to an associate. The associate may need additional information from your Web site so he can understand your product and provide his boss with the information to make a decision. It is important to identify who will be accessing the information and who will be using the information to understand how best to create this new application.

5. IT and Help Desk Organization

Internal groups live and breathe the project day in and day out. Don't forget to tap these resources. Again create a

questionnaire, and take the time to ask Help Desk people for their opinion. Additionally, you can host an internal round-table. Make sure you take a sample of employees. Don't always use the same people. Don't always ask the star performers. Some companies are afraid of asking internal people since they are afraid a roundtable will turn into a gripe session. A session, properly managed, with a set agenda and clear goals is informative and positive. For an existing project, have Help Desk employees create a wish list of features they believe should be in the product. This is a list made up of user requests. A wish list is an excellent foundation for the Feature/Functionality List.

6. Sales Organization

For customer-focused projects, talk to your sales organization. Salespeople are intimately aware of what customers want and don't want. Talking with a few different salespeople will ensure that the information provided is not skewed to a single customer's situation and that recommendations will provide across-the-board solutions.

7. Using the Internet

Almost every solution in existence has an Internet chat group. Timely information can be readily accessed on the Internet regarding this solution or market space. The chat groups contain a lot of good market information as well as good vendor information. Search under keywords for the solution being developed and hardware and software vendors' names. Other companies might be developing a similar solution; you can learn from their recommendations.

A caveat to watch out for when creating the Business Requirements Document is that people may provide a solution instead of identifying problems and requirements. The Phase

1 lead person should identify when an end user is providing a solution and not identifying a problem. To make the process effective the Phase 1 lead person should have the user explain why his proposed solution is better and what problem his proposed solution solves. The real information the Phase 1 lead is identifying is the problem. The reason the Phase 1 lead wants to stay away from identifying solutions is that end users may be unaware that a better, more cost-effective, or simpler solution is available. Additionally, IT may decide to purchase different software or hardware than the one the end user recommends. Unbeknownst to IT the new software may not have the features the end user really needs. IT's job is to look at requirements and come up with the best solution. The Phase 1 lead should provide IT with accurate information so they can make an informed decision.

1.4 in a Nutshell

The Phase 1 lead person is responsible for developing a Business Requirements Document. This is the document that identifies the user's needs and the effects the project will have on the business.

➤ This document is the fundamental building block of a good project.

➤ Without a thorough business assessment in the Project Concept phase, the best designed and executed project will not necessarily produce useful results.

➤ The Business Requirements Document provides insight into the end users and their requirements.

Tip: Don't shortcut the process. This document provides the company with the necessary information to create an effective project.

1.5 The Feature/Functionality Report

Executive staff will provide a lead developer to support the Phase 1 lead person. The lead developer will need to assist in the creation of the Feature/Functionality Report. This report is created based on the recommendations provided in the Business Requirements Document. As the technical person reads through the Business Requirements Document, she should start listing features based on recommendations and needs. For example, the proposed project is to add a companywide telephone directory to the company's intranet site. The Business Requirements Document lists that employees want to have one-button access from the home page of the Web site; to have access to name, e-mail, phone number, office location, department, and employee picture; to have the ability to click on an employee's name and have that employee's e-mail address automatically inserted into an e-mail; and to have these features integrated with the company's room-scheduling software. The lead developer can now list out the features and functionality associated with each of these requirements. Each feature is listed, along with its rank of importance, for example A, B, C. "A" lists the features that must be in the project for the project to work, "B" lists the features that would be nice to have, "C" lists the features that would be nice to have, but most users can live without. The lead developer then estimates how long it will take to develop each feature, and if any of the features are pregnant processes. Figure 1.2 offers an example of this. It is important to note that this document is only an estimate and does not reflect an actual schedule, just an estimate used for planning purposes. To create a conservative estimate, the lead developer should double the amount of time she thinks any step will take.

The goal of Phase 1 is to identify the scope of a project so management can make an intelligent decision on whether to fund it. A common mistake is to turn the Feature/Functional-

Figure 1.2 Feature/Functionality Report

Feature	Rank	Development Time	Pregnant Process
Icon to access program	A	2 days	Yes
Design process	A	2 months	Yes
Developing SQL interface	A	1 month	
Developing Java client applet	B	2 weeks	
Testing with all supported browsers	A	3 days	
Designing screen and paper output	A	3 weeks	
Include access to conference room scheduler	B	1 week	
View employee name, e-mail, fax, phone, address, department	A	1 week	
Include location builder application	C	2 months	
Include picture of employee application	C	1 week	
Double click e-mail—shoots you into e-mail with person's name in "send to" location and your name in "from" location	C	1 week	
Easy-print interface, customized information prints out looking nice	A	1 week	

ity Report into a solution. After a project has been funded, IT will take the information used in Phase 1 and begin to look at solutions. It is important to note that IT fears this document. They are concerned that they will be held accountable in later stages for estimates provided in Phase 1. For the process to work, it is very important for management to realize that estimates presented in Phase 1 should be used only to decide if a project should be funded. Management will need to let IT scope and design the project completely before holding IT accountable for their estimates.

1.5 in a Nutshell

The Business Requirements Document is the user-focused document while the Feature/Functionality Report is the basis for the technical implementation. Once the Business Requirements Document has been created a Feature/Functionality Report can be started.

➤ A Feature/Functionality Report lists each recommended or identified feature defined in the Business Requirements Document.

> ➤ The Feature/Functionality List is prioritized by company direction.

> ➤ The prioritized list needs to have at least three sections—A, B, C. "A" lists the features that must be in the project for the project to work; "B" lists the features that would be nice to have; "C" lists the features that would be nice to have, but most users can live without.

1.6 Developing a Project Concept Plan

The Phase 1 lead person should now have a prioritized Feature/Functionality List annotated by IT with approximate development lengths and an availability date.

Figuring out people costs: The Phase 1 lead person should work with IT to figure out how many developers will be needed to develop A, B, and C features. Consult the accounting department in order to understand what the fully burdened cost per person in your company is. A rule of thumb cost is $180,000 per person per year. Add up the number of man-hours, divide by 40 (hours in a week), divided by 52 (weeks in a year). This will give you the approximate cost for developers. For estimated costing, it is not necessary to understand overlaps or pregnant processes, only the days or weeks that will be spent developing the project.

Example: IT expects that a project will take 280 man-weeks to complete.

Development time will be: 280/52 = 5.38 man-years

Development cost will be: 5.38 × $180,000 = $969,230

The Phase 1 lead should also figure that development time accounts for only 50 percent of the time and cost it takes to bring a project to completion. If IT says they can complete the project in six months the Phase 1 lead person should estimate that the project will be available in twelve months, since performing Quality Assurance, Beta, and, if necessary, staging and release of hardware and software will take an additional six months. Don't cut this time short. This is your quality time, and a project not properly tested is guaranteed to fail. It is ten times more expensive to fix a project once it is in the users' hands than before it is released.

Example: Based on 5.38 development years

Quality Assurance, Beta, and staging hours: 5.38 × $180,000 = $969,230

People cost for project: $969,230 × 2 = $1,938,460

When estimating a project for budgeting it is wise to double the cost and round up.

Estimated people cost for the project will be: $4,000,000

Many times the Phase 1 lead person knows up front the head count assigned to a project and the date the company expects the future project to be available. Don't plan a preliminary schedule by counting backwards. Take the time to review IT's estimates. If the time frame causes the project to be late, reevaluate the A, B, and C priorities. If necessary, shuffle the priorities. By prioritizing features differently, a schedule may map with the company's expectations. Make sure to present to executive staff the original schedule and the shuffled schedule and explain the pros and cons of going with each.

    Figuring out equipment costs: Some projects require new hardware and software to be purchased, such as

when updating PCs companywide, or providing the sales organization with PDAs. To estimate equipment costs you will still need the same initial documents, including the Business Requirements Document and the Feature/ Functionality Report. Don't spend the time now getting bids or identifying specific vendors. The first step is to estimate the cost. Identify a generic configuration of hardware that you believe will meet your needs. Find out the cost. Multiply this cost by the number of users. Estimate that it will cost you twice as much for software as for the hardware. Estimate that it will cost twice as much to install and support the hardware, on a yearly basis than the software cost. Use list prices for the hardware; this will provide you with buffer room.

Example: New PCs for employees:

Each PC will cost $1,500

Software will cost $ 3,000

Yearly installation and support will cost $6,000 per PC

Estimated cost per PC: $10,500 year one

$6,000 for each additional year

Estimated features and release date: The Feature/ Functionality Report is used to provide a feature list and availability date. Take the estimate provided by the technical lead and double it. This doubling should provide you with adequate time to test and roll out the solution.

1.6 in a Nutshell

The Phase 1 lead person is responsible for developing the necessary documentation needed by the executive staff to understand, analyze, and approve or deny new project development. The project concept plan includes:

➤ Estimated people cost

➤ Estimated equipment cost

➤ Estimated features and release date

It's true: To estimate a cost figure, first calculate how much hardware will cost. Second, multiply the cost of hardware by two to estimate the cost of software. Third, multiply the cost of hardware by four to estimate installation costs and annual support. For example, if your hardware costs $50,000, your software will cost $100,000, and your people and support will cost $200,000 per year.

1.7 The Project Requirements Document (PRD)

The following is an outline for a PRD. The PRD is started in Phase 1 and completed in Phase 2. Many of the questions the PRD asks cannot yet be filled in since the team has yet to be established. The Phase 1 lead uses the Business Requirements Document and the Feature/Functionality Report to create the PRD.

Purpose

The purpose of the PRD is to define the requirements for a project. From these requirements a set of specifications will be produced that indicate how each requirement will be met or what can be achieved with the technology available.

It is the responsibility of each functional area to provide plans that will support the successful completion of this new application, including integration of milestones that represent dependencies for completion of their tasks.

This document will be refined by input from each functional area until it is finalized at the end of Phase 2, Design.

Scope and Description

Project Overview: (If this is a follow-up release, please present only the differentiators between this release and the previous release. If this is a new release an initial listing of the project will need to be presented.)

The Market: What is currently going on in the industry that relates to this project?

Target Users: Who will use this project? Specify their generic demographics.

Project Vision: What is the role of this project? What need will this project fill?

Project Objectives: How will this project fill the role and need?

Fit Within Existing and/or Future Project Line: Where does this project fit into the overall corporate scheme? What are the company's goals and how does this project meet those goals?

Market Positioning: How does this project support the company's market vision and direction?

Performance Goals: What are the specific performance goals of this project?

Preliminary Schedule:

Phase: Date:

Phase 1—Project Concept

Phase 2—Design

Phase 3—Development

Phase 4—Quality Assurance

Phase 5—Beta

Phase 6—Release

Phase 7—General Availability

Phase 8—EOL

Features: List the recommended features here.

Industry Standards: If applicable, provide standards' organizations and how this project conforms.

Compatible Platforms: What hardware and software platforms does this work with? List name and release number.

Prerequisites: What prerequisites are necessary for this project to work?

Scalability: What are the limits to the project's growth? Hardware and software that can support 1 to 1,000 users is considered very scalable. Scalability identifies the ability of a solution to grow from small to large with minimum changes.

Help Desk: What will be needed from the Help Desk department to release and support this project?

Serviceability: What features will be needed to service this project?

Connectivity: What will this project need to connect to? What connectivity will be needed to support this project?

Required Functionality: Itemize the requested functionality by user/internal/strategic/industry requirements.

Hardware/Software: What hardware and software will be needed to support and service this project?

QA Requirements: List requirements for Quality Assurance to test for.

Documentation Requirements: List requirements for documentation.

Help Desk Requirements: List requirements for supporting the project.

Beta: List the beta requirements.

Key Risks/Open Issues: List risks and open issues that could jeopardize release, costs, and for those projects found in a profit center, list potential revenue.

1.7 in a Nutshell

The Project Requirements Document is created in Phase 1.

➤ The Business Requirements Development and Feature/Functionality Document are the foundation of a PRD.

➤ In Phase 2 the PRD becomes the project bible.

➤ The PRD will be used as the baseline of what the departments will commit to creating.

1.8 The Project Concept Presentation

The Phase 1 lead presents a Project Concept Review to executive staff. The Phase 1 lead should bring a copy of the Business Requirements Document, the Feature/Functionality List, and the Project Concept Plan to the meeting, in case executives have questions regarding the project's estimates.

There should be a central location where all the final documents of the phase reviews are stored. For most companies

this will be on a central server. The simplest and most effective method of running phase reviews is to create a standard boilerplate presentation that can be filled in by the Phase 1 lead and the Project Manager. By standardizing the phase presentations, confusion is minimized, the Phase 1 lead and the team understand what is expected of them, so information presented will be uniform from project to project. This will allow executive staff to judge fairly which projects should be funded. By centrally storing documents presented to executive staff, future team members are given a document trail by which they can understand what information went into decisions made before they became involved in the project.

At the end of each phase presentation, the executives will need to sign off on the presentation. This is necessary to confirm that executives actually had access to information presented.

It is important to understand the approval and funding process within the company. Funding of Phase 1 projects will depend on company procedures. Some companies have phase 1 presentations provided throughout the year. At budgeting time they review the Phase 1 projects that have been accepted and decide which get funding. Other companies have designated funds set aside for projects throughout the year. They can approve and fund a project at presentation time.

The Phase 1 presentation will include the pages shown in Figure 1.3.

Page 1: Cover Page. This document should be for controlled distribution and list the names of all the people attending and receiving the handout. The cover page should have the project name, the phase, and the date.

Page 2: Agenda. List what will be presented, the team member who will be presenting the item, and the time

Figure 1.3 Project Concept Presentation

<div style="border:1px solid black">

Project Name

Phase: 1—Concept

Review distribution includes: (list names of people receiving a copy of this document)

date   Controlled Distribution

</div>

<div style="border:1px solid black">

Agenda

- Project overview
- Business Development overview
- IT overview
- Estimated schedule
- Estimated costs
- Issues and risks

date   Controlled Distribution

</div>

Figure 1.3 (Continued)

Project Status

- New Project Concept created and researched
- Business Requirements Document—created
- Product Requirements Document—begun
- Feature/Functionality List—created
- Project Concept Plan—created
- Resource Matrix—created

date   Controlled Distribution

User Needs

- (list of user needs)

date   Controlled Distribution

IT and Help Desk Requests

- (list of IT and Help Desk requests)

date   Controlled Distribution

Project Fulfillment

- Identify the need(s) that this project solves

date   Controlled Distribution

(continues)

Figure 1.3 (Continued)
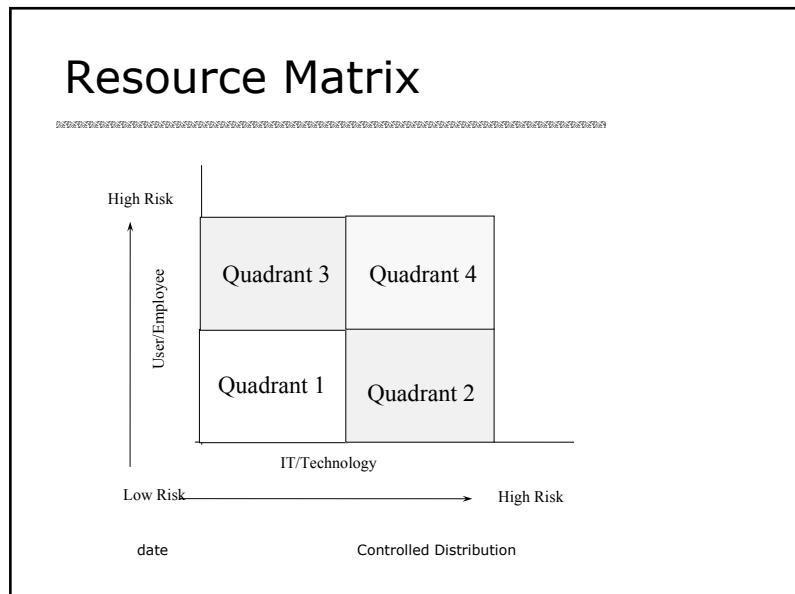
Resource Matrix

High Risk

Quadrant 3 | Quadrant 4

User/Employee

Quadrant 1 | Quadrant 2

IT/Technology

Low Risk ———————————→ High Risk

date   Controlled Distribution

Proposed Features & Functionality

Feature	Functionality
1.	
2.	
3.	
4.	
5.	

date   Controlled Distribution

Estimated Development Costs

	Estimated cost	
Development		
Beta		
QA		
Staging		
Hardware		
Software		
Installation		
Maintenance		

date   Controlled Distribution

Executive Session

- Should this project be funded?
    - Issues
    - Concerns
    - Limitations

date   Controlled Distribution

allotted for the presentation. Agenda items for a Phase 1 review may be: introduction, Business Development overview, IT overview, estimated schedule, estimated costs, issues and risks.

Page 3: Project Status. Review the items that have been created or completed in Phase 1.

For example:

New Project Concept created and researched

- Business Requirements Document—created
- Product Requirements Document—begun
- Feature/Functionality List—created
- Project Concept Plan—created
- Resource Matrix—created

Page 4: List of user needs.

Page 5: List of IT and Help Desk requests.

Page 6: Identify the need(s) that this project solves.

Page 7: Provide the Resource Matrix.

Page 8: List the proposed features and functionality.

Page 9: Show the estimated development costs.

- Development cost
- Beta, QA, and staging costs
- Hardware costs
- Software costs
- Installation and support costs
- Estimated yearly maintenance costs
  1. Hardware/software
  2. People costs

Page 10: Executive Session.

At the end of this session there will be an Executive Sign-Off (see Figure 1.4).

1.8 in a Nutshell

The Phase 1 lead should now have the information necessary to create a Project Concept presentation for the executive staff. A Project Concept presentation should be kept simple. Executive management needs to understand the general cost and scope of a project so they can decide whether to fund the project. Information to be presented:

➤ Estimated development time

➤ Estimated development cost

➤ Expected feature list

➤ Estimated availability

➤ Resource Matrix

Tip: Save all phase reviews in a central repository. This information will be beneficial for team members to review in later phases.

Figure 1.4 Executive Sign-Off Form

<div style="border:1px solid black; padding:1em;">

Executive Sign-Off Form

At the end of each phase review presentation, each member of executive staff reviews the phase sign-off, reflects on the information presented, and decides if he agrees to allow the project to proceed to the next stage of the project life cycle. The executive signs his name and states if he approves or disapproves of continuing to the next phase.

Project name:
Date:
Phase:

VP IT	Approval: Yes No (circle one)
VP Marketing	Approval: Yes No (circle one)
VP Finance	Approval: Yes No (circle one)
VP Operations	Approval: Yes No (circle one)

</div>

1.9 Recommendations for Management

1. Don't shortcut the process. Make sure due diligence is performed on the project. Allow the Phase 1 lead to perform a market analysis. The time spent interviewing users up front can save considerable time and money in development. Business journals are littered with stories of great ideas that failed because a complete market analysis was not performed. The stronger you build your foundation, the stronger the house will be.

2. Don't prejudice the development schedule or release date. Allow the Phase 1 lead and the lead developer to develop a schedule based on their estimate of the effort. Executive staff has the tendency to want to "fix" the schedule when it doesn't meet dates they are looking for. If a date is presented that will not meet the market window, send the project representatives back to review the development schedule and create a more realistic plan. The only way to shorten a development schedule is to put more resources on areas that can be shortened, overlay projects where applicable, or lower the functionality requirements. There is no other way to shorten a proposed schedule unless you want a fool's schedule, one that looks good on paper but is totally unrealistic. With a fool's schedule, management will feel happy until the project slips and the market window is missed. Spend the time up front fostering the proper behaviors and the project will come out on time and on budget. Schedules that are reworked in executive staff meetings are generally reworked without a true understanding of what is required. Shortening schedules should be delegated to the team; the role of the executive staff is to approve or disapprove information presented.

3. Don't release information received in a Phase 1 review. Phase 1 information is approximate information. Between Phase 1 and the end of Phase 2 dates and costs may

change. An in-depth cost study is not performed during Phase 1. The purpose of Phase 1 is to provide management the necessary information so they can decide if money should be allocated to develop a Project Concept.

    4. Don't hold the team accountable for times, dates, and costs developed in Phase 1. Many people are afraid to provide an estimate because they are concerned they will be held accountable for oversights once the project is funded. Management needs information in order to make a decision. It is not prudent to fund the exhaustive research necessary to provide an accurate schedule before the project is funded. Understand that costs and schedules might drastically change between Phase 1 and Phase 2. Give the Phase 1 lead and the IT lead the latitude to come up with an estimate in order to provide enough information to make a decision.

1.9 in a Nutshell

Recommendations for management:

➤ Don't shortcut the process.

➤ Don't prejudice the development schedule or release date.

➤ Don't release information received in a Phase 1 review.

➤ Don't hold the team accountable for times, dates, and costs developed in Phase 1.

Recommendations for the Phase 1 lead and the IT lead:

➤ Design survey questions that ask experiential questions.

➤ Don't overlook the different needs that future users may have.

➤ Don't get caught up creating a detailed report or performing a detailed survey. This is an exercise to understand project scope. If the project is funded, a detailed analysis will be performed in the next phase.

➤ Don't look at specific vendors' solutions—try to understand processes.

1.10 Summary of Deliverables by Department

➤ Creators write down their idea.

➤ Executive team decides what ideas should be looked into.

➤ Phase 1 lead creates a Business Requirements Document.

➤ IT lead creates a Feature/Functionality Report.

➤ Phase 1 lead estimates the cost.

➤ Phase 1 review is created and delivered.

1.10A Summary of Deliverables by Department

Phase 1 technical lead:

IT

1. Receives Business Requirements Document

2. Reviews feature list and estimates development schedule

3. Creates Feature/Functionality List

4. Attends phase review

Phase 1 lead:

1. Business Requirements Document

   - User interviews, surveys, and roundtable meetings

   - Decision maker interviews, surveys, and roundtables (if user is different from decision maker)

   - Industry review—what do press and analysts say is important?

   - Competitive review—what are other companies in your market doing?

   - Internal review—what features does IT propose?

   - Help Desk review—what features does Help Desk want?

2. Project Concept Plan

   - Estimated cost

   - Estimated time

3. Project Requirements Document

   1. Market analysis

   2. Target users

   3. Project vision

   4. Project objectives

   5. Project fit with company and existing project lines

   6. Market positioning

   7. Competitive review

   8. Recommended feature set

4. Information Presented to Executive Staff (Phase 1 review)

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Phase 2—Project Design

When President John F. Kennedy declared in a speech that America would have a man on the moon by the end of the decade, a clear goal was set for the American scientific community.

Concept
↓
Design
↓
Development
↓
Quality Assurance
↓
Beta
↓
Release
↓
General Availability
↓
End of Life
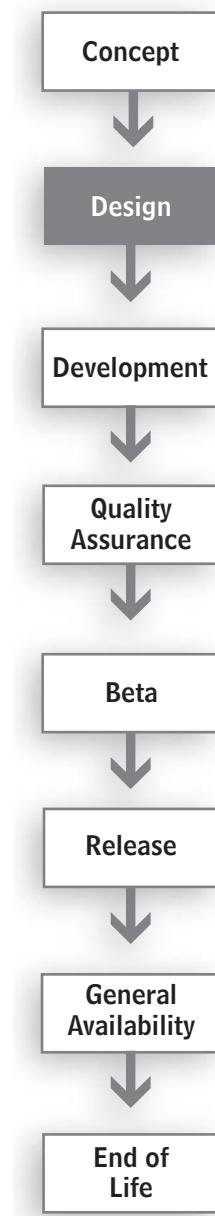
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2.1 Project Design Overview

The objective of Phase 2 is to define and design a project that satisfies the requirements identified in the Project Concept and to establish a core team of people responsible for representing their organizations in the development of this project. Management will assign a person to represent each functional area on the project team. The role of each functional area is listed below.

IT

IT is the functional area responsible for programming, managing, and integrating a project's hardware and software. IT is also responsible for defining, designing, and developing a project, as well as for its initial testing and for fixing any errors before the project is released. IT is the key member on the project team and needs to be available to provide technical information both written and verbal to all members of the team.

Business Development

The Business Development person is responsible for directing and driving the project, for analyzing the industry and the competition, and for understanding the user. Business Development works with all areas of the company to make sure the project is focused on the user and is presented in the best possible light.

Project Manager

The Project Manager's responsibility is to make sure each member of the team understands his or her interdependencies. The Project Manager facilitates communications among departments. This area manages processes and confirms that the deliverables within each stage of the project life cycle have been met. When deliverables slip, it is the responsibility of the Project Manager to escalate this information and to facilitate resolution. In smaller companies the Project Manager's duties usually incorporate those of Business Development and Communications.

Quality Assurance

Quality Assurance (QA) is responsible for defining, designing, developing, and implementing a test plan. QA tests the project to confirm that it meets the design specifications outlined in the Design Document and the PRD. QA uses the instructions developed by Documentation to ensure that they correctly explain how to install and use the project and identify how errors are to be handled. QA is responsible for managing the user test procedures defined in the Beta Plan and for confirming that bugs have been fixed.

Help Desk

Help Desk is responsible for defining, designing, and developing a detailed plan, the Support Plan, that articulates how the

company will support a project after it is released. The Support Plan defines how Help Desk personnel will be trained, how users will access help, how bugs will be tracked and fixed after release, what training will be available to end users, and how updates and fixes will be sent to users.

Documentation

Documentation is responsible for defining, designing, and developing all the manuals and help files required to install, support, and answer any questions a user would have regarding a project. Documentation defines what publications will be produced in the Doc Plan, which may include online help, E-Learning courses, or manuals. Documentation works closely with IT to develop these documents and works closely with QA to assure the documents are appropriate for end users.

Users

Although they are not on the team, users are so important to the success of the project that we mention them as a team member. Users are the people who will use what the team is developing. Users may be employees, partners, or the general public.

2.1 in a Nutshell

➤ In Phase 2 a project team, an integrated schedule, and a Development Cost Baseline are created, and the PRD is frozen.

➤ By the end of Phase 2 the team can present the actual release date, the final Feature/Functionality List, and the estimated costs to develop the project.

➤ In Project Concept a Phase 1 lead and an IT lead were assigned to vet out the idea and provide preliminary costs and schedules. Once the project is approved, team members will be assigned. The Phase 1 lead may become the team's Project Manager or Business Development's manager, while the IT lead may become the IT manager. The following areas need to have a representative assigned to the team:

- IT

- Business Development

- Project Manager

- Quality Assurance

- Help Desk

- Documentation

2.2 The Project Design Phase

A Project Manager's initial responsibility is to create the project team. Once Phase 1 is complete and the executive staff agrees to fund the project, it is the responsibility of the Project Manager to coordinate and manage the process of creating, developing, testing, and releasing the project. At first the Project Manager works with the executives who funded the project to assure that each of the core functional areas has a team member assigned to it. Each of these members is the point person, representing his function or department. It is the responsibility of the team member to provide his functional area with documents, updates, and issues presented in the team meeting. The team members in turn provide the team with documents, updates, and issues from their functional area. Team members are responsible for providing

documents and status to the project team. If a functional area cannot make their estimated dates, it is the team member's responsibility to notify the project team of the problem before the date slips. The Project Manager's responsibility is to understand where there are slippages and come up with a plan that minimizes the effect of any slippage.

Each of the company's core functional areas assigns a member to represent the department in a weekly team meeting. If a member's organization is unable to meet a requirement, the member is responsible for informing the Project Manager before the deliverable's due date. If a team member is unable to make a team meeting he or she is responsible for sending an informed replacement and notifying the Project Manager before the scheduled team meeting.

As soon as the team is formed, each team member receives a copy of the Business Requirements Document and Feature/ Functionality List created in Phase 1. From these documents, they begin to scope out what will be required of their organization to make the project a success. If the project requires software development or integration, or an upgrade to a new release of software, the IT organization spends Phase 2 designing the application. This step will be discussed in detail later in this chapter. By the end of this phase, IT provides their Design Document to Quality Assurance, Help Desk, and Documentation. These departments use this information to create their own documents outlining how they will test, document, and support the project. If the project requires that hardware or software be purchased and integrated, the Project Manager and IT review the requirements, identify the solution, and come up with a proposed integration and release plan. They provide these plans to the team so each department can create their own plan. Once the plans are completed, an integrated schedule and a more accurate pricing document can be created.

2.2 in a Nutshell

A project is reviewed for feasibility in Phase 1. In Phase 2 the project is funded.

➤ The team is formed from members of individual departments.

➤ The estimates created in Phase 1 are turned into a detailed schedule and an executable plan.

2.3 IT's Role in Project Design

IT has the central role in Phase 2. The design of any project is the foundation of the project. A bad design produces a solution that will not meet the needs of the company. The project design might be for new software, for integration of new hardware and software, for upgrades to existing hardware and software, or for the purchase of new software. Amateurs and people unfamiliar with professional development don't necessarily understand the need for project design. They don't understand why the process takes so long and IT can't create a solution faster. The design process is analogous to buying a car. Only a foolish person walks into the first showroom he sees and purchases the first car he test drives, paying sticker price. A savvy buyer searches the Web, checks out different models, and researches the costs. Only after he has a good idea of the type of car he wants and of the costs and features of each car in that category, will he test drive the top candidates, and then negotiate a price with the dealership. Buying IT solutions is more complicated than buying a car. The time spent doing one's homework ensures a good, well-thought solution in the long run. For example, any new solution that needs information from the company's database may look easy to create but take months to develop. The last thing a company wants is a messed-up data-

base. Data integrity is foremost to any organization's survival. A slight error can erase a sale or provide a hole that a hacker can use to steal company records. Design gives IT time to ensure the information is gathered in a safe manner that will not affect other applications or corrupt the database.

IT reviews the Business Requirements Document and Feature/Functionality Report created in Phase 1. During Design, a deep understanding of the project's requirements is sought and a plan for developing a solution is created. Design does not include purchasing equipment or programming. The person responsible for Design will need to identify minimal and optimal requirements and crucial issues. Often prototypes will be created in the Design phase so the designer can ensure her ideas are workable. Never confuse prototypes with development. The goal is to ensure the idea works, not to develop a solution.

Creating a Good Design

Design is the most important step in developing any solution. It is important to take the time up front to develop a successful design. Here are some standard, logical steps that if followed will ensure a successful design.

1. Great designs don't come from committees—they come from great designers. It is impossible for multiple people to create a good design. Designate one senior person to design the project. The Design team may consist of a manager who will go to meetings, a "designer in training" to assist the designer, a person responsible for documenting the design, and a person responsible for developing design tests.

2. Clearly understand what the short- and long-term goals might be for this project. A good design allows for future growth. If Microsoft viewed DOS as a strategic long-

term operating system would they have designed it differently?

3. View the design from many angles. If all the constraints were removed would the design be different? If so, it is beneficial to reevaluate the design. For example: In the heat of the space race in the 1960s, the U.S. National Aeronautics and Space Administration decided it needed a ballpoint pen to write in the zero-gravity confines of its space capsules. After considerable research and development, the astronaut pen was developed at a cost of $1 million. The pen worked and also enjoyed some modest success as a novelty item here on Earth. The Soviet Union, faced with the same problem, used a pencil.

4. Designing is an interactive process. Designers should continually test their design theory. The adage goes: How do you eat an Elephant? One bite at a time. A practice that will lead to a good design is to design, test, design, test. . . .

5. Aim for a clean, simple design. If the design is too difficult or too "brilliant" it will be difficult to develop and debug the project. When the project goes to users bugs may be difficult to identify and fix.

6. Beware of shortcuts—they usually don't save time. Many companies use "free ware" to save time. Since the code was not designed or developed by a known entity, the code may be difficult to debug, may not have the necessary features for growth (scalability), and often does not include any support.

After the team members are assigned, the Project Manager reviews with the team each member's role, responsibility, and Phase 2 deliverables. The critical path member of Phase 2 is IT.

2.3 in a Nutshell

In the design phase, IT is the core member of the product team. The rest of the team members are waiting on IT's design so that they can identify their functional area's responsibility. IT is responsible for:

➤ Reviewing the estimates created in Phase 1.

➤ Performing an in-depth review and design of each of the features and functionalities for the project.

➤ Using the Feature/Functionality Report created in Phase 1 as the basis for the Design Document.

➤ Presenting the minimal requirements for an appropriate Design Document and identifying what issues are crucial to the project's design.

➤ Creating a good design.

2.4 The Design Review

When IT finishes designing the project it is necessary to have an IT design review. A design review is conducted in front of a panel of senior members of the company's IT staff. Design reviews confirm that the project's design is reasonable, obtainable, efficient, and realistic. If the company is small or all of its expertise in a particular area was used to design the document, it is recommended that an outside expert(s) who has yet to see the design be brought in to review the project's design.

Many projects hit snags in Development, QA, Beta, and after they are released because the designer did not have an objective professional review the Design Document and confirm that the design was appropriate before development began. No matter what the size of the company, a design flaw found

up front saves money down the line. Guidelines need to be developed in order to have successful design reviews. Most designers are threatened by design reviews. Designers may have spent up to a year designing a project and resent an outsider reviewing what they have done. Don't let this resistance stop the company from reviewing the design. Don't let a designer's status cause this requirement to be waved. Senior designers can also overlook things. To make design reviews a positive experience the following tips are recommended: (1) Apply design reviews to everyone. Singling out a designer or an IT group creates bad feelings; (2) Provide the designers with a list of what will be looked for up front. This helps the review panel and the designers being reviewed; (3) Go over the purpose of the review with the designers and the review panel; (4) Provide a neutral facilitator; (5) Make this an enjoyable process. A designer can show a mature talent by coming in with a well-thought design.

It is necessary for IT to identify up front what the review panel will look for. For instance, if the project is responsible for developing a hardware solution, the design panel will be told to look for solutions that use easily found parts. The designers will know they will be asked to justify the parts they have chosen. If a piece of hardware needs to be specially ordered or the part has been announced but is not currently on the market, the review committee will know this is high risk and may ask the designer to identify a different solution. The designers will know up front what questions will be asked. Anticipating these questions will provide the designer with the time to identify how to defend his design ideas and will make him accountable for doing his homework up front.

2.4 in a Nutshell

After a project has been designed an experienced person or a panel of experienced people should review the design.

➤ A design review confirms the project's design is reasonable, obtainable, efficient, and realistic.

➤ A design review allows an objective professional to review the project's design and assure it is appropriate before the application is created or the hardware and software are ordered.

➤ Design reviews catch errors before they turn into serious problems, saving money in the long run.

2.5 The Roles Other Team Members Play

QA and Documentation's Role. Near the end of the design process QA and Documentation are brought in to review the Design Document and are invited to the design review meeting. QA and Documentation are each responsible for developing a document that will outline what their department's deliverables will look like and are each responsible to provide their capital, resource, and time needs to the Project Manager. In Phase 1, the Project Manager estimated that QA and Documentation would each use 25 percent of the time and money that IT used to develop the project. In Phase 2, QA and Documentation create and document what their actual needs will be. IT will need to support and assist QA and Documentation in their efforts to create their plans for the project.

Help Desk's Role. Help Desk is responsible for reviewing the project design with Business Development and IT. Help Desk looks at the project to identify any special needs that users will have. They also look to see what their department will need in order to learn about, support, and identify problems once the project is released. Help Desk reviews the Design Document and the documentation to assure that the features their department

needs will be tested in the way they perceive them to be used and to assure that the documents provide the level of information necessary for individuals to install, understand, and use the project by themselves. The easier the project and documentation are to install and use, the more independent the user will be. Independent users save the company money in the long run since they use fewer resources than dependent ones use. It is worthwhile to put time and energy in during the project's development to ensure that it will be easily supported once released. Help Desk should be aware of the cost advantage of developing a project that allows user independence. They are the part of the team responsible for championing easy-to-use features and documentation. Help Desk needs to review their organization's ability to service the project and identify what changes are needed to make the organization more efficient, so they can provide better support.

Project Manager's Role. After the design review, IT should have a concrete plan defining what will be created, when it will be created, when it will be completed, and what hardware and software they recommend. Once Documentation, QA, and Help Desk have had the opportunity to identify and document their needs and resources, the Project Manager creates an integrated schedule. It is important to note that unless this is a small project, the Development, QA, and Beta phases usually take at least a year. If this project will be released to customers, it is unrealistic to ask Business Development to detail a launch plan this early in the process, since many environmental factors are considered when developing time frames and contact names in a launch plan. Business Development can provide the Project Manager with a "straw man" list of the type of deliverables they believe they will create for a launch plan, the cost of launching the project, and an idea of when the project will be

launched. With the exception of Business Development, all other departments should have clearly identified their schedule to create and release a project. All departments should have an idea of the costs associated with releasing this project.

Most likely the Project Manager will also be responsible for planning the deployment of hardware, software, and networking equipment: The Design Document identifies what the project will look like; this includes projects that entail new hardware, software, or networking equipment. If the company is looking at replacing employees' PCs, the Design Document will identify the software and networking capabilities needed by employees and the configurations recommended for the new PCs. In Phase 3—Development, the Project Manager and IT manager will review different vendors' solutions, negotiate price, and identify the delivery schedule. The actual release plan, which includes receiving, staging, and installing the equipment, will be created in Phase 4. During Phase 2, the Project Manager will create an estimated time frame and schedule for the project. This schedule will be updated in Phase 4, after the contracts have been signed and delivery schedules have been identified.

2.5 in a Nutshell

Even though IT has the critical responsibilities, the rest of the teams still have important deliverables during this phase.

➤ QA and Documentation are each responsible for developing a document that will outline what their department's deliverables will look like and for providing their capital, resource, and time needs to the Project Manager.

➤ Help Desk reviews the Design Document and documentation to assure that the required features will be

tested the way they perceive them to be used and to assure that the documents will provide the level of information necessary so users can install, understand, and debug the project themselves.

➤ Project Manager creates the integrated schedule.

2.6 Updating the Feature/Functionality Report

The Feature/Functionality report was initially created in Phase 1—Project Concept. After the design is completed IT will update the Feature/Functionality Report so it reflects the actual project. In Phase 1, the lead developer reviewed the Business Requirements Document and made a guess at what it would take to execute the project. This guess was used to identify the general scope and cost of the project. In Design, the project is studied in depth. The estimates developed in Phase 1 are now replaced with information developed in the Design phase.

The updated Feature/Functionality Report should be prioritized by company direction. The prioritized list should have at least three sections: A, B, and C. "A" lists the features that must be in the project for the project to work; "B" lists the features that would be good to have; "C" lists the features that would be good to have but are not necessary.

It is worthwhile to update this report and then review it with other technologists. Reviewing features, times, and priorities with others can provide the team with a sanity check to ensure the report is not missing any elements or failing to take account of any situations. Time estimates are made for each feature based on how long it is believed each feature will take. The development process needs to be annotated based

on those features that can be shortened by putting more resources on them and those development cycles that are "pregnant." You can't get three women pregnant and expect to deliver a baby in three months. There are some development cycles that will take three person-months if you have three, six, or nine developers associated with it. By understanding the pregnant development cycles, it becomes easier to flag areas that cannot be shortened and highlight areas where potential slips can occur.

2.6 in a Nutshell

After IT completes the Design phase, the Feature/Functionality Report, created in the Project Concept phase, is updated.

➤ The Feature/Functionality Report takes each feature specified and identifies the estimated time it will take to create that feature.

➤ Features in the Feature/Functionality Report are prioritized based on user needs and company direction.

➤ The updated document will be used by the Project Manager so she can understand how long it will take to develop specific features, where the pregnant processes are, and how to better manage slips or changes to the project.

2.7 Creating the Integrated Schedule

One method commonly used to create an integrated schedule is to have team members provide the Project Manager with their departmental schedule. The Project Manager inputs each department's schedule into a project-scheduling program and produces an integrated schedule.

If a Project Manager creates an integrated schedule without an interactive forum, there is no departmental agreement, no opportunity to examine disconnects, and no team understanding of handoffs and prerequisites. An interactive forum usually consists of a full-day, off-site session. A better method for creating an integrated schedule is for the Project Manager to facilitate an interactive forum where each member of the project team presents his or her deliverables and prerequisites. In an interactive forum it becomes intuitively obvious where there are disconnecting schedules.

To create a forum, the Project Manager has each department break their deliverables down by phase. Each deliverable has a start date, a completion date, or both. Departmental representatives put all their deliverables up on the board. They then identify what deliverables are prerequisites to their deliverables. This information can now generate an integrated schedule. The integrated schedule is a tool that can be used for correctly setting the level of expectation of project development, for identifying an accurate release date, for identifying critical path deliverables, for identifying departments' prerequisites, for understanding where schedule slips can or will occur, and for monitoring the progress of the project through its life cycle.

To run an interactive session, the Project Manager asks a representative from each department to break deliverables down by individual action items. Each deliverable is written on a Post-it note; Post-it notes are good to use since they can be easily moved. See Figure 2.1.

In the center of the Post-it note have team members identify the activity. On the right-hand corner of the note have team members write the number of days needed to complete this activity. Give each Post-it note a unique number; for example, IT's numbers all start with 9, QA's numbers all start with 8. Have team members place this number in the left-hand

Figure 2.1 Post-it Note

<table>
<tr><td>Unique number</td><td></td><td>Elapsed days</td></tr>
<tr><td></td><td>Activity-department</td><td></td></tr>
<tr><td></td><td></td><td>Prerequisite</td></tr>
</table>
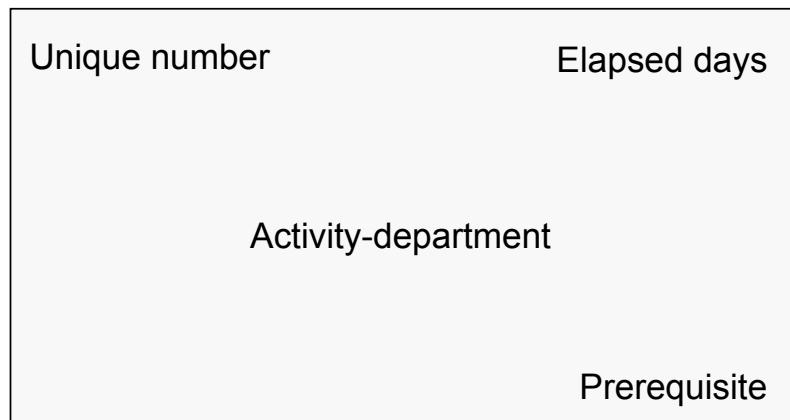
corner of the Post-it note. Cover a blank wall with paper. Divide the wall by date. For example, if this project will take one year, divide the paper wall into four quarters. Have the team members place their Post-it notes on the wall in the quarter they plan on executing. After all the team members put their notes on the wall, have them find any prerequisite activities. Have team members place the prerequisite activity numbers in the lower right-hand corner of their Post-its. Disconnects between departments will become immediately evident. Team members will begin discussing things like, "If you won't have your action items complete until June, I will not be able to start my action item until July. I was planning on starting my action items in May. I guess I need to update my plans." This level of communication creates a team. Team members are forced to understand interactions and negotiate solutions with other departments. You will find that members will say things like "If I break this action into two stages, I can give you what you need in May, so you can have your deliverables available on time." If the Project Manager creates a schedule without team interaction these negotiations do not take place until there is a crisis. Schedules created using the interactive forum method tend to be extremely accurate.

You have now created a paper-integrated PERT (Project Network Diagram, project flow chart) schedule for your project. The product manager can now create a computer version of this PERT chart. The integrated schedule is a tool that can be used to correctly set the level of expectation of project development, to identify an accurate release date, to identify critical path deliverables, to identify a department's prerequisites, to understand where schedule slips can or will occur, and to monitor the progress of the project through its life cycle. See Figure 2.2.

One common mistake in creating an integrated schedule is for the team to be told when deliverables must be completed. Don't succumb to creating a schedule based on a delivery date. Allow the team to build an integrated schedule based on how long they think tasks will take. If the schedule does not meet a prerequisite date, a realistic schedule will be needed so the team can figure out realistic changes. There are many things a team can do to shorten the development time without misrepresenting the time it takes to accurately complete a task. With a realistic schedule that needs to be shortened, the team can better assess risk. The team can identify what tasks may be performed simultaneously or earlier, where extra resources can be added to minimize time,

Figure 2.2 Post-it Exercise
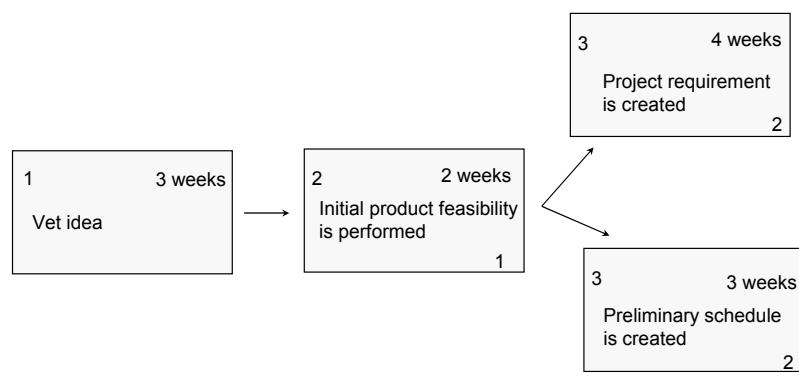
and what features, if minimized, will decrease development time. For a very tight schedule, projects can be broken apart and released in two phases. The first phase for the project allows for an application or a Web site with fewer features but one that has been properly tested to go live on time. The second phase provides an update to include all the features to be added.

After a realistic integrated schedule is available, the team members need to provide their estimated budget to the Project Manager so a Baseline Cost Document can be created.

2.7 in a Nutshell

An integrated schedule for the project can be created once all the team members review the Design Document and create a report identifying their deliverables.

➤ An integrated schedule is the core of a successful team. It identifies each process and interaction.

➤ To get departmental agreement, it is best to create an integrated schedule as a team project. An integrated schedule created as a team exercise ensures that dependencies and time frames are realistic and that each functional area is aware of their interdependencies with other functional areas.

2.8 Creating a Baseline Cost Document

It is the responsibility of the Project Manager to create a Baseline Cost Document. This document is used to itemize all costs attributed to this project. The Baseline Cost Document provides executive staff an accurate picture of the real

cost of the project as well as accurate detail for creating accounting documents. There are four subcategories of costs each department needs to provide to the Project Manager: staffing, external and internal capital requirements, material requirements, and other direct costs (see Figures 2.3 to 2.6). The Project Manager needs to work with each of the project team members to get his or her department's costs so the document can be completed.

Staffing Requirements. Each department needs to provide the Project Manager with information on that department's staffing requirements. Staffing requirements collect information on the number of employee hours it will take to produce this project. The information necessary to identify is: the employee status (consultant, part-time, full-time, or exempt), the employee's department and position (such as, Documentation—writer, Documentation—editor), the name of each employee, if this person is included within the department's existing fiscal plan, and the amount of hours this employee will be working on the project by quarter.

External and Internal Capital Requirements. To develop a project, most departments need to purchase additional equipment or to associate the amortization schedule on a piece of equipment to the project. Capital requirements provide details on capital and equipment, either developed internally or purchased. It is necessary for each department to identify the capital item, the percent this program will use the resource, if the company will capitalize the equipment, the date the department will begin to use the item, the capital-identifying number the company assigned to this equipment, the date the project was acquired, the cost of purchasing components or the internal cost of capital, and the date the program will stop using this equipment. For capital-intensive proj-

Figure 2.3 Staffing Requirements

PRODUCT LIFE CYCLE
DEVELOPMENT COST BASELINE
STAFFING REQUIREMENTS*
(Man-months per Quarter)

Project:
Organization:
Prepared by:

Date: **March 15**
Page: _1_ of _4_

Item #	Labor Type	Task Description	Name	FY Plan (Yes/No)	F2005				F2006				F2007		
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
				Man-hours	0	0	0	0	0	0	0	0	0	0	0
				Man-months	0	0	0	0	0	0	0	0	0	0	0

*173 hours per man-month   Total man-months   0
(This document provides detailed information on employee costs by product.)

Figure 2.4 Capital Requirements

Project name:
Organization:
Prepared by:

PRODUCT LIFE CYCLE
DEVELOPMENT COST BASELINE
CAPITAL REQUIREMENTS

Date: March 15
Page: _2_ of _4_

Item #	Description	Qty.	Program Usage (%)	Usage Start Date (mm/yy)	Asset #	Existing/ Acq. Date (Qtr/FY)	Purchase Price	New Acq. Date (Qtr/FY)	Unit Price	Usage End Date†

†Return date or dedicated (DED)
(This document provides detailed information on the cost of purchasing hardware or software to develop this product.)

Figure 2.5 Material Requirements

Project name:		**DEVELOPMENT COST BASELINE**			**Date: March 15**	
Organization:		**MATERIAL REQUIREMENTS***			**Page: _3_ of _4_**	
Prepared by:						

Item #	Description	Purchase Date (Qtr/FY)	Unit of Measurement	Qty	Unit Price	Total Price

*Material is less than $1,000 and has a useful life of less than two years (usually scrapped at the end of development)
(This document provides detailed information on the cost of purchasing materials to develop this product.)

Figure 2.6 Other Direct Cost Requirements

Project name: Date: March 15
Organization: Page: _4_ of _4_
Prepared by:

Item #	Company Name	Task Description	Period of Service†	Estimated Total Price

*Outside laboratories, testing facilities, consulting, licensing fees, leasing company, travel, etc.
†Start date (Qtr/FY) and length of service
(This document provides detailed information on the cost not already included to develop this product.)

ects, such as replacing all employees' PCs, an estimate of cost will be used. Negotiations for new equipment take place in Phase 3.

Material Requirements. Material requirements provide information on the actual cost of materials used in the project that are under $1,000 and have a useful life of less than two years. It is necessary to identify each line item by department and to record the date the company took possession of the materials, the standard unit of measurement, the quantity purchased, the price for each unit, and the total price.

Other Direct Costs. Other direct costs are items not detailed in the previous sections. These include items such as hiring a public relations firm, printing costs, and advertising. Identify the name of the company and the item or service that is being purchased from this company and describe how the item or service will be used, the length of time this item or service will be used, and the estimated price of this item or service.

Baseline Cost Overview Sheet. This spreadsheet is used to itemize all costs attributed to this project. The Project Manager needs to work with each of the project team members to receive costs and fill in the document.

Staffing Requirements—Page 1 of 5
This page details information on the number of employee hours it will take to produce this project.

Item: Identify each line item by a number.
Labor Type: Identify the employee as a consultant, a part-time, a full-time, or an exempt employee.
Task Description: Identify department and position (i.e., Documentation—writer, Documentation—editor).

Name: Name of employee.

FY Plan: "Yes," if this an approved position in this year's fiscal plan; "No," if this is not an approved position in the fiscal plan.

FYXX QX: Place the amount of man-hours this person will be working by quarter, using eight-hour days, forty-hour weeks.

Capital Requirements—Page 2 of 5 (Internally created capital or equipment)

Capital Requirements—Page 3 of 5 (Externally purchased capital or equipment)

These pages provide details on capital and equipment either developed internally or purchased.

Item: Identify each line item by department.

Description: Name the item.

Program Usage: Describe the percentage of use for this resource.

Usage Start Date: Day department begins to use the item.

Asset #: Number company assigned to this equipment.

Existing/Acquired Date: For an existing project give the date the project was acquired/built by the department.

Purchase Price: Cost of purchasing components or internal cost of capital.

Acquired Date: If this is a new project, give the date the department received the project.

Unit Price: For a new project, give the cost for acquiring the project.

Usage End Date: Date program will stop using this equipment.

Capital Requirements—Page 4 of 5

This page provides information on the actual cost of materials used in the project that are under $1,000 and have a useful life of less than two years.

Item: Identify each line item by department.
Description: Description of item.
Purchase Date: Date company took possession of materials.
Unit of Measurement: Standard unit of measurement.
Qty: Quantity purchased.
Unit Price: Price for each unit.
Total Price: Precalculated total (Qty × Unit Price).

Other Direct Cost Requirements—Page 5 of 5
This page details other items not detailed in the previous sections.

Item: Identify each line item by department.
Company Name: Name of company from which an item or a service is being purchased.
Task Description: Describe the use of the service.
Period of Service: Detail the length of time this service will be used.
Estimated Total Price: Estimate the price of this service.

2.8 in a Nutshell

The Baseline Cost Document provides an accurate picture of the real cost of creating the project. The Project Manager works with the project team members to get the costs of each department so the document can be completed. The four subcategories of costs found in this document are:

1. Staffing

2. External and internal capital requirements

3. Material requirements

4. Other direct costs

It's true: The Baseline Cost Document does not include sustaining costs. Sustaining costs will be developed in Phase 3.

2.9 Updating the Project Requirements Document (PRD)

The Business Requirements Document was created in Phase 1. The information created by the Phase 1 lead should have been inputted into the PRD. Any changes made to the Business Requirements Document since the end of Phase 1 should be updated into the PRD. At the end of Phase 2, the Design Document's Feature/Functionality rollup should be added into the PRD. The PRD provides a document and a forum where QA, Documentation, and Help Desk can identify and input any of their special requirements. Specifically, a new section is added that includes an overview from each of these departments. QA's section should identify a specific level of quality and provide a list of tests to run, ensuring this level of quality is achieved. For example, a project that plans on updating employees' PCs may include a statement identifying the applications that will be run, the time it takes to load and run these applications, and the optimal screen size and resolution for each of these applications. Documentation's section should specify the type of documentation that will be made available and at what technical level the explanations found within the documents should be. Help Desk will identify the level of support they are prepared to supply. Their section might specify that Help Desk personnel will be prepared to answer questions on the following topics; that user calls will be answered within thirty minutes on the following topics; and that e-mail requests will be responded to within four business hours.

The team must all agree that everything in this document attributed to their group will be completed by project re-

lease. This document will be used as the baseline of what the departments have committed to creating. It is the responsibility of the Project Manager to make sure all managers within the company who have a deliverable specified within the PRD receive a copy of the PRD. The PRD is frozen once executive staff approves Phase 2.

Strategic Agreements

In Phase 2, the type of software, hardware, or services needed for the project is identified. Hardware, software, and services are not chosen in Phase 2. Phase 2 is used to identify the needs of the organization, the expectations of the solution, an optimal design for the solution, and the expected level of quality. For example, if the project is for new PCs, the applications, the estimated time to access the applications, the screen size, the need for portability, and the networking capabilities should be identified. The Project Manager will use QA's quality specifications identified in the PRD as a baseline for reviewing possible equipment selections. In Phase 3, QA might be asked to run their tests on top contenders, so the company can make the best selection. A similar approach should be used for identifying software and services. If the company is looking to install a new application, the Project Manager will use the documents created in Phase 2 to identify the features and performance needs for this application. This information is presented to management for approval. Once approved, the actual solutions can be purchased or created.

In Phase 3—Development, the agreements will be negotiated. The strategic agreement section of the PRD will be updated, the vendor will be chosen, and the contract negotiated and signed.

2.9 in a Nutshell

The information created by the Phase 1 lead person for the Business Requirements Document should be used as the basis of a PRD.

➤ Any changes made to the Business Requirements Document since the end of Phase 1 should be updated into the PRD.

➤ Any strategic agreements, including software licenses, need to be identified.

2.10 Creating a Team

The project teams that have the rockiest beginning turn out to be the most effective teams over time. Team members who really care about the quality of the project early on create much of the disagreement and hostility displayed at team meetings. The disagreements are a way of making a member's department's goals understood. This negative energy can be used to create an effective team. It is the mission of the Project Manager to focus and channel this energy.

Ground Rules

The first step in creating an effective team is to clearly lay down ground rules. It is a good idea to create a list of ground rules at the first team meeting.

An example of a list of ground rules is:

- All members are responsible for showing up on time with assignments complete.

- If a team member has not completed a task assigned to him it is his responsibility to notify the Project Manager before the meeting.

- All discussions will remain professional; all comments must be focused on tasks not people. No slander, swearing, or personal insults are allowed.

- The Project Manager has complete authority for maintaining order.

- The Project Manager can interrupt any team member at any time and ask her to shorten her comments or handle her discussion out of the meeting.

- It is the responsibility of the Project Manager to decide what conversations are pertinent to the team.

- Not all discussions are pertinent to all team members all the time. Team members should show courtesy to each other by allowing members of the team the time to discuss their issues even when it does not involve everyone.

- Team members who break any team rules owe the entire team an apology.

After the guidelines of conduct are discussed and agreed to, it is recommended that all team members sign the bottom of the ground rules sheet, agreeing to follow the rules of the team. Some teams find that financial incentives help keep team rules in check. With some teams a penalty box should be instituted. If teams members are late to meetings and have not called ahead to notify the Project Manager, they have to pay $1 a minute for each minute they are late. If they come unprepared, they have to pay $1 to $5. This money goes into the penalty box. Team members modify their behavior quickly after they are forced to pay money. It's a good idea to keep a running total of penalty box money in the team

minutes. When the funds reach a predetermined amount or a certain amount of time passes, the team buys lunch or a cake.

Team Goal

It is important to clearly state the goal of the team. This provides clarity and purpose for the team. An example of a project goal may be "for every employee to have a PDA that can access the company's e-mail by the end of the company's fiscal year." This statement can be used as a benchmark to decide what is important and what is pertinent to the team. It keeps the team focused on the big picture. The team goal can be used as a byline for the team minutes.

Identification of Hidden Positions

A Project Manager needs to understand and manage the three different types of people who are part of a newly forming team—supporters, naysayers, and organizational anarchists. Be careful when labeling team members; you can't always judge the book by its cover. Many people appear to be in one category but are actually in another. Also, people change categories. Your goal is to move your team to the supporter category.

> **Supporters.** Supporters have typically been involved in teams that have an organized project life cycle. They have learned that a structured approach to project development actually saves time and causes less confusion.

> **Naysayers.** New teams have many naysayers. Naysayers complain that the PLC process is bureaucratic, that the company is too small, or that the project is too small for a PLC process. Do not become intimidated by naysayers. Effective project development needs planning. Many nay-

sayers are actually concerned that the PLC process will add paperwork to their already overburdened workload. They may be concerned that the PLC process will provide the company with a scorecard ready to "beat them up" if they slip up. When a Project Manager effectively runs a team, a naysayer learns firsthand that the team will support him and that an organized approach is easier and more efficient. In the long run, a PLC process saves time and makes team members look good within the corporation. Most naysayers turn into the biggest supporters once they have worked on an effective team.

Organizational Anarchists. The most difficult group for a Project Manager to identify and deal with are organizational anarchists. Organizational anarchists sound like naysayers or supporters but are in fact people who are incapable of working within structure. They are incapable of creating, providing, or working with the necessary paperwork an effective team needs. Most organizational anarchists are interesting, creative people. Most organizational anarchists have been successful individual contributors who feel it is important for their career growth to get into a management track. An organizational anarchist will unknowingly undermine the effectiveness of a team. Once identified, a Project Manager has one of three choices for dealing with organizational anarchists: 1) replace them; 2) marginalize them; 3) limit their effect. Many times it is difficult for a Project Manager to replace a person assigned to a team. Team members and management might not understand why the Project Manager is trying to get rid of this team member. Getting rid of a team member is a very tricky situation since it can cause a backlash from the team. You should handle this situation carefully. A successful strategy for dealing with an organizational anarchist is to talk directly with him about his role on the team. Organizational anarchists typically

feel uncomfortable and overwhelmed by their team role. Saving face makes them want to stay on the team. Help them decide to do what makes them feel comfortable. If they stay, a project manager will need to act as a coach. This way the Project Manager can marginalize the organizational anarchist's effect. By marginalizing someone, a Project Manager will keep an organizational anarchist on the team but will find other people to help fulfill his duties. Sometimes a substitute person can be found to perform the duties. If all else fails and a Project Manager is forced to work with an organizational anarchist, the Project Manager should understand that any duties the organizational anarchist is involved in will have a significant chance of failing. The Project Manager will not be able to complete the project on time and within the budget during the organizational anarchist's activities. The team behavior will have to be modified so the team can react to the organizational anarchist's limitations.

Creation and Fostering of Trust

Trust is necessary for a team to work efficiently. When watching the members of a winning sports team it is obvious they trust one another by the way they intuitively work with each other. A player on a successful team trusts that her fellow team member will be in position and will act accordingly. Trust is not given easily; it must be earned. A Project Manager builds and creates an atmosphere of trust and provides cues to the team on proper behavior. To create trust, it is necessary for the Project Manager to be aboveboard with the team. He or she cannot take sides but should act like a judge, listening and viewing all sides and points of view. Decisions are made based on the team's goals. A Project Manager should provide an atmosphere where team members can raise problems and concerns without being labeled

complainers or troublemakers. The Project Manager needs to maintain team members' confidence. When an issue or a concern is raised, a Project Manager should investigate all sides and arbitrate a solution. Team members will want the Project Manager to be their advocate. It is necessary for the Project Manager to be an impartial team advocate. This is accomplished by staying focused on the team's goal. Team members recognize if a team leader is impartial and focused on the greater good. This fosters trust. When team members trust a Project Manager, team members provide him with crucial information that identifies potential problems before they become fires, thus creating an effective and efficient team.

Effective Styles

Many new Project Managers look at an established Project Manager and attempt to mimic his or her style. The team sees this mimicking and regards the Project Manager as insincere. The best advice for a new Project Manager is, be yourself. A successful Project Manager can have any personal style. The best are organized, are fair, support their teams, and follow a predictable course, like the procedures outlined in this book.

2.10 in a Nutshell

To have an effective project team, it is necessary to create a group of people who can work with each other.

➤ Inherent in a team's dynamics are members who bring opposing interests and hidden agendas.

➤ It is the responsibility and goal of the Project Manager to create a functioning group of people.

➤ Creating a team is one of the most difficult, but important, responsibilities the Project Manager has.

2.11 Creating Team Minutes

Releasing a standard sets of team minutes (see Figure 2.7) within a day of a team meeting is a good method for a Project Manager to keep track of details and ensures that team members and executives are aware of team issues.

➤ It is recommended that items be left on the team minutes until they are crossed off. This way there is an audit trail of what has been communicated.

➤ Team members are responsible for reading the team minutes and getting back to the Project Manager if they don't agree with something written in them.

2.12 The Design Presentation

At the end of each phase, the Project Manager should have each of the participating team members sign a document (the team sign-off; see Figure 2.8) agreeing that his or her deliverables are complete for that phase. This document provides team members with a sense of control, builds team unity, and assures that representatives take responsibility for their deliverables.

It is helpful for an organization to provide a standard boilerplate presentation that can be modified for each project. This saves the Project Manager time, since she knows what is expected of her. It is also much easer for executives to review projects when they are all presented in the same manner. Many times a project will last for years and have more than

Figure 2.7 Sample Team Minutes

Team Minutes for (Project Name)
Minutes for (Time/Date)
Next meeting (Time/Date)
Location (Building/Room)

Absent (A), Present (P), Replacement Initials (RI)

Project Team:

Name:	Meeting Date	Meeting Date	Meeting Date
Project Manager			
Communications			
Project Business Development			
IT			
QA			
Help Desk			
Documentation			

CC:

Priority Issues:

Executive Actions:

Team Issues:

Figure 2.7 (Continued)

(Project Name)

Phase in the project life cycle:
Next phase review date:
Project release number:

Project Status:

Function	Start	Complete	Original
IT			
Documentation			
QA			
Beta			
Announcement			
Release			

Team Status:

Business Development:
        Date: Action

IT:
        Date: Action

Documentation:
        Date: Action

QA:
        Date: Action

Help Desk:
        Date: Action

Beta Status:

Beta Site   Install Date   Contract   User Contact   Internal Contact

Figure 2.8 Team Sign-Off

Phase Sign-Off
Description:
At the end of each phase, before the review presentation, each member of the project team reviews the Phase Deliverables by Department found at the end of this chapter. The Project Manager reviews this list in a team meeting and places the word *complete* or the date the deliverable will be complete by each team deliverable. The team then votes if they agree all deliverables have been met. Once the team agrees, they can present the project status at the phase review. The annotated Phase Deliverables by Department sheet is attached to this document and presented to the executives at the phase review.
Project name: **Date:**   **Phase:**
Signature:
Project Manager _____ Approval:
Communications _____ Approval:
Business Development _____ Approval:
Help Desk _____ Approval:
IT _____ Approval:
QA _____ Approval:
Documentation _____ Approval:

one Project Manager. A new Project Manager can come up to speed faster when the company standardizes and catalogs previous presentations and can use these presentations to better understand the project.

Figure 2.9 provides an example of the information found in a boilerplate Phase 2 presentation.

> **Page 1: Cover Page.** This document should be for controlled distribution and list the names of all the people attending and receiving the review handout. The cover page should have the project name, the phase, and the date.

Figure 2.9 Design Presentation

<div style="border:1px solid black; padding:20px;">

Project Name

Phase: 2—Design

Review distribution includes: (list names of people receiving a
copy of this document)

date   Controlled Distribution

</div>

<div style="border:1px solid black; padding:20px;">

Agenda

- General program status
- IT overview
- Team overview
- Issues and risks

date   Controlled Distribution

</div>
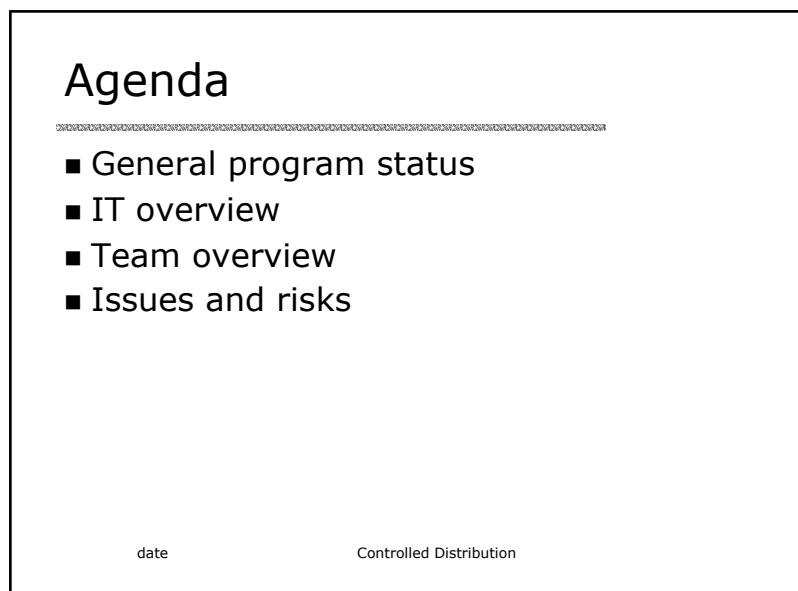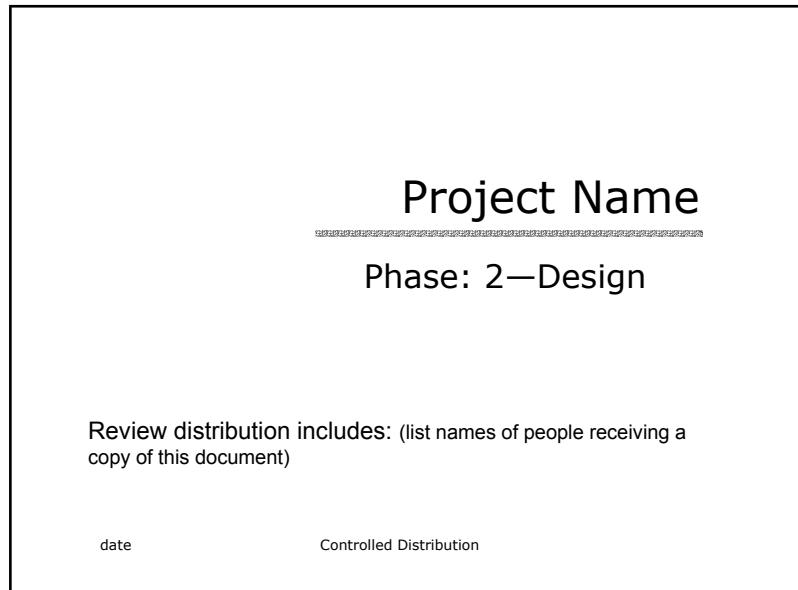
Project Status

- Team established
- PRD frozen
- IT creates a project design
- IT conducts a design review
- QA Test Plan created
- Documentation Plan created
- Integrated project schedule created
- Overall costs are finalized in a Baseline Cost Document
- Phase 3—Development presentation date established

date   Controlled Distribution

Review Phase 1

- After the last review executive staff may have requested that action items take place. List these action items along with the status of each.

date   Controlled Distribution

Figure 2.9 (Continued)

Integrated Schedule

	Complete Date	
Development		
Documentation		
QA		
Beta		
Release		
Maintenance		

date   Controlled Distribution

Proposed Features & Functionality

Feature	Functionality
1.	
2.	
3.	
4.	
5.	

date   Controlled Distribution

Updated Projected Costs

	Estimated Cost from Phase 1	Current Costs
Development		
Beta		
QA		
Staging		
Hardware		
Software		
Installation		
Maintenance		

date　　　　　　　　Controlled Distribution

Team Members

- IT -
- Business Development -
- Project Manager -
- Quality Assurance -
- Help Desk -
- Documentation -

date　　　　　　　　Controlled Distribution

(continues)

Figure 2.9 (Continued)

Project Manager's Deliverables

- Project team established
- Deliverables:
  - PRD created
  - Baseline Cost Document created
  - Integrated schedule created

date   Controlled Distribution

Business Dev.'s Deliverables

- Updates to Phase 1
- Project Requirements Document updated
- PRD input provided
- Competitive analysis provided
- Straw man launch plan provided

date   Controlled Distribution

IT's Deliverables

- Design created and reviewed
- Functional specification frozen
- Feasibility studies conducted
- Milestone schedule created
- Staffing/capital requirements defined
- Software maintenance plan developed

date   Controlled Distribution

Documentation's Deliverables

- Technical pub. plan created
- List of the documents to be created
- Notable specifications listed

date   Controlled Distribution

(continues)

Figure 2.9 (Continued)

QA's Deliverables

- QA test plan created
- QA engineer(s) assigned
- List of IT prerequisites created
- QA entrance criteria specified
- QA exit criteria specified

date   Controlled Distribution

Help Desk's Deliverables

- Staffing requirements identified
- Capital requirements identified
- User services plan created
- Help Desk Plan for the project created
- Any changes needed to support the project identified

date   Controlled Distribution

Issues and Risks

Owner	Risk	Impact

date　　　　　　　　　　Controlled Distribution

Executive Session

- Issues
- Concerns
- Limitations

date　　　　　　　　　　Controlled Distribution

Page 2: Agenda. List the major items, the team members who will be presenting, and the time allotted for the presentations. Agenda items for a Phase 2 review may include introduction, general program status, IT overview, team overview, and issues and risks.

Page 3: Design Phase 2. Review the items that have been created or completed in a Phase 2:

- Team Established

- PRD frozen

- IT creates a project design

- IT conducts a design review

- QA Test Plan created

- Documentation Plan created

- Integrated project schedule created

- Overall costs are finalized in a Baseline Cost Document

- Phase 3 development presentation date established

Page 4: Review Phase 1. After the last review, executive staff may have requested that action items take place. List these action items along with the status of each.

Page 5: Integrated Schedule. List the start and completion date for the current phase and for the previous phase of the following items: Development, Documentation, QA, Beta, Release, Maintenance.

Page 6: Proposed Features and Functionality. List each of the project's features and their functionalities.

Page 7: Updated Projected Costs. Hardware, software, and services are not negotiated until Phase 3—

Development. The estimates created in Phase 1 are updated and provided in Phase 2. Estimates include hardware, software, services, and upgrades.

Page 8: Team Members. List all the members of the team and the functional areas they represent.

Page 9: Project Manager. List the deliverables the Project Manager created: for example, project team established, deliverables: PRD, Baseline Cost Document created, integrated schedule.

Page 10: Business Development. Updates to Phase 1, Project Requirements Document updated, PRD input provided, business competitive analysis, straw man launch plan provided.

Page 11: IT. List the deliverables created by IT: for example, design created and reviewed, functional specification frozen, feasibility studies conducted, milestone schedule created, staffing and capital requirements defined, software maintenance plan developed.

Page 12: Documentation. List the deliverables created by Documentation: for example, technical publications plan created, list of the documents created, notable specifications.

Page 13: QA. List the deliverables by QA: for example, QA test plan created, QA engineer(s) assigned, a list of IT prerequisites created, QA entrance criteria specified, QA exit criteria specified.

Page 14: Help Desk. List the deliverables Help Desk created: for example, staffing requirements identified, capital requirements identified, user services plan created, Help Desk Plan created, any changes needed to support the project identified.

Page 15: Issues and Risks for This Phase. List issue, owner, risk, impact, and status.

Page 16: Executive Session. Executive sign-off—executives note any action items for the team and agree to let the program move to the next phase.

2.12 in a Nutshell

The Project Manager can now present to the executive staff any changes from the Phase 1 review. The focus of the presentation will be on the information found within the documents created in Design. These include:

- ➤ A detailed, integrated schedule
- ➤ Baseline Cost Document
- ➤ Design Plan
- ➤ QA Plan
- ➤ Documentation Plan

2.13 Recommendations for Management and Team Members

The following are guidelines that executive staff should use to empower the team and to ensure projects come out on time and on budget.

1. **Allow the Project Manager and the team to define the project and the development schedule; don't shortcut the PLC process.** Business requirements sometimes require a project to be defined and available before Phase 1 or Phase 2 are complete. Don't succumb to allowing outside sources to define your release date and feature list. Otherwise, the release date you give will slip and the fea-

tures will not meet expectations or will not be competitive. Phase 1 and 2 are instrumental steps in defining a project. A house built on a bad or nonexisting foundation will not weather a storm.

2. **Wait until the end of Phase 2 to announce a release date.** There are always situations and people in management who try to force you to announce a project and its release date before the project has been identified out. If you release information before the team has created an integrated schedule, the date you give will be incorrect. You will not only have "egg on your face" but also create many months of unnecessary pain while employees vainly attempt to meet an unrealistic schedule.

3. **Respect the development schedule.** If at the end of Phase 2 you find the release schedule will not meet your business requirements, do not arbitrarily change the date. This approach never works. It only causes intense frustration and unnecessary problems. If the release date does not meet your requirements, you have one of two choices: 1) Figure out where increased head count will decrease project duration time; 2) Decide what features, functionality, or process can be cut to decrease project duration time. Every development schedule results in programmers working nights and weekends. You can't cut a schedule in half and expect employees to work a hundred-hour work week.

4. **Empower the team. Don't give responsibility without authority.** Appoint people to the team who have the ability to drive process, provide direction, and communicate team initiatives to their respective functional area.

5. **Facilitate information flow.** If contracts are being negotiated outside of the team, make sure you provide information access to the Project Manager or any other applicable team member.

6. **Take phase reviews seriously.** Phase reviews are designed to give executive management a snapshot of the status of the project. Phase reviews are an excellent tool to confirm that processes are being followed and team deliverables are being completed on time. If executive staff doesn't take phase reviews seriously no one else will.

7. **Make sure design reviews take place.** Design reviews are necessary to confirm that the project being developed is realistic. Cutting the design process short will only increase the development process.

2.13 in a Nutshell

➤ Management can support a team by following these guidelines:

- Don't cut the PLC process short; let the team define the project and the development schedule.

- Wait until the end of Phase 2 to announce a release date.

- Respect the development schedule.

- Empower the team; don't give responsibility without authority.

- Facilitate information flow.

- Take phase reviews seriously.

- Make sure design reviews take place.

➤ Here are some hints that will help create a successful team:

- Bring in an expert to review the Design Document.

- Allow the team to build an integrated schedule based on how long they think tasks will take.

- Provide the team members with a forum where they can input and recommend changes if the integrated schedule needs to be modified.

2.14 Project Design Phase Summary

In Phase 2 team member deliverables include

➤ IT designs project.

➤ Project Manager or Business Development updates the PRD.

➤ Project Manager creates the team, Baseline Cost Document, and the project schedule.

➤ QA, Help Desk, and Documentation create a preliminary plan.

2.14A Project Design Phase Summary

IT Phase 2—Project Design

1. Receives resources

2. Designs project

3. Presents design at design review

4. Works with QA and Documentation so they can define their deliverables

5. Presents Design Plan to team

6. Inputs schedule and costs to Project Manager for integrated schedule and Development Cost Baseline

7. Provides Documentation with IT documentation

8. Updates and approves PRD

9. Freezes Design Document

10. Attends phase review

Business Development Phase 2—Project Design

1. Updates Market Requirements Document, financial analysis, early presentation, and PRD

2. Inputs schedule to Project Manager for integrated schedule

3. Attends phase review

Project Manager Phase 2—Project Design

1. Creates project team

2. Initiates and runs weekly team meeting

3. Creates and distributes team minutes

4. Confirms PRD is accurate and up-to-date before it is frozen

5. Creates an integrated project schedule

6. Creates Development Cost Baseline

7. Presents integrated schedule and ROI to executive staff (Phase 2 review)

QA Phase 2—Project Design

1. Joins project team

2. Attends design review

3. Defines what QA tests will be needed

4. Reviews code and prepares a preliminary QA schedule

5. Inputs schedule and costs to Project Manager for integrated schedule Development Cost Baseline

6. Receives IT documentation

7. Inputs and approves PRD

8. Attends phase review

Help Desk Phase 2—Project Design

1. Joins project team

2. Attends design review

3. Receives IT documentation

4. Decides what Help Desk structure will be needed for this project

5. Develops preliminary Help Desk Plan

6. Inputs information to Project Manager for the Development Cost Baseline

7. Inputs and approves PRD

8. Attends phase review

Documentation Phase 2—Project Design

1. Joins project team

2. Attends design review

3. Defines what documents will be needed

4. Investigates and prepares preliminary documentation schedule

5. Inputs schedule and costs to Project Manager for integrated schedule

6. Receives IT documentation

7. Inputs and approves PRD

8. Attends phase review

Documents Created in Phase 2

Design Document—Frozen. A detailed IT document created to explain the scope of the project as well as to provide the design specifications that IT will be implementing in the development phase of the project life cycle.

Development Cost Baseline—Created and Frozen. A spreadsheet used to itemize all costs attributed to the project.

Document Plan—Created. A detailed plan developed by Documentation outlining what documents will be developed and the scope of each. Documentation will create a detailed outline defining each of the chapters within the document and the items to be addressed in each chapter.

Executive Sign-Off. A sign-off sheet the Project Manager presents to the executives in the phase review. At the end of each phase review presentation, each member of the executive staff reviews the phase sign-offs, reflects on the information presented, and decides if she agrees to allow the project to proceed to the next stage of the project life cycle. On the bottom of this document each executive signs her name and states whether she approves or disapproves of continuing to the next phase.

Integrated Schedule—Created and Frozen. A detailed schedule that can be developed using a computer-based scheduling application that provides all the deliverables, interdependencies, and start and completion dates of each department, highlighting all of the processes necessary to create this project.

Phase Review Presentations. Figure 2.9 offers a sample presentation that would be filled in by the project team for presentation to the executive staff.

Phase Sign-Off. At the end of each phase, before the review presentation, each member of the project team reviews a document that contains information similar to that found in the Summary of Deliverables by Department section of this chapter. The Project Manager reviews this list in a team meeting. By each team deliverable, he places either the word *complete* or the date the deliverable will be complete. The team then votes if they agree that all deliverables have been met. Once the team agrees, they can present the project status at the phase review. The annotated Summary of Deliverables by Department is attached to the Phase Sign-Off Document. The Phase Sign-Off Document is a document that identifies the project and the phase. It has a place for each member of the team and each executive to sign off, if they agree the project meets the requirements of that phase and can safely move to the next phase.

Project Requirements Document (PRD)—Frozen. The basis for project development, the PRD investigates the market, competition, project vision, project objectives, competitive position, and targeted list. The feature functionality and requirements for each department are inputted and agreed upon. This document is the definitive document outlining what the project should look like.

Help Desk Plan—Created. A document that details how they will Help Desk the project, how they will track bugs, what services they will provide to users, how they will update users with fixes, and what educational services they will provide.

Team Minutes—Begun. The team minutes are a weekly updated document that provides details on commitments, status, issues, requests, and team decisions.

Test Plan—Created. The QA department develops a detailed plan outlining what features they will test, how

they will test these features, what the escalation proce-
dures are, and what the definitions are for defining bug
severity.

Design is the foundation for a project. A solid design will
result in a successful, on-time, and on-budget project. For a
successful design the designers need to let business develop-
ment drive product requirements. The Project Manager
needs to establish a team by creating clear project goals and
by helping the team to work interactively when providing
schedules.

Phase 3—Project Development

"When I am working on a problem I never think about beauty. I only think about how to solve the problem. But when I have finished, if the solution is not beautiful, I know it is wrong."

—Buckminster Fuller

Concept

↓

Design

↓

Development

↓

Quality Assurance

↓

Beta

↓

Release

↓

General Availability

↓

End of Life
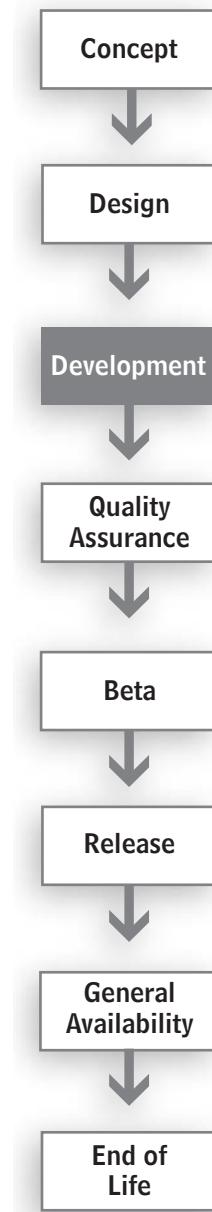
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3.1 Project Development Overview

Project development is the time it takes to execute the project. For software projects this might be the time it takes programmers to write the software. For hardware projects this might be the time it takes to identify solutions, negotiate contracts, and order products.

IT

IT is the functional area responsible for programming, managing, and integrating the project's hardware and software. They are also responsible for defining, designing, and developing a project, as well as for conducting its initial testing and fixing any errors before it is released. IT is the key member on the project team and needs to be available to provide technical information both written and verbal to all members of the team.

Business Development

The Business Development person is responsible for directing and driving the project, for analyzing the industry and the

competition, and for understanding the customer. Business Development works with all areas of the company to make sure the project is focused on the user and is presented in the best possible light.

Project Manager

The Project Manager's responsibility is to make sure each member of the team understands his or her interdependencies. The Project Manager facilitates communications among departments, manages processes, and confirms that the deliverables within each stage of the project life cycle have been met. When deliverables slip, it is the responsibility of the Project Manager to escalate this information and to facilitate resolution. In smaller companies the Project Manager's duties usually incorporate those of Business Development and Communications.

For projects that entail the purchase of hardware, software, and network services, the Project Manager works with IT to identify possible vendors and negotiate contracts. By the end of Phase 3, the Project Manager will update the integrated schedule and Baseline Cost Document with actual costs based on negotiated contracts.

Quality Assurance

Quality Assurance (QA) is responsible for defining, designing, developing, and implementing a test plan. QA tests the project to confirm that it meets the design specifications outlined in the Design Document and the PRD. QA uses the manuals and help files developed by Documentation to ensure that it correctly explains how to install and use the project along with identifying how errors are to be handled. QA is responsible for managing the user test procedures defined in the Beta Plan and for confirming that bugs have been fixed.

Help Desk

Help Desk is responsible for defining, designing, and developing a detailed plan that articulates how the company will support a project after it is released. The Support Plan defines how Help Desk personnel will be trained, how users will access help, how bugs will be tracked and fixed after release, what training will be available to end users, and how updates and fixes will be sent to users.

Documentation

Documentation is responsible for defining, designing, and developing all the documentation required to install, support, and answer any questions a user may have regarding a project. Documentation defines what publications will be produced in the Doc Plan, which may include online help, E-Learning courses, or manuals. Documentation works closely with IT to develop these documents and works closely with QA to assure the documents are appropriate for end users.

3.1 in a Nutshell

➤ Phase 3—Project Development is the time spent developing a project that satisfies the requirements created in the Design Document and the PRD.

- IT creates the project and then tests and verifies that it works.

- QA creates sample test procedures and begins testing the project.

- Documentation begins creating user documentation for the project.

- For projects that require hardware, software, or services to be purchased, vendors are identified, contracts are negotiated, and final prices and delivery dates are confirmed.

➤ The players needed to execute the plan are:

- IT

- Business Development

- Project Manager

- Quality Assurance

- Help Desk

- Documentation

3.2 Tasks Completed During Project Development

During Project Development, IT executes the plans identified in the design document, QA develops test procedures, Documentation begins developing manuals and help files, and, if applicable, the Project Manager reviews vendors.

Activities of IT, QA, and Documentation

Using the design in the Design Document, IT develops the project. This development may include purchasing prototype hardware and software or installing software that will be test run before existing systems are cut over. Additionally, IT is responsible for developing and running an initial test to ensure quality. QA develops test procedures and sample tests based on the test plans developed in Phase 2. As sections of the project are created, IT starts delivering these completed

sections to QA so they can begin early testing. Documentation uses the Doc Plan as the basis for developing user documentation. IT provides Documentation with any relevant notes that project developers have written to explain what they are developing. If IT is writing software or interfacing software with company applications, they should provide Documentation with access to early applications. This allows Documentation to review the project and to begin developing the documentation.

Project Manager and IT Identify Possible Vendors

Many times projects are created based on a vendor's recommendation or industry trends. It is wise to develop projects without bias—that is, identify your user and company requirements, design the project based on these requirements, and then look at possible vendors' solutions. The downside to waiting until Phase 3 to identify the vendor is cost and fit. IT may come up with a design that no vendor can fulfill, or existing solutions that fit the company's needs may be too expensive. The upside of waiting is that solutions not considered earlier may now be considered, the solution will meet the needs of the end user and the company, and time and money won't be wasted developing a solution that doesn't meet these needs. If it is impossible to find a solution that fits, it is important to look at the prioritization outlined in the Feature/Functionality Report. The IT and Project Manager should create a matrix using the Feature/Functionality List, then plot which vendors' solutions provide which features. The solution that meets the highest number of "A" priority features is usually the best candidate.

Business Development and QA Plan for Beta

After QA tests the project but before the full rollout, the project is given to a select group of end users; this is called beta testing. The plan for beta testing is created during Phase 3.

3.2 in a Nutshell

At the Phase 2 review, the Project Manager presented the project's design, its features/functionalities, any changes from project concept to actual project design, and any updates to the end-user positioning. He also presented the planned costs, the integrated schedule, and the baseline costs. In Phase 3, the team turns their plans into deliverables.

- IT executes on the Design Document.

- QA develops test procedures.

- IT and Project Manager choose vendors.

- The Beta Plan is created.

Tip: Wait until the design process is over before choosing a vendor. This way your final solution will better fit company and user needs.

3.3 The Beta Plan

The team will decide what type of beta to conduct. This decision will be based on the type of project and the needs of end users. Betas are public, closed, or a hybrid of the two. A public beta is when the company opens the beta up to the general public. A closed beta is when the company gives the project to a select group of internal users for testing. A hybrid beta is a closed beta that turns into a public beta.

An Internet-related project might be a candidate for a public beta. For example, if your company is creating an E-Learning portal for the general marketplace, you may want to have a sample or a small selection of courses available for the general public, customers, or distributors. Beta is used to work out any kinks in your training site. New applications or services that need to be tested may include a program that cus-

tomers use to purchase a course, a database that manages the course, or training services that go along with the course. A hybrid beta is when you start out with a closed beta and at a predetermined time move to a public beta. For example, a company with a three-month beta will have a closed beta for two months and then have a public beta for one month.

There are pros and cons to public betas. One of the pros is potential users can now take your project for a spin and figure out if they like it. Some of the cons are that beta applications may not be stable and may not be feature-rich. Giving buggy code or services that are not fully available to the masses may cause bad press and support headaches. Public betas tend to reflect a company's philosophical outlook. Some companies like giving new services to their customers. They approach the competition with the attitude: "See the cool stuff we're doing; we're going to run rings around you." They approach their customers with the attitude: "Stay with us, and you will be the first kid on the block to get this kind of functionality." Another benefit to a public beta is it is typically difficult to find users willing to test-drive beta applications. Running a public beta provides you with a potentially large group of people to test your project. If your company decides to have a public beta you have to be sure the people in the company philosophically understand and feel comfortable with a public beta. Some projects work better as public betas than other projects. If a project (or its beta) requires a lot of hand-holding or support or you have very temperamental or impatient customers, it is better to use a closed beta. If the project is a new service, you have an established customer base, and you have a backup method of delivery, an open beta may be worth a try. For example, your project is creating an online billing application to augment your current paper billing. Currently, you send customers a paper bill; the online bill provides customers with just-in-time information. If the online site is down or working slowly due to unan-

ticipated demand, your beta customers who can't get on the site will still have their paper bill. With a hybrid beta you can get the best of both a closed and a public beta. The benefit of a hybrid beta is you can limit the risk at the beginning of the beta when the solution is most vulnerable. Once you have had an opportunity for more people to test the project and the team has identified and fixed any major bugs, the project can be deployed to a wide audience. This will get more features tested and lead to wider acceptance.

Note: The project launch process outlined in this book is for a closed beta. For a public beta, the project launch starts once the beta is released. In Chapter 4, we introduce you to Communications and begin planning the launch process. If you are going to run a public beta, begin planning for your launch during Project Development. An effective launch will take four months to plan. Using your integrated schedule, figure out when you will need to begin planning for your launch. Since beta will probably last between two and three months, you will announce your plans for the project's general availability at the beginning of public beta. This will give you two to three months to actualize your announcement.

Regardless of whether the beta is public or closed, during development, marketing and QA meet and develop the Beta Plan and Beta Questionnaire. For public betas it is helpful to include a simple survey on your Web site. It has been found that simply giving away a T-shirt dramatically increases the number of people who take a survey.

The beta period takes place after the QA phase is complete. During the QA phase, the QA organization tests the project and confirms that it meets the specifications outlined in the PRD and Design Document and that the documentation is adequate and meets the requirements specified in the Doc Plan. After QA declares the project acceptable to enter beta, the project is either sent to a selected group of users or

placed on the Web site for users to test and confirm that the project works as specified. Beta is an extension of quality assurance. Beta provides quality testing by allowing users to confirm that the project meets their specifications in a non-lab environment. The team needs to agree on what the beta period will entail. An example of a beta specification for a closed beta created by a project team is as follows:

> It will be necessary to beta test this project at a minimum of three sites to a maximum of five sites over a twelve-week beta cycle. Sites will start on consecutive weeks. Each site will begin its test cycle when a technical representative from the company installs hardware, software, and documentation to the beta site. The representative will present a short training class to explain the new enhancements and will work with users to assure installation. The Beta committee, led by QA, is responsible for creating a list of features that the beta site will review. The QA employee responsible for managing the beta site will call the site weekly to ensure the beta is progressing properly.

Regardless of whether the beta is public or closed, marketing and QA should define a Beta Plan. The Beta Plan consists of a list of tasks, identifies who in the company is responsible for them, and assigns a start and completion date for the tasks so the beta will begin and end on time. Items that may be covered in a Beta Plan are:

Tasks	Group
Identify potential beta sites or create a public beta site	BD
Decide minimum configuration and features to be tested	QA/IT

Draft Beta Questionnaire a. User information b. Site environment information	BD and QA
Prepare checklist of technologies to be tested	QA
Fill in Beta Questionnaire for each potential site	PM
Bring beta site information to project team	PM
Prepare Beta Contract (for commercial projects)	Legal
Set up install date with user	PM/QA
Establish beta committee	QA
Prepare beta site test plan	QA
Prepare beta site cover letter	BD
Ship project/place project on Web server	QA
Install project	Help Desk
Monitor beta progress	Help Desk or QA
Ship beta updates/update Web server	QA or Help Desk
Beta sign-off call and sheet (review tested features)	QA
Review and send sign-off sheet and approve sign-off	Team
Prepare beta sign-off letter (closed site)	PM
Send beta site a gift (closed site)	PM

The Beta Questionnaire is a document reviewed by potential beta users to confirm that their site meets the needs of the project, that the site is qualified and interested in testing the project, and that the project team has the necessary information on each beta site. For public beta, the questionnaire should be a survey users take before they get access to the new service. Examples of questions asked in a Beta Questionnaire are:

Information necessary to qualify a potential beta site:

1. Company or department name and address along with the key contact name, phone number, fax number, and e-mail address.

2. System configuration and operating release level.

   ■ The beta machine must have (minimum hardware configuration prior to the test).

   ■ The beta user must have (minimum software configuration) prior to the test.

3. The user understands that problems with a beta project may interrupt normal operations. We therefore request the beta take place in a noncritical projection environment.

4. The user must provide status updates to (company name) (beta coordinator name) on a weekly basis.

5. The user must complete the beta evaluation questionnaire after the testing is over.

6. The user must commit to beta testing this project for a minimum of thirty days.

7. The user will be provided with preliminary documentation, which may be incomplete or contain errors. If the user elects to purchase the project, this documentation will be replaced.

Evaluating Vendors

Not all projects will require a company to evaluate different vendors. Many projects add on to existing projects where the vendor has already been chosen. For projects that need a vendor solution, the Project Manager, Business Development Manager, and IT Manager will need to team up and review different vendors' solutions. Each member of this group brings a different skill and different idea of what makes a good solution. These members will need to evaluate different vendor solutions. There are a couple of simple guidelines to making a successful vendor choice.

1. **Create a list of companies that provide the solution you are looking for.** To find companies:

   a. Do a Web search.

   b. Ask businesses similar to you who they use.

   c. Check trade journals.

2. **Keep an open mind.** A vendor's salesperson may have been working with your IT department for a long time. They may have been spearheading the project. The teams' responsibility is to the company and the project, not to the vendor. Keep an open mind; review multiple solutions; you may be surprised what you find. Salespeople have a way of disappearing after they sell a solution. Your job is to ensure that the company receives the best solution.

3. **Use your Design Document.** Vendors will provide you with their list of features. This is your project. You need to be sure that the solution meets all of your "A" requirements.

4. **Check references.** You should talk to at least three customers who have installed and used the solution. If the vendor can't provide three customer references—run! Make sure the referred customers are using the solution in a pro-

duction environment. During the Internet boom many new companies came on the market. They got big funding, impressive offices, and lots of press. Salespeople gave presentations showing all the Fortune 500 customers using their solution. Established IT folks bought these new solutions thinking they were complete applications only to find that it was Christmas morning. The solution came in one hundred different pieces that didn't work together, and IT had to make them do so. Have the vendor provide you with a list of customers that you call and talk to. For large projects, have the Project Manager talk to the person who managed the solution at one of the referral companies, have the Business Development Manager talk to her peer at the company and the IT manager talk to his peer at the company. For smaller projects you will need to talk to only one person at the referral company. The goal of these conversations is to ensure that the solution works as promised and that customer support continues after the product has been purchased.

3.3 in a Nutshell

The Beta Plan is a document that outlines how the test will be conducted, who will receive the test product, and how the team will manage the test.

➤ The team decides what type of beta the project will need.

➤ Betas can be public—open to everyone—closed—open to a select group of people—or hybrid—start out closed and eventually be made open to everyone.

➤ QA drafts a document outlining the requirements of the beta user.

➤ QA also drafts a questionnaire that beta sites will answer to ensure their site meets the team's needs.

It's true: Beta is when a select group of users try out the product.

3.4 The Development Review

At this point in Phase 3, IT has created the project; now it's time to review the project. This is another stage that companies frequently overlook. The same IT developers who assisted in the design review should be asked back to the development review. The purpose of the development review is to assure the solution meets the design specifications identified earlier and meets the quality requirements of the company. This includes documentation and assurance that the development was not obtained illegally (unlicensed software) or uses software the company is not prepared to support (freeware or copyleft software). There are horror stories of projects being developed, tested, and released, and then the company is sued because of questions regarding ownership of a particular application. Make sure you know up front who owns the software you are using, and what the legal constraints are on this software. Many times changes are made in development due to the realities of developing applications, availability of hardware, or needs of the market. At the development review, IT should identify the changes along with an annotation detailing the change. For example, a higher-speed connection will be included in all PCs being deployed due to availability and a drop in costs.

Development reviews are similar to design reviews in that guidelines need to be developed in order to have a successful development review. Most developers are as threatened by development reviews as they are by design reviews. IT developers may have spent a year developing a project. They resent an outsider reviewing what they have done. Don't let this resistance stop the company from reviewing the project. Don't let an IT developer's status cause you to wave this requirement. Senior developers can also overlook things. To make development reviews a positive experience consider the following recommendations:

1. Apply development reviews to everyone. Singling out certain developers or a particular IT group creates bad feelings.

2. Provide the developers with a list of what will be looked for up front. This helps the developers on the review panel and the IT developers being reviewed.

3. Review with the developers and the review panel the purpose of this review.

4. Give developers time to make corrections after the development review. Don't schedule the development review the day before the phase review.

5. Provide a neutral facilitator.

6. Make this an enjoyable process. A developer can show his or her seniority by coming in with a nicely executed project.

3.4 in a Nutshell

The development review is similar to a design review. It is a meeting where the project is reviewed to assure it:

➤ Meets the guidelines identified in the PRD

➤ Meets corporate guidelines

3.5 Other Team Members Take Care of Their Deliverables

Severity levels are set. Companies typically have a grading system whereby anyone notifying IT of a bug can identify the severity of that bug. For instance, the severity

rating can run from 1 to 5, with 1 being the worst. A severity 1 bug alerts the company that the bug crashes the system; a severity 5 bug may mean that the punctuation in a message is incorrect. QA, Help Desk, and IT should review the severity rating system and make sure they agree on what types of errors fall into which categories. An escalation path needs to be identified. This escalation path should include the functional areas that need to be notified and expected time for resolution. Even if your company has this grading system and escalation path in place, it is wise to review it and confirm that it meets the needs of the team.

First-draft documents are presented and reviewed. By the end of Phase 3, the first turn on the documentation should be complete. The documentation writer should have presented his or her first draft to each team member for review. The team members are responsible for confirming that the documentation meets the needs of their department and the Documentation Plan. The first-draft changes should be returned and the documentation updated before QA begins.

PRD is reviewed and updated. Business Development and the Project Manager should review the PRD and confirm that the needs of the end user, the company, and the industry have not changed. If it has been longer than six months since the Project Concept phase review the information presented in the Project Requirements Document needs to be reviewed. At a minimum the Internet should be searched and any new pertinent information should be brought to the team.

3.5 in a Nutshell

Around the time of the development review it is wise to take care of the following:

➤ Have the team set severity levels for the project and identify escalation paths.

➤ Review first-draft documents to ensure they are covering the correct material.

➤ Business Development and the Project Manager should review the PRD and confirm that the needs of the end user, the company, and the industry have not changed.

3.6 Ways a Project Manager Can Minimize Problems

During development unforeseen problems usually arise. It is the responsibility of the team member who represents his group to keep the team apprised of a problem. The Project Manager should keep an eye on any problems. Problems can usually be associated with a feature. The first thing the Project Manager should do is determine if the problematic feature is a pregnant process. Pregnant processes are more difficult to manage since it's harder to put more people or more money on the problem to fix it. The Project Manager should meet with the manager responsible for the area with the problem. This should be done as soon as a problem has been identified. Keep the meeting light and informative. The goal of the meeting is to understand the scope of the problem and to create contingency plans. There are many things that can be done if a problem is identified in the opening stages. The longer you wait, the fewer choices you will have and the harder the choices will be. Many problems that are discovered early in the process never become critical and don't affect the project schedule. Make sure the manager who owns the problem knows the Project Manager's goal is to help solve the problem. By supporting the manager, the Project Manager will gain trust. Once the word gets out that

a Project Manager helped facilitate solutions, fellow employees will trust the Project Manager, and the Project Manager's job becomes easier. It is easy to make a small problem into a big one. The meeting's goal is to create a contingency plan. Consider the problem to be like a hot day in the middle of a dry and grassy valley—you want to keep your eye on it, and if it starts to flair up be ready to bring in the firefighters. Project Managers who don't tackle problems when they are hot spots and wait until they become fires are called firefighters. Firefighters receive a lot of corporate exposure; they usually don't get their projects out on time and on budget.

The time–money–feature triangle (see Figure 3.1) is one of the few laws of project management. Project Managers and corporate management must remain realistic when a problem arises. The time–money–feature triangle can't be broken. The time–money–feature triangle states: The only ways to shorten a process is to spend more money on it (this usually means more people), or to sacrifice features; the only way to save money is to shorten the time, usually by cutting features or by adding more people to the process; if a feature is essential, you will need to either spend more money on

Figure 3.1 Time–Money–Feature Triangle
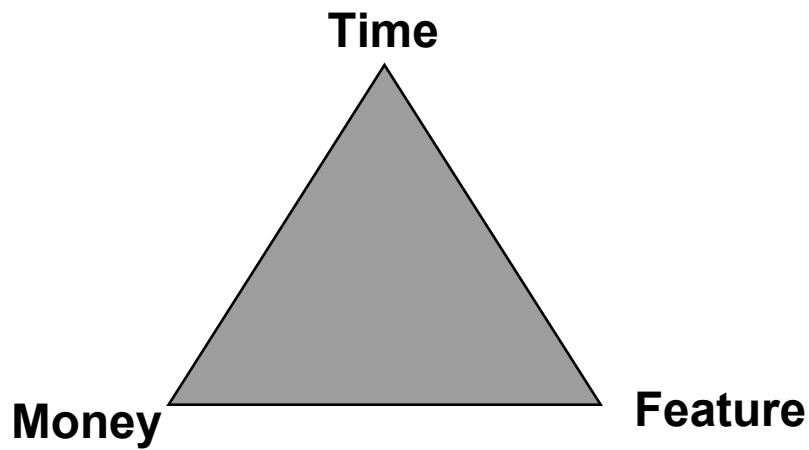
the project (more employees) or slip the delivery date. Pregnant processes are the lone exception. No matter how much money you spend on a pregnant process you will never shorten the time. If features on a pregnant process can be cut, however, the time may be shortened.

Experienced managers will know which angle in the triangle to cut to receive the desired outcome. Unrealistic managers will ask a team that has a problem to get the project out on time, fully featured, and without additional expenditures. This usually results in projects that are over budget and delivery dates that slip. The unrealistic manager will be given the answer he wants to hear; he will not be given the tools needed to make realistic decisions. This creates internal public relations problems and emotional turmoil. Some problems can't be fixed. This will cause the project to slip. It is better for the company to know as soon as possible that a project will slip, so contingency plans associated with the slip can be put in place.

3.6 in a Nutshell

Unforeseen problems arise that result in additional expenses and modifications to the project schedule. It's best to:

➤ Facilitate communication on the team so potential problems are brought to light early.

➤ Meet with the people who have the potential problem early on.

➤ Don't blame, find solutions.

It's true: If all projects went smoothly there would be no need for a Project Manager. A good Project Manager minimizes the effect of problems.

3.7 Updating the Integrated Schedule and Baseline Cost Document

In Phase 2—Design, the team presented the project's baseline costs. Estimates were given for hardware, software, services, and maintenance costs. The Project Manager and IT Manager are responsible for identifying vendors and negotiating contracts. By the end of Phase 3—Project Development, negotiations should be coming to an end for the purchase of products and services. The actual costs and delivery schedules should now be known.

One important cost of buying equipment and services is purchasing support and upgrades from the vendor. The vendor contract should include a three-year price for vendor support and upgrades. For products that cost less than $2,000, this typically costs between 60 and 80 percent of the product price. For products over $2,000, this typically costs between 15 and 20 percent of the price of the product. The IT department will also need to identify the internal cost of managing and running the software and equipment. This cost will include fully burdened overhead for employees or consultants. A project that includes a database analyst will include not only the cost of the computer and software but also of a systems administrator and a database administrator. Maintenance costs are composed of vendor costs as well as employee and consultant costs. The changes identified in the development review will need to be brought to the team. Sometimes these changes result in a change to the cost of the product.

3.7 in a Nutshell

After contracts are negotiated, the costs of hardware, software, services, and maintenance can be identified.

➤ Cost of purchasing the hardware, software, and services

➤ Cost of receiving upgrades and support for the purchases for the next three years

➤ Employee and consultant costs of managing the hardware and software

3.8 The Project Development Presentation

The Project Manager should now have a completed project waiting to be tested, a completed first-draft document, and a complete Beta Plan. If it has been over six months since the Project Concept Plan was presented, Business Development needs to update the Project Requirements Document and update the executive staff with any changes. The Project Manager can now present to the executive staff any changes from the Phase 2 review and present the features and functionality that were developed. Additionally, the Project Manager confirms that the market positioning is updated, that the costs are accurate, and that the schedule is on track, as well as annotates any changes to the schedule presented in Phase 2. The Project Manager updates and presents any changes to the Baseline Cost Document presented in Phase 2. (See Figure 3.2.)

Page 1: Cover Page. This document is for controlled distribution and lists the names of all the people attending and receiving the review handout. The cover page should have the project name, the phase, and the date.

Page 2: Agenda. List major items, the team members who will be presenting, and the time allotted for the presentations. Agenda items for a Phase 3 review may include introduction, general program status, team overview, and issues and risks.

Page 3: Phase 3—Project Development, Project Status. Review the items that have been created or completed in Phase 3—Project Development:

Figure 3.2 Project Development Presentation

Project Name

Phase: 3— Development

Review distribution includes: (list names of people receiving a copy of this document)

date   Controlled Distribution

Agenda

- General program status
- Team overview
- Issues and risks

date   Controlled Distribution
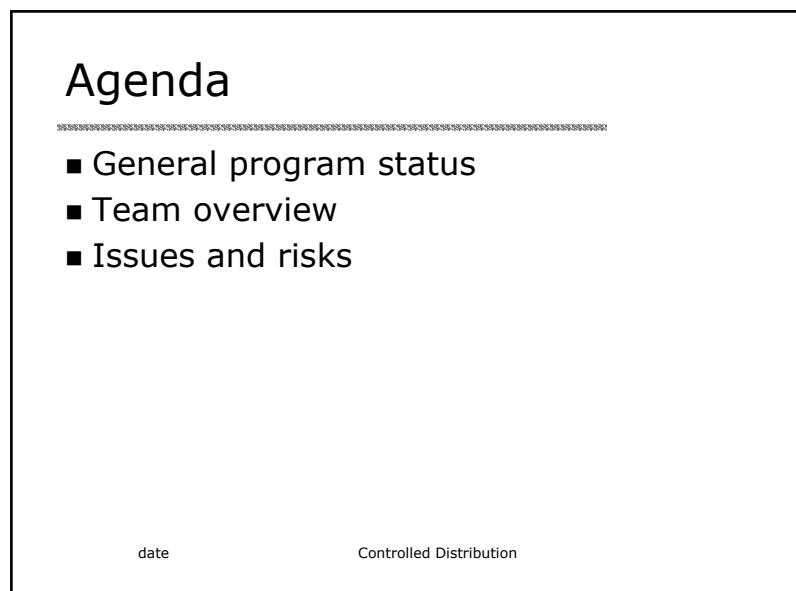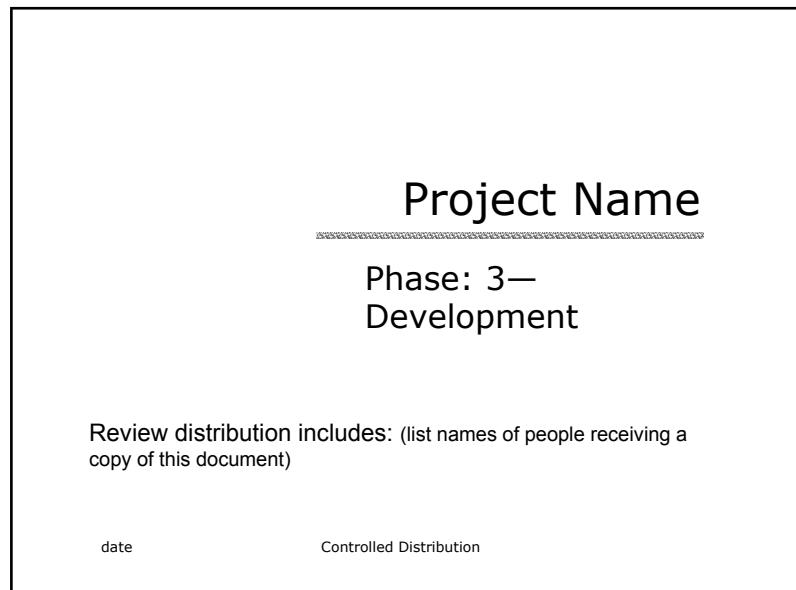
Project Status

- IT presents the actual feature / functionality developed
- Any changes from Design to Development are highlighted
- Code review is performed
- QA design verification testing complete
- Documentation draft documents presented to the team
- Beta test plan defined
- Phase 4—QA presentation date established

date   Controlled Distribution

Review Phase 2

- After the last review executive staff may have requested that action items take place. List these action items along with the status of each.

date   Controlled Distribution

Figure 3.2 (Continued)

Contract Summary

- If contracts were signed for hardware, software, support services, or networking equipment, the estimated vs. the actual costs should be listed along with any pertinent legal obligations.

date   Controlled Distribution

Integrated Schedule

	Phase 2 Date	Phase 3 Date
Development		
Documentation		
QA		
Beta		
Release		
Maintenance		

date   Controlled Distribution

Updated Development Costs

	Estimated Cost from Phase 2	Current Cost
Business Development		
IT		
QA		
Documentation		
Help Desk		
Training		
Communication		

date　　　　　　　　Controlled Distribution

Contracted Costs

	Contracted Costs
Hardware	
Software	
Services	
Staging/Fulfillment	
Maintenance	

date　　　　　　　　Controlled Distribution

(continues)

Figure 3.2 (Continued)

Team Members

- IT -
- Business Development -
- Project Manager -
- Quality Assurance -
- Help Desk -
- Documentation -

date   Controlled Distribution

Project Manager's Deliverables

- Identify vendors for the project
- Execute strategic agreements
- Update financials and integrated schedule
- Create Beta Plan

date   Controlled Distribution

Business Dev.'s Deliverables

- Updates to Phase 2
- Review of changes in the market
- Creation of Beta Plan

date   Controlled Distribution

IT's Deliverables

- Project developed
- Development review conducted
- Project changes provided to the team

date   Controlled Distribution

(continues)

Figure 3.2 (Continued)

Documentation's Deliverables

- Early access to project—creation of documents

date   Controlled Distribution

QA's Deliverables

- QA plans finalized
- Beta Plan created

date   Controlled Distribution

Help Desk's Deliverables

- Beta Plan

date   Controlled Distribution

Issues and Risks

Owner	Risk	Impact

date   Controlled Distribution

Figure 3.2 (Continued)

Executive Session

- Issues
- Concerns
- Limitations

date   Controlled Distribution

- IT presents the actual feature/functionality developed

- Any changes from Design to Development are high-lighted

- Code review is performed

- QA design verification testing is complete

- Documentation provides draft manuals and help files

- Beta test plan defined

- Phase 4—QA presentation date established

Page 4: Review Phase 2. After the last review, executive staff may have requested that action items take place. List these action items along with the status of each.

Page 5: Contract Summary. If contracts were signed for hardware, software, support services, or networking

equipment, the estimated costs versus the actual costs should be listed along with any pertinent legal obligations.

Page 6: Integrated Schedule. List the start and completion date for the current phase and the previous phase of the following items: Development, Documentation, QA, Beta, Release, Maintenance.

Page 7: Updated Development Costs. List the following items by employee weeks and capital costs for the current phase and the previous phase—Business Development, IT, QA, Documentation, Help Desk, Training, Communication.

Page 8: Contracted Costs. Previously these costs were estimated for hardware, software, services, staging/ fulfillment, and maintenance.

Page 9: Team Members. List all the members of the team and the functional areas they represent.

Page 10: Project Manager. List the deliverables the Project Manager created: for example, identify vendors for the project, execute strategic agreements, update financials and integrated schedule, create Beta Plan.

Page 11: Business Development. List the deliverables Business Development created: for example, updates to Phase 2, review of changes in the market, creation of Beta Plan.

Page 12: IT. List the deliverables created by IT: for example, project developed, development review conducted, project changes provided to the team.

Page 13: Documentation. List the deliverables created by Documentation: for example, Early access to project—creation of documents.

Page 14: QA. List the deliverables by QA: for example, QA plans finalized, Beta Plan created.

Page 15: Help Desk. List the deliverables Help Desk created: for example, work with other departments to create the Beta Plan.

Page 16: Issues and Risks. For this phase, list issue, owner, risk, impact, and status.

Page 17: Executive Session. Executive sign-off—executives note any action items for the team and agree to let the program move to the next phase.

3.8 in a Nutshell

At the end of Phase 3—Project Development, the team will need to present their accomplishments and changes to executive staff.

➤ Any changes to the schedule and cost of the project

➤ Any changes to the features of the project

➤ Readiness for beta

3.9 Recommendations for Management and Team Members

➤ Management Recommendations:

■ Manage, don't dictate—if the project runs into problems, don't dictate a solution, let the team come back with solutions and choose the approach that meets the company's needs.

■ Take phase reviews seriously—phase reviews are designed to give executive management a snapshot of the project's status. They are an excellent tool for

confirming that processes are being followed and team deliverables are being completed on time. If executive staff doesn't take phase reviews seriously, no one else will.

➤ Team Recommendations:

■ Ask the IT developers who participated in the design review to return to partake in a development review. Mistakes get more expensive to fix the later they are found in the development process.

■ Don't blame, find solutions.

3.10 Summary of Deliverables by Department

Each team member was responsible for executing a number of tasks. Here is a list of these tasks:

IT Phase 3—Project Development

1. Develops project

2. Provides Documentation with updated IT documentation

3. Performs base-level project testing

4. Provides code at prearranged point to QA, so they can begin setting up tests

5. Provides access to project to Documentation, so they can confirm documents

6. Updates team with any changes

7. Works with the Project Manger to identify vendors and negotiate contracts

8. Attends phase review

Business Development Phase 3—Project Development

1. Business Development works with QA to develop the Beta Plan:

   a. Recommended beta profile

   b. Size and length of beta

   c. Minimum configuration

   d. Beta Plan update

2. Creates Beta Questionnaire

3. Attends phase review

Project Manager Phase 3—Project Development

1. Confirms Beta Plan is created

2. Confirms design review takes place

3. Facilitates information flow within project team

4. Works with IT to identify vendors and negotiate contracts

5. Presents the project's actual features and functionality to executive staff (Phase 3 review)

QA Phase 3—Project Development

1. Prepares and presents to team QA test plan

2. Receives updated IT documentation

3. Receives access to project to begin test procedures

4. Updates team with any changes

5. Receives and reviews Documentation manuals and help files

6. Meets with Business Development to define Beta Plan

7. Attends phase review

Help Desk Phase 3—Project Development

1. Receives QA test plan

2. Receives updated IT documentation

3. Receives and reviews Documentation manuals and help files

4. Attends phase review

Documentation Phase 3—Project Development

1. Prepares and presents to team Document Plan

2. Receives updated IT documentation

3. Receives access to project to confirm docs

4. Updates team with any changes

5. Presents first-draft documents to team

6. Attends phase review

3.11 Documents Created During Project Development Phase

Beta Plan—Created. The Beta Plan is a document developed by project marketing and QA. The purpose of a Beta Plan is to define the roles and responsibilities that will be required of the people participating in the beta process. The Beta Plan details the qualifications required to become a beta site along with the technologies and procedures that will be tested.

Beta Questionnaire—Created. The Beta Questionnaire is a document that needs to be modified and updated for each project. This document should be sent to each beta user. Business Development should call each user to confirm the user site details.

Doc Plan—Frozen. This is a plan created by Documentation outlining the manuals and help files that will be developed. The plan details the scope of each manual and help file with an outline that includes chapters and the detail within each chapter for any manual or help file that will be produced.

Executive Sign-Off. This is a sign-off sheet the Project Manager presents to the executives in the phase review. At the end of each phase review presentation, each member of the executive staff reviews the phase sign-off, reflects on the information presented, and decides if she will allow the project to proceed to the next stage of the project life cycle. On the bottom of this document each executive signs her name and whether she approves or disapproves of continuing to the next phase.

Phase Review Presentations. This is a sample presentation that would be filled in by the project team for the presentation to executive staff.

Phase Sign-Off. At the end of each phase, before the review presentation, each member of the project team reviews a document that contains information similar to that found in the Summary of Deliverables by Department section of this chapter. The Project Manager reviews this list in a team meeting and places the word *complete* or the date the deliverable will be complete by each team deliverable. The team then votes if they agree all deliverables have been met. Once the team agrees that all phase deliverables have been met, it can present the project status at the phase review. The annotated Sum-

mary of Deliverables by Department sheet is attached to the Phase Sign-Off Document. The Phase Sign-Off Document identifies the project and phase and has a place for each member of the team and each executive to sign if they agree the project meets the requirements of that phase and can move to the next one.

Test Plan—Frozen. The QA organization develops a detailed plan outlining what features they will test, how they will test these features, what the escalation procedures are, and how they will define bug severity.

3.11 in a Nutshell

The following documents were created in Phase 3:

➤ Beta Plan

➤ Beta Questionnaire

➤ Doc Plan (frozen)

➤ Executive Sign-Off

➤ Phase Review Presentations

➤ Phase Sign-Off

➤ Test Plan

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Phase 4—Quality Assurance

"A pint of sweat saves a gallon of blood."

—General George S. Patton

Concept

Design

Development

Quality Assurance

Beta

Release

General Availability

End of Life
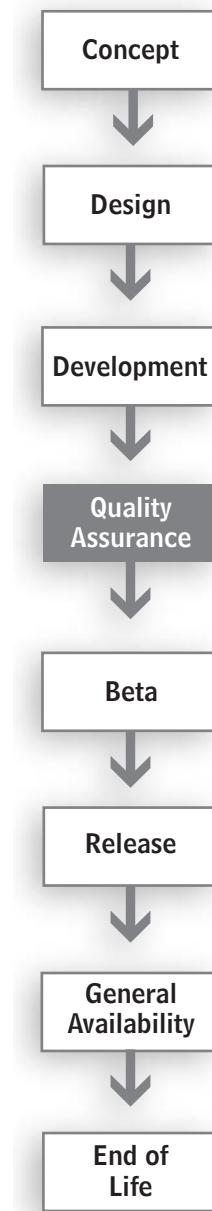
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4.1 Quality Assurance Overview

During Phase 4, the project's quality is assured and the Project Announcement Plan and the Project Release Plan are created.

The people responsible for quality assurance receive the finished project from IT. They then install and test the project using the documentation created for it to ensure that the project meets the Design Document specifications created by IT, that the documentation meets end-user needs and matches the Documentation Plan, and that the project meets the requirements laid out in the PRD. Separately, the person(s) responsible for corporate communications and business development create the Project Announcement Plan. This plan includes all of the deliverables necessary to announce a project including due dates and projection dates. If applicable, an advertising plan, press release plan, and press tour is scheduled. Business Development identifies, contacts, and signs up beta sites. The Project Manager creates a plan detailing how the project will be released to users. The role of each project team involved in Phase 4 is listed below.

IT

IT is the functional area responsible for programming, managing, and integrating the project's hardware and software. They are also responsible for defining, designing, and developing a project, as well as for conducting its initial testing and fixing any errors before it is released. IT is the key member on the project team and needs to be available to provide technical information both written and verbal to all members of the team.

Communications

Communications is the functional area responsible for all communications inside and outside of the company. Smaller companies do not need a separate communications person for internal projects; the Project Manager will handle all the internal corporate communication. Larger companies with offices scattered around the country or around the globe will need a person to provide communications to end users. If the project being developed will be made available to people outside the company, the person responsible for corporate communications will need to interact with the company's public relations agency, advertising agency, industry analysts, and other outside agencies.

Business Development

The Business Development person is responsible for directing and driving the project, for analyzing the industry and the competition, and for understanding the user. Business Development works with all areas of the company to make sure the project is focused on the user and is presented in the best possible light.

Project Manager

The Project Manager's responsibility is to make sure each member of the team understands his or her interdependencies. The Project Manager facilitates communications among departments, as well as manages processes and confirms that the deliverables within each stage of the project life cycle have been met. When deliverables slip, it is the responsibility of the Project Manager to escalate this information and to facilitate resolution. In smaller companies, the Project Manager's duties usually incorporate those of Business Development and Communications. The Project Manager creates the Release Plan. The Release Plan outlines the procedures needed to get the project out the door.

Quality Assurance

Quality Assurance (QA) is responsible for defining, designing, developing, and implementing a test plan. QA tests the project to confirm that it meets the design specifications outlined in the Design Document and the PRD. QA uses the manuals and help files developed by Documentation to ensure that they correctly explain how to install and use the project and identify how errors are to be handled. QA is responsible for managing the user test procedures defined in the Beta Plan and for confirming that bugs have been fixed.

Help Desk

Help Desk is responsible for defining, designing, and developing a detailed plan that articulates how the company will support a project after it is released. The Support Plan defines how Help Desk personnel are trained, how users will access help, how bugs will be tracked and fixed after release, what training will be available to end users, and how updates and fixes will be sent to users.

Documentation

Documentation is responsible for defining, designing, and developing all the documentation required to install, support, and answer any questions a user may have regarding a project. Documentation defines what publications will be produced in the Doc Plan; these may include online help, E-Learning courses, or manuals. Documentation works closely with IT to develop these documents and works closely with QA to ensure that documents are appropriate for end users.

Users

Although not on the team, users are so important to the success of the project that we mention them as a team member. Users are the people who will use what the team is developing. Users may be employees, partners, or the general public.

4.1 in a Nutshell

➤ Phase 4—Quality Assurance

  ■ Assures the project meets corporate guidelines for necessary quality

  ■ Creates the Project Announcement Plan

  ■ Creates the Project Release Plan

➤ In Phase 3 the project was executed. Now the following groups are responsible for assuring the project works:

  ■ IT

  ■ Communications

  ■ Business Development

- Project Manager

- Quality Assurance

- Help Desk

- Documentation

4.2 Tasks Completed During Quality Assurance

The Project Manager should now have a completed project waiting to be tested, a first-draft document from Documentation, and QA's completed Beta Plan. If it has been over six months since Phase 1, Business Development should update the Project Requirements Document (PRD). The Project Manager presented Phase 3 to the executive staff and received approval to proceed to Phase 4.

QA is now on the critical path. During this phase, QA begins testing the project in earnest. QA must test the project according to the description of how the project will be used as defined in the PRD and the Beta Plan. One of the tests that QA performs is to install the project and run through a simulated use of it, in the same way an actual user would. This means going through the documentation as an average user would and testing the project on a system configured like that of the average user. Most technology projects use a browser interface. It is very important that all browsers are tested. If the project will be used internally, there is tighter control on the possible browsers employees have on their desk. A caveat is home access; it should be clearly identified in the PRD if employees will have access to this application from their home computers. For example, if this is an E-Learning project, employees may be accessing training from their hotel rooms or from their homes. QA will need to identify what speed modem out-of-the-office users will

have access to and what browser they will be using. QA will need to try the application using the lowest common denominator configuration—a 28K modem, a portable computer screen, and an AOL browser. If the project is being designed for customers, all possible browsers and all possible version levels need to be tested, including Microsoft, Netscape, and AOL for both PCs and Macs. A customer will be repelled by an application that does not work with his or her environment. A few minutes of testing can save a project. All errors and problems that are uncovered and all recommendations that would make the project easier to use or more effective are logged. It is important for QA to install and use the application the same way end users will. The money saved supporting a project that works will make up for any inconveniences encountered and the time spent properly testing a project.

During the QA phase, the documentation writer reviews changes and recommendations provided by QA. The documentation writer incorporates these changes into the manuals or online help. If appropriate, the documents and online help are augmented with install, usage, and debug samples.

It is important that each week QA presents to the team their test status and an annotated bug count. Once QA certifies they have run all their tests and there are no severity 1 or 2 bugs, the project can move to Phase 5—Beta.

IT's role during the QA phase is to support the QA organization and to fix bugs in a timely manner. Near the end of the QA phase, IT is responsible for creating and presenting a technical class. The audience of this class is Help Desk, Training, and any other department involved in supporting the project through the beta process. The purpose of this class is for technical information to be transferred from IT to the Help Desk organization and to the people responsible for creating user training. The class is referred to as a Transfer of Information (TOI). An E-Learning version of this class

should be developed and placed on the company's intranet so that Help Desk workers located in other facilities or who join the project after its release can receive in-depth training directly from the developers. The team's Help Desk representative works with the IT representative to make sure that the information IT presents meets the needs of the Help Desk organization. The Project Manager is responsible for confirming that the class logistics are handled. The Help Desk organization is responsible for inviting the appropriate people in their organization and the training organization.

For most companies, Quality Assurance is a group within IT. For smaller IT organizations, there typically is not a separate Quality Assurance group. It is very important to identify someone who is not involved with developing the project to assure quality. The most experienced, detail-oriented developer can miss simple things. A fresh set of eyes is needed on all projects to assure that the project works as specified.

4.2 in a Nutshell

The project has been created; QA is now the critical path team member.

- ➤ QA tests the project in accordance with how the project will be used by end users.

- ➤ IT is available to support QA by fixing any bugs.

- ➤ Documentation works with QA to complete the manuals and help files based on the needs of the end user.

- ➤ Project management creates a Release Plan.

- ➤ Beta sites are identified.

- ➤ IT provides training for Help Desk people and people responsible for creating user training.

4.3 Identifying Beta Sites

The QA phase is a very busy time for Business Development. They are planning the project's announcement, and if the company is planning a closed beta, they are also finding and certifying beta site users. Business Development will work with other organizations to identify good prospective beta sites. Finding good beta sites is probably one of the most difficult tasks of the beta program. Many sites do not have the facilities or users with time to test a project properly. Most users who are interested in testing projects need the project in full-production mode, since it solves a problem they are experiencing. This can cause potential problems since the team is still working out bugs and many users have a low tolerance for errors. It is very important to impress upon users that the project is of beta quality—that it has been tested internally, but it is highly probable the software has bugs.

If this project is a customer application and the company decides to go with a public beta, finding beta users will be easier. Support infrastructure for the beta users should be identified and created during this phase. At the least, put a legal disclaimer on your Web site that clients will need to "accept" before accessing the application. Having clients answer a short questionnaire giving pertinent personal information, such as name, e-mail, system configuration, and demographic information, is beneficial. Ask beta users to provide their e-mail, so they can be notified when new releases are available. Other items beneficial to include with a public beta are: a bulletin board identifying known bugs and dates when the bug fixes will be available, a bulletin board where beta users can ask questions and note bugs they find, and an E-Learning class where users can learn how to use this application or feature.

Depending on the scope of the project, Business Development may need to identify individual beta sites. If so, it is

necessary to interview these sites and confirm that they can and will test the project during the assigned beta period. Business Development will need to review the Beta Questionnaire with the user. For external projects, Business Development should also ask the potential beta sites if they can be used as a case study or as a reference at announcement time.

One recommendation for a successful beta is to sign up twice as many sites as the team specified, since it is likely that as many as half of the committed beta sites will not be able to test the project during the allotted time. It is wise to remember that beta sites are doing the team a favor. Treat them accordingly. If a good relationship is developed with a beta site, the next time a project is to enter beta the site usually is willing to participate.

4.3 in a Nutshell

Business Development must identify beta sites:

➤ Business Development works with the user community to identify potential beta sites.

➤ For a closed project, these sites will be interviewed to assure they meet the team's needs.

➤ For an open beta the team will need to qualify beta user requirements.

Tip: Sign up twice as many beta sites as you think you will need.

4.4 Creating a Project Announcement Plan

If a large company is releasing a large project internally or to users outside of the company, the project will need to be

announced. Communications is the area responsible for corporatewide or external announcements. Communications works closely with Business Development to create an Announcement Plan. An Announcement Plan details who will be responsible for developing each deliverable needed to successfully announce a project and how and when it will occur. Part of the Announcement Plan is to create a budget for the project and receive budget approval. This should be done outside of the team, but the team should be informed when the budget is approved. If this is an international project, extra care should be taken when developing the strategy and identifying the time frames. Translations need to be made for each country's language and culture. If the announcement is to occur simultaneously, worldwide schedules need to be built that allow time for localization. An effective American campaign does not always work in Europe. It needs to be decided if materials developed in one country will be deployed around the world or if new materials will be developed for each market. Budgets, politics, and user demographics play into this decision.

Business Development and Communications' Role

Business Development should be intimately familiar with the needs of the user and the project. Communications is experienced with spreading the word for internal communications and with the press and industry analysts for external communications. Communications has a tight pulse on the current themes the press is writing about and can recommend the best way to present the project verbally and visually. Communications is responsible for managing the announcement process; deliverables may come from many people, both internal and external to the company.

Communications and Business Development need to decide how, where, and when it is best to announce this project. If the team decides on a public beta, this launch will be actual-

ized at the beginning of beta; for a closed beta the launch will be actualized at the end of beta. Depending on the project and the visibility of the company, it may be wise to announce the project in conjunction with a major trade show. Some projects obtain better visibility when released during slack news periods. Considerations that affect the announcement date may include competitive launches and newsworthy subjects that can gain better visibility for the project. For example, a new sales tool can be announced at the company's yearly sales meeting, or a security application can be announced in coordination with an HR security program. An example of a project that might be announced is an HIPAA program. HIPAA is the Health Insurance Portability and Accountability Act of 1996. Health care institutions need to ensure that all employees are trained on HIPAA standards. This training might be a corporate project within a hospital. The team is responsible for creating, rolling out, and ensuring all employees receive training. The announcement might be for the press and the general public, assuring them that hospital employees are trained based on these government regulations and providing them with information on how this training will continue with new employees.

For external applications, companies should be careful not to introduce a project too soon. A competitor's announcement may drive a company to attempt to introduce a project early. This approach can backfire. Press and analysts take into account release dates and referenceable customers or users. When release dates are far out and customers or users cannot speak to the press, analysts notice and highlight the immaturity of the announcement. Companies should choose their announcement date based on what will gain them the most positive press. It is unwise to lose the momentum of a announcement by its being viewed as a "me too" announcement. Give the competitor time to deliver. Many times competitors announce a project early, in order to receive early

press. They want to be the first with a project. If the project release date slips or the project's quality is poor, a company that announces later but delivers and executes as planned has the advantage. The best strategy to take when a competitor releases a new, competitive project is to show "sportsmanlike conduct" and not bad-mouth the competition. Many times companies will tempt the press by overhanging the market. Overhanging the market is a strategy used to entice the press to speculate about a soon-to-be-released project by trickling out information. For instance, a retailer is coming out with a new Web site in the next quarter that will be integrated with their existing stores; their competitor announces a similar Web site. The company tells the media they are not concerned about their competitor's announcement, since they will be releasing their Web site next quarter. The caveat is, next quarter the Web site will need to be released and the logistics of integrating the Web site with retailers will need to be functioning.

4.4 in a Nutshell

A Project Announcement Plan is needed for large projects being deployed in large companies or for projects being deployed to users outside of the company.

➤ The Project Announcement Plan details how, when, and who will be responsible for developing each deliverable needed to successfully announce a project.

➤ Communications and Business Development will decide how, where, and when the project should be announced.

4.5 The Project Announcement Plan

A Project Announcement Plan is needed for external applications or a large rollout within a large company. There are six

areas considered in a Project Announcement Plan: message development, press kit development, contact with journalists, project announcement date, project release deliverables, and advertising.

Message Development

Business Development needs to work closely with Communications during message development. It is the responsibility of the corporate officers to provide corporate direction and the corporate message. It is the responsibility of Communications to take this direction and message and articulate them. Business Development is responsible for providing project positioning and demographic information so Communications can create a positioning statement, also called the project message, that properly targets the user. The corporate message and the project message are the fundamental ideas behind a project's release. It is necessary for the corporate message to incorporate the project message and for each to be in concert with the other. The company's market position needs to be taken into account when releasing a new project. Before a project release, any updates to corporate positioning should be made. Corporate positioning explains who the company is and how they view themselves. The corporate presentation defines the company's target market and the position they have within the market. Project positioning explains what the project is, who buys the project, and why they need it. Artists are now hired to create an appropriate "look and feel" for the project. A "look and feel" is developed to match the user with the project. The graphics on a can of motor oil have a very different look and feel from the graphics found on jar of bath oil. Would motor oil sell if its graphics used romantic script? Would bath oil sell if it were packaged with an industrial design? The look and feel takes into account the design, the typeface, the paper, and

the display format. Earlier in the project, a presentation was created explaining the new project. This presentation should be updated to match the positioning statements and look and feel created in this phase.

Press Kit Development

After the project and corporate positioning is complete the press kit can be developed. Business Development works with IT to prepare an explanation of this project, and Communications turns this into a press release. Communications adapts this press release for the business wire. Communications interviews beta users and documents the reason they are using this project in case studies. Case studies can be given to the press and prospects as examples of how the project solves user needs. The corporate backgrounder is created or updated. The corporate backgrounder augments the corporate presentation. It reviews the company, its corporate officers, and its financial status, as well as the market, the company's market share, and its short- and long-range goals. Communications turns the project explanation into a data sheet.

Contact with Journalists

For newsworthy releases, a list of analysts who influence the financial markets, the press, or your target user base should be identified. Communications is responsible for identifying the correct analyst, for checking if any upcoming reports are applicable, for reviewing the reports for impact, and for developing a strategy of how best to update the analysts. The user demographic information is used to identify which media should be pitched to. Communications works with the company's public relations firm to identify the themes that need to be developed for pitching the stories. Communica-

tions should identify an appropriate position for each publication and then find the writer responsible for covering this market. Communications should identify if certain analysts and press outlets will receive the information early or if they will receive the information during a specified press tour. Considerations are made due to press dates since some publications need a longer lead time. If a writer or a magazine has been supportive of the project or the company, Communications may decide to give it an early scoop.

Project Announcement

Decide on an appropriate date to announce the project. Before the announcement date, the press release should be mailed to the press outlets with which the company has set up appointments. For large international releases, an East Coast, West Coast, European, and Asian press tour should be defined and the appropriate appointments scheduled. This is where monthly, weekly, and daily publications are pitched the story. A good PR firm is instrumental in assisting in this process. The PR firm will help identify the press and analysts, know upcoming stories that may fit, set the schedule for the press tour, and review the handouts to make sure they are clear and targeted.

Project Release Deliverables

Depending on the type of release, announcement deliverables need to be developed. For an internal release, it might be as simple as an e-mail to all employees. Or it could announce the new project with a banner displayed in the entranceway to the company's building or cafeteria, or with a Web page banner on the company's intranet site linking to the new application. For customer applications, deliverables may also include e-mails, Web banners, or mailers.

Advertising

If appropriate, advertising needs to be created. The user demographic information is used to determine the most effective advertising campaign. Magazine ads, Web site banners, direct mail, and telemarketing campaigns need to be designed and coordinated.

4.5 in a Nutshell

There are six areas to be considered in a Project Announcement Plan:

1. Message development

2. Press kit development

3. Contact with journalists

4. Announcement date

5. Project release deliverables

6. Advertising

4.6 The Release Plan

The Release Plan is a document outlining the procedures needed to get the project out the door. The Project Manager develops it, unless this is a very large release in which an additional person or team of people are brought in to manage the project's staging and release. IT and the Project Managers negotiated contracts in Phase 3. Based on these contracts they know when hardware, software, and services will be delivered. For projects that include new equipment, staging will be identified along with the personnel needed to stage the new equipment. Staging can be as simple as having

software updated on corporate servers or managing the logistics of having equipment drop shipped from the manufacturer to specified end users; and it can be as complex as setting up a staging area where all equipment is received, configured, and shipped to end users.

Regardless of the complexity of the project, a key person needs to be responsible for the release of the project. This person should understand what is being received and by whom, who is responsible for putting the pieces together, and who receives the completed solution. A location will be needed for staging, and the individuals responsible for staging should be identified and their schedules cleared to perform the necessary tasks. If appropriate, stagers will need to be trained on the project or installation. The Release Plan should identify the persons(s) responsible for creating and performing the training as well as provide the schedule for stager training. This training may include something as simple as a meeting the day the equipment is assembled, or may require a series of classes before the equipment arrives. Copies of the staging plan along with itemized staging tasks should be created and disseminated before staging takes place.

A project that works wonderfully in the lab but is not staged properly will be a disaster. End users do not react well to receiving bits and pieces of a solution. From the end user's point of view, every solution needs to be plug-and-play. Spend the time up front detailing the Release Plan since the devil is in the details. An army wins or loses wars based on the proper flow of supplies. You don't want a disaster on your hands because of poor execution.

Every project must have a Release Plan. This may be as simple as a one-page document stating that on a specific day the link to the new application will be available for the Webmaster to post. For complex projects that include new hard-

ware, software, and networking lines, the plan may be a large document that outlines what equipment is due from which vendor, which personnel are responsible for installing hardware and software, and who receives what equipment and when. A release schedule, similar to the one outlined in Phase 2, is needed for a complex project release.

4.6 in a Nutshell

The Release Plan identifies what will be needed to get the project out the door.

➤ Regardless of the complexity of the project, a key person responsible for the release of the project should be identified.

➤ This person must know what is being received and by whom, who is responsible for putting the pieces together, and who receives the completed solution.

4.7 Quality Assurance Presentation

Once QA testing has ensured the project meets the company's standard of quality and the Announcement and Release Plan are created, the team can present their findings to executive staff. See Figure 4.1.

Page 1: Cover Page. This document should be for controlled distribution and list the names of all the people attending and receiving the review handout. The cover page should list the project name, the phase, and the date.

Page 2: Agenda. List the major items, the team members who will be presenting, and the time allotted for

Figure 4.1 Quality Assurance Presentation

Project Name

Phase: 4—QA

Review distribution includes: (list names of people receiving a copy of this document)

date   Controlled Distribution

Agenda

- General program status
- Beta Plan
- Team overview
- Issues and risks

date   Controlled Distribution
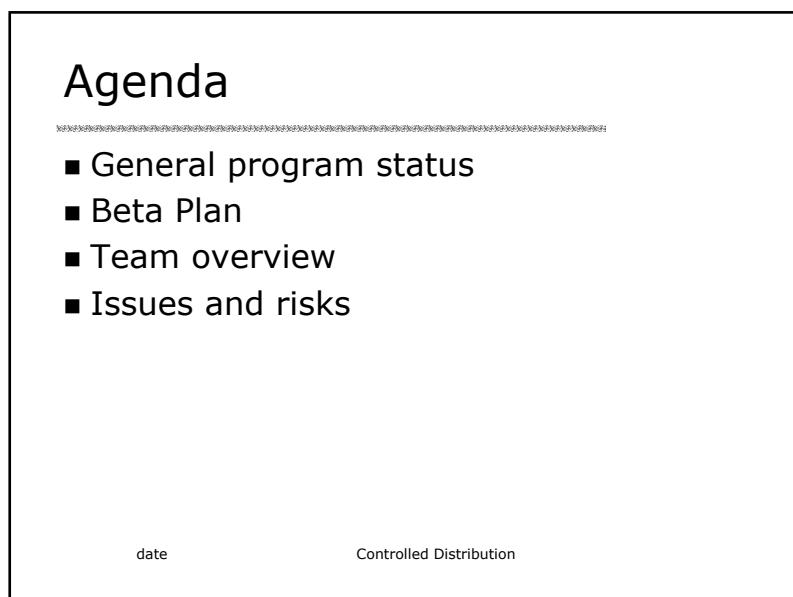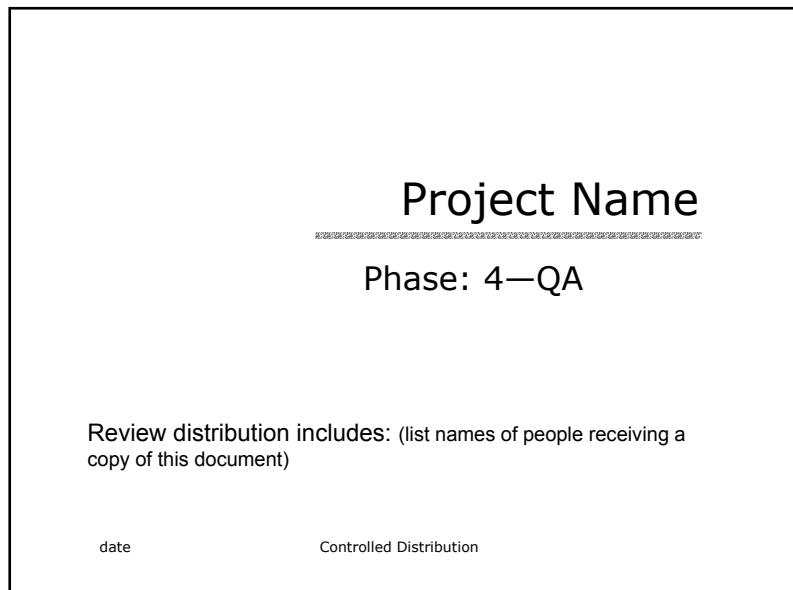
(continues)

Figure 4.1 (Continued)

Project Status

- QA verifies project specifications
- Software/hardware integration and QA testing completed
- Validation testing of system configuration maximums completed
- Documentation first-draft documentation completed
- TOI developed and presented
- Release Plan put in place
- Business Development and Communications creates and receives approval of the Announcement Plan
- Beta sites identified
- Help Desk organization is ready to support beta users
- Phase 5—Beta presentation date established

date   Controlled Distribution

Review Phase 3

- After the last review executive staff may have requested that action items take place. List these action items along with the status of each.

date   Controlled Distribution

Financial Summary

	Estimated Cost from Phase 3	Current Cost
Hardware		
Software		
Networking		
Development		
Staging		
Transportation		
Support		

date Controlled Distribution

Integrated Schedule

	Phase 3, Date	Phase 4, Date
Development		
Documentation		
QA		
Beta		
Release		
Maintenance		

date Controlled Distribution

Figure 4.1 (Continued)

Updated Development Costs

	Estimated Cost from Phase 3	Current Cost
Business Development		
IT		
QA		
Documentation		
Help Desk		
Training		
Communication		

date   Controlled Distribution

Pre-Beta Status

- List gating items to start Beta
- List open severity 1 or 2 bugs
- Documentation status
- Software status

date   Controlled Distribution

Beta Site Requirements

- List expected accomplishments from a beta, e.g., test application in a real-world environment, shake out Web/phone support

date   Controlled Distribution

Beta Site Selection

- List the user name, user status, concerns.

date   Controlled Distribution

(continues)

Figure 4.1 (Continued)

Team Members

- IT -
- Business Development -
- Project Manager -
- Quality Assurance -
- Help Desk -
- Documentation -

date   Controlled Distribution

Project Manager's Deliverables

- Update integrated schedule
- Update projected costs
- Create the Release Plan

date   Controlled Distribution

Business Development and Communications' Deliberables

- Any changes made to the Business Requirements Document
- Updated Announcement Plan created
- Budget approved
- Beta sites identified

date   Controlled Distribution

IT's Deliverables

- Changes from the frozen PRD and Design Plan
- Design/development status
- Test findings and status

date   Controlled Distribution

Figure 4.1 (Continued)

Documentation's Deliverables

- First draft created
- Samples within documents created, coordination of documentation
- Documentation milestones (start, first review, second review, next draft, projection editing)

date   Controlled Distribution

QA's Deliverables

- Test plan
- Testing complete as of today
- Projected test completion date
- Confidence in meeting completion date
- Projected test report completion date

date   Controlled Distribution

Help Desk's Deliverables

- Help Desk Plan created
- Serviceability test plan created
- Training plan created
- TOI presentation date
- Beta entry criteria

date   Controlled Distribution

Issues and Risks

Owner	Risk	Impact

date   Controlled Distribution

Figure 4.1 (Continued)

Executive Session

- Issues
- Concerns
- Limitations

date   Controlled Distribution

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presentations. Agenda items for a Phase 4 review may include introduction, general program status, Beta Plan, team overview, and issues and risks.

Page 3: Project Status. Review the items that have been created or completed in a Phase 4—QA.

- QA verifies project specifications
- Software/hardware integration and QA testing completed
- Validation testing of system configuration maximums completed
- Documentation first-draft manuals and help files completed
- TOI developed and presented
- Release Plan put in place
- Business Development and Communications creates and receives approval of the Announcement Plan

- Beta sites are identified

- Help Desk organization is ready to support beta users

- Phase 5—Beta presentation date established

Page 4: Review Phase 3. Review the action items from Phase 3 to see if they are complete. List the item and its status.

Page 5: Financial Summary. For Phases 3 and 4, list the hardware costs, the software costs, the networking costs, as well as the personnel costs to develop, stage, and support the project, and any transportation costs.

Page 6: Integrated Schedule. For Phases 3 and 4, list the start and completion date for Development, Documentation, QA, Beta, Release, Maintenance.

Page 7: Updated Development Costs. For Phases 3 and 4 list Business Development, IT, QA, Documentation, and Help Desk with the estimated cost and actual cost.

Page 8: Pre-Beta Status. List gating items to start beta including Severity 1 and 2 bugs. Entering beta period: List manual and help files status, software status, and QA status.

Page 9: Beta Site Requirements. List the reasons the company needs to beta this project. Some of these reasons may be: to shake out Web/phone support, confirm feature/functionality quality, better understand user needs, get timely feedback for market positioning, and obtain feedback on the features and functionality found in the project.

Page 10: Beta Site Selection. List the user name, user status, and user concerns for each beta site.

Page 11: Team Members. The pages that follow highlight the team deliverables that have been created by team members.

Page 12: Project Manager. Updates integrated schedule and projected costs. Creates the Release Plan.

Page 13: Business Development and Communications. List the deliverables worked on by Business Development, such as changes made to the Business Requirements Document, updated Announcement Plan created, budget approved, beta sites identified.

Page 14: IT. List changes from the PRD and the Design Plan, along with any changes made to the design, and test findings and status.

Page 15: Documentation. List the deliverables created by Documentation, such as the first draft, samples within documents, Documentation milestones (start, first review, second review, next draft, projection editing).

Page 16: QA. List the deliverables created by QA, such as the test plan, the testing that has been completed as of today, the projected test completion date, the confidence in meeting the completion date, and the projected test report completion date.

Page 17: Help Desk. List the deliverables created by Help Desk, such as the Help Desk Plan, the serviceability test plan, the training plan, the TOI presentation date, and the beta entry criteria.

Page 18: Issues and Risks. For this phase, list issue, owner, risk, impact, and status.

Page 19: Executive Session. Executive sign-off, executives note any action items for the team and agree to let the program move to the next phase.

4.7 in a Nutshell

The team is ready for the Phase 4 presentation after:

➤ IT has presented the Transfer of Information (TOI) class to the Help Desk department so they are qualified to provide minimum support to beta users.

➤ The Announcement Plan is created.

➤ The Release Plan is created and provided to the team.

➤ QA's comments have been integrated into the documentation.

➤ QA assures the team that no severity 1 or 2 bugs exist.

➤ The team presents the project status to executive staff.

4.8 Recommendations for Management and Team Members

Management is crucial for projects to come out on time and on budget. Here are some recommendations to management so that they can provide clear, effective direction to the team.

Management Recommendations

Take phase reviews seriously. Phase reviews are designed to give executive management a "snapshot" of the status of the project. They are an excellent tool for confirming processes are being followed and team deliverables are being completed on time. If executive staff doesn't take phase reviews seriously no one else will.

Team Recommendations

- It is cheaper to test a project than to fix bugs once the project is released.

- The person responsible for creating the project should be different from the person responsible for quality assurance.

- Sign up twice as many beta sites as needed.

- If you are announcing the project publicly, choose beta sites that can be referenced and will talk to the press.

- Choose announcement dates that will highlight your project, either a slow news time or a trade show.

4.9 The Roles of Team Members

IT Phase 4—QA

1. Fixes bugs

2. Reviews Documentation's documents

3. Works on Help Desk's QA testing

4. Develops and presents TOI

5. Attends phase review

Communications Phase 4—QA

1. Joins project team (this may begin in Phase 3 depending on length of QA)

2. Works with Business Development to create Announcement Plan:

- Works with PR firm to identify press and analyst themes

- Updates corporate positioning

- Works with design firm to develop project identification look

- Develops press kit

- Decides on user positioning for case studies

- Works with PR to identify press and analyst lists

- Works with PR to develop press tour

- Works with advertising agency to decide advertising plan

3. Attends phase review

Business Development Phase 4—QA

1. Business Review Document and financial analysis are updated

2. Announcement Plan is created:

   - Message and market positioning are decided:

   - Announcement date and strategy are decided

   - Core project write-up are developed

   - Project presentation is developed

   - Pricing analysis is developed

3. Potential beta users are contacted

4. Beta sites are presented to project team

5. Early sites are briefed

6. Sales channel training is developed

7. Project numbering and ordering information are developed and coordinated with finance

8. Works with order entry and manufacturing to create a Release Plan

9. Attends phase review

Project Manager Phase 4—QA

1. Confirms that Business Development updates market review and financial analysis

2. Confirms that beta sites are solicited

3. Facilitates information flow between QA, Documentation, and IT

4. Confirms that severity 1 and 2 bugs are fixed

5. Manages TOI

6. Creates the Release Plan

7. Presents Market Plan, a highlighted list of the expected launch deliverables, Beta Plan, and project status to executive staff (Phase 4 review)

QA Phase 4—QA

1. Begins full testing

2. Uses documents when testing project, gives recommendations to Documentation

3. Creates bug reports, confirms bugs are fixed

4. Provides team with approval to move to Beta

5. Attends phase review

Help Desk Phase 4—QA

1. Finalizes project Help Desk Plan

2. Confirms Help Desk organization is prepared to support the project

3. Provides Project Manager with training list for TOI

4. Identifies user training classes that will be needed

5. Works with QA to identify beta user escalation path

6. Attends phase review

Documentation Phase 4—QA

1. Receives team's input, updates documents

2. Presents second draft documents to team

3. Receives team's input, updates documents

4. Attends phase review

4.9 in a Nutshell

Each team member is responsible for executing a number of tasks.

- IT
- Communications
- Business Development
- Project Manager
- Quality Assurance
- Help Desk
- Documentation

4.10 Documents Created During Quality Assurance Phase

Beta Plan—Frozen. The Beta Plan is a document developed by Business Development and QA. The purpose

of a Beta Plan is to define the roles and responsibilities that the people participating in the beta process are required to fulfill. The Beta Plan details the qualifications to become a beta site as well as the technologies and procedures the beta sites will be testing.

Beta Questionnaire—Frozen. The Beta Questionnaire is a document that needs to be modified and updated for each project. This document should be sent to each beta user. Business Development should call each user to confirm the user site details.

Executive Sign-Off. This is a sign-off sheet the Project Manager presents to the executives in the phase review. At the end of each phase review presentation each member of the executive staff reviews the phase sign-offs, reflects on the information presented, and decides if he will allow the project to proceed to the next stage of the project life cycle. On the bottom of this document each executive signs his name and indicates whether he approves or disapproves of continuing to the next phase.

Announcement Plan—Created. The Communications Manager is responsible for creating and monitoring the launch process. Items are delegated to the appropriate employees. Project Business Development is responsible for deciding user demographics and focus for the announcement. Communications is responsible for understanding press and analyst concerns. Communications confirms that press and analyst deliverables are properly targeted. The Announcement Plan itemizes all the Business Development deliverables that need to be completed in order to announce a project.

Release Plan—Created. The Project Manager is responsible for creating a Release Plan. The Release Plan identifies any hardware, software, or networking that will

be needed, who is responsible for configuring the new equipment, and who will receive the equipment.

Phase Review Presentation. This is a sample presentation that would be filled in by the project team for the presentation to executive staff.

Phase Sign-Off. At the end of each phase, before the review presentation, each member of the project team reviews a document that contains information similar to that found in the Summary of Deliverables by Department. The Project Manager reviews this list in a team meeting and places the word *complete* or the date the deliverable will be complete by each team deliverable. The team then votes if they agree all deliverables have been met. Once the team agrees that all phase deliverables have been met, they can present the project status at the phase review. The annotated Summary of Deliverables by Department sheet is attached to the Phase Sign-Off Document. The Phase Sign-Off Document identifies the project and phase and has a place for each member of the team and each executive to sign if they agree the project meets the requirements of that phase and can move to the next one.

Help Desk Plan—Frozen. The Help Desk organization develops a document that details how they will support the project, how they will track bugs, what services they will provide to users, how they will update users with fixes, and what educational services they will provide.

Team Minutes. The team minutes are a weekly updated document that provides details on commitments, status, issues, requests, and team decisions.

4.10 in a Nutshell

In Phase 4, the project is assured for quality. The following documents are created:

- Beta Plan—Frozen

- Beta Questionnaire—Frozen

- Executive Sign-Off

- Announcement Plan

- Release Plan

- Phase Review Presentation

- Phase Sign-Off

- Help Desk Plan

- Team Minutes

Phase 5—Beta

"A pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty."

—Sir Winston Churchill

Concept

Design

Development

Quality Assurance

Beta

Release

General Availability

End of Life

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5.1 Beta Overview

Beta takes place after the Quality Assurance group agrees that the project is functional, that it meets the specifications of the Design Document, and that it meets user needs. Beta is conducted before the project is released to the general user. If the team has decided that the project will be tested in a closed beta, the project is sent to a select group of users. These users have agreed to test the project and confirm that its features meet their needs and work in their environment. If it has been decided that the project will be tested in a public beta, the project, if appropriate, may be placed on the company's Web site. The project is now available for anyone to download and test. If the project's users are outside the company and this is a public beta, the project will be launched during this phase. During beta, end users with questions call in to the Help Desk. Quality Assurance takes the lead in monitoring the user test process by logging and testing any bugs. IT continues to fix bugs, while Business Development and Communications focus on actualizing the Announcement Plan. The Project Manager is busy ensuring that the Release Plan is in place and ready.

During Phase 4—Quality Assurance, IT performed a TOI (Transfer of Information), Business Development and Communications created an Announcement Plan, Quality Assurance's comments were integrated into the documentation, QA assured the team there were no known severity 1 or 2 bugs in the project, and the Project Manager created a Release Plan. The team presented the project status to executive staff. Executive staff approved the project's release for beta.

Beta begins after users have agreed to test the project, and if appropriate, signed the Beta Contract. If the project includes hardware, the Project Manager should test the staging plan to ship the project and documentation to the beta site.

A beta review committee should be established by QA at the start of the beta period. This committee consists of IT and a Help Desk representative with QA. The beta review committee will meet as often as needed based on the needs of the project. QA will be the lead on the committee and be responsible for running the meeting. The purpose of this committee is to foster communication between these three organizations and provide them with a forum to review the beta site activities. The committee needs to know which users are beta sites and what these sites will be testing. A communications channel for the beta sites and a fast escalation path for receiving and fixing user bugs should also be created. The role of each project team is listed below.

IT

IT is the functional area responsible for programming, managing, and integrating the project's hardware and software. IT is also responsible for defining, designing, and developing a project as well as for conducting its initial testing and fixing any errors before it is released. IT is the key member on the

project team and needs to be available to provide technical information both written and verbal to all the team's members.

Communications

Communications is the functional area responsible for all communications inside and outside of the company. Smaller companies do not need a separate communications person for internal projects; the Project Manager will handle all the internal corporate communication. Larger companies with offices scattered around the country or around the globe will need a corporate communications person to provide communications to end users. If the project being developed will be made available to people outside the company, the corporate communications person will need to interact with public relations, advertising, industry analysts, and other outside agencies.

Business Development

The Business Development person is responsible for directing and driving the project, for analyzing the industry and the competition, and for understanding the user. Business Development works with all areas of the company to make sure the project is focused on the user and is presented in the best possible light.

Project Manager

The Project Manager's responsibility is to make sure each member of the team understands his or her interdependencies. The Project Manager facilitates communications among departments as well as manages processes and confirms that the deliverables within each stage of the project life cycle

have been met. When deliverables slip, it is the responsibility of the Project Manager to escalate this information and to facilitate resolution. In smaller companies the Project Manager's duties usually incorporate those of Business Development and Communications. A Release Plan is created for projects that will need hardware, software, and networking services to be installed or received.

Quality Assurance

Quality Assurance (QA) is responsible for defining, designing, developing, and implementing a test plan. QA tests the project to confirm that it meets the design specifications outlined in the Design Document and the PRD. QA uses the manuals and help files developed by Documentation to ensure that they correctly explain how to install and use the project and identify how errors are to be handled. QA is responsible for managing the user test procedures defined in the Beta Plan and for confirming that bugs have been fixed.

Help Desk

Help Desk is responsible for defining, designing, and developing a detailed plan that articulates how the company will support a project after it is released. The Support Plan defines how Help Desk personnel will be trained, how users will access help, how bugs will be tracked and fixed after release, what training will be available to end users, and how updates and fixes will be sent to users.

Documentation

Documentation is responsible for defining, designing, and developing all the documentation required to install, support, and answer any questions a user may have regarding a proj-

ect. Documentation defines what publications will be produced in the Doc Plan; these may include online help, E-Learning courses, or manuals. Documentation works closely with IT to develop these documents and works closely with QA to ensure that the documents are appropriate for end users.

Training

Training is responsible for developing and providing training courses to employees, partners, and customers. These may be on-site classes or training over the Web.

5.1 in a Nutshell

➤ Beta is to assure the project meets company standards for quality and to allow customers to test the project.

➤ Business Development and Communications focus on actualizing the Announcement Plan.

➤ The Project Manager confirms that the Release Plan is complete and ready for execution.

➤ In Phase 4, the project was internally tested. Now the following groups are responsible for working with customers to ensure that the project works.

- IT

- Project Manager

- Quality Assurance

- Help Desk

- Documentation

- Communications and Business Development

➤ If applicable, Training joins the team.

5.2 Managing a Beta Site

The purpose of beta is to ensure that the project works in the user's environment. Users are doing the team a favor by testing this project. Good beta sites are hard to come by. Teams should take special care of their beta sites. An effective flow for getting the project to a beta site (specifically closed beta sites) follows. This flow may need to be modified based on the scope of the project, since a project that adds a simple Web tool will need to be managed differently from a project that includes shipping hardware and software, and differently from a project that will be accessed by users outside of the company. For a complex project, it may be necessary to coordinate the install date with the user and have a technical employee be present. Again, depending on the complexity of the project, the technical employee may need to give a short project training class and be present when the user first installs the project. The technical employee can review with the user what the team would like him to review and can outline how questions, bugs, and comments are to be handled. If applicable, at mid-beta the team may update the project with a new release of software. If paper documents were provided, ask the user to write questions or comments in the actual document. At mid-beta, give the annotated documents to the person responsible for documentation. Documentation can use the annotated documents to make changes where applicable. It is a good policy to have users filter all questions through the Help Desk organization. The Help Desk organization has the facilities to log information and track responses. This policy allows the Help Desk organization to hear user questions regarding the project. Quality Assurance and IT are responsible for supporting the Help Desk people with any questions they cannot answer. All questions and problems should be funneled through Quality Assurance, since they will need to reproduce the bugs.

Closed Beta

After the project is shipped and installed, the beta coordinator (typically a QA representative) periodically calls each beta site and updates an internal document outlining what the user has tested, what comments and recommendations were given, what bugs were found, and what the overall acceptance of the project was. For a public beta, it is recommended a beta chat line be created, with the QA representative chairing this chat line. It is also useful to have a bulletin board noting the known problems, expected fix dates, and frequently asked questions (FAQ). The QA person is not responsible for answering user questions. Help Desk should be involved with the chat line to support any user questions. Both QA and Help Desk should make it clear to users that the code is beta quality and major bugs will be noted and fixed in future releases. QA and Help Desk bring their findings to the weekly beta committee meeting. These findings are reviewed at the meeting so all departments involved in the beta testing program are aware of what the user is doing, understand the common problems, and have an idea of user comments. The QA representative is responsible for updating the project team with the beta status. Halfway through beta, the project should be updated. These updates are sent by QA to the beta site, or in the case of a public beta, the Web site is updated and an e-mail notification goes out to all registered beta users. The existing annotated document is given to Documentation. Documentation updates the manuals and help files with the users' suggestions. If the project will include a paper manual, changes to the documentation will freeze by the middle of beta.

Open Beta

Open beta refers to a beta that is open to everyone. Open betas tend to be the easiest betas on the team. Projects that

are candidates for open betas are applications that are easy to access and generally do not interfere with the workings of applications sitting on a user's computer. Most new Web services are good candidates for an open beta. It is worthwhile having a testing period for any new Web application. A team can have the corporate Web editor highlight the new application. Users interested in accessing the new application can fill in an access form that provides the team with name, e-mail address, and phone number. The user is informed this is a new application. Since the beta is open it is easy to get users to test the new application. To receive beta feedback the team should create a small survey for the beta users.

Hybrid Beta

For a hybrid beta the team will need to set up the procedures for both a closed beta and a public beta. At a predefined time, the team will need to segue the beta from closed to public. The team may decide to run two different beta tracks. For a three-month beta period, the team will run a three-month closed beta and a one-month public beta. For instance, if closed beta starts in January, it will run through March and the public beta will run only for the month of March. The project will be announced in March.

At the End of Beta

After all severity 1 and 2 bugs have been fixed, beta sites are asked if they consider the project stable for release. Once the beta sites agree that this project is stable, they are asked to sign a beta sign-off letter. To maintain goodwill with the beta users, it is recommended a gift be sent to them, since they helped certify the project. Before you send a gift, confirm that the company doesn't have a policy against gifts. For public beta sites you may want to send an e-mail announcing

the end of the beta, asking for comments, and asking the user to try the released project. You might give public beta users a limited discount on the project or make them eligible for a raffle.

5.2 in a Nutshell

A good beta site is hard to come by, and users are doing the team a favor.

➤ For complicated projects a technical employee should be assigned to help the early beta sites.

➤ If applicable, at mid-beta the team updates the project with a new release of the software.

➤ At periodic intervals (defined by the team), a QA representative should call the site to ensure that everything is working as expected.

5.3 A Monitored-Release Project

Monitored releases are not needed if you have a hybrid beta, since you have had a wider audience test your project before its release. Sometimes hybrid betas are not feasible, however, and the team feels the beta period did not provide the extensive testing needed. Projects cannot stay in beta forever; teams need to release projects. When the team feels the project is stable but wants to maintain close control over the released project it is called a monitored release. Sophisticated projects, those with interdependencies or requiring extensive training, may be good candidates for a monitored release. During beta, the team needs to decide how the project should be released. Should the project be sent out freely? Does the team need to monitor the release? A monitored

release is not related to quality but to scope. Some projects are so all-encompassing no beta site will ever be able to properly test the project. A monitored release provides the team with insight into who is receiving the project and how many people are using the project, so if a problem arises, the team knows the level of exposure.

Definition of a Monitored-Release Project

A monitored-release project is a project that has been released, but its monitored status means the team is still together and responsible for the project. This is a way to maintain visibility and funding on a complex project. If the team has questions about a user site, the monitored-release procedure provides the team with information so they can call the user before the project is shipped. In addition, the team may recommend that a knowledgeable employee is sent on-site if the project bogs down and the end user needs assistance or training. A monitored-release status allows the team to monitor which users receive a release, provides them insight into problems, and gives them the authority, responsibility, and budget to ensure the project works as specified.

Example flow of a monitored release for a sophisticated application that is targeted at a specific, well-defined audience:

1. User provides: name, address, contact, e-mail, and phone number when accessing the project.

2. At the team meeting the Project Manager presents this information to the team. The team decides if they need to call the user regarding any specific questions. The Project Manager is responsible for managing the monitored-release process. The team decides who will be included on the phone call.

3. The team decides when to end the monitored period.

5.3 in a Nutshell

On complex projects the team might feel the beta period did not provide the extensive testing needed. Due to business pressures the project needs to be released.

➤ A monitored release allows projects with limited testing to be released.

➤ To expedite problems the beta team stays in place during a monitored release.

➤ A monitored release provides the team with greater insight into users who have received the monitored-release project.

5.4 The Beta Debrief and Release Plan Review

It is worthwhile for the team to debrief near the end of the beta. The team should discuss what they learned on the beta and how they will apply this experience to the release of the project. Areas of special interest should be: shipping, installing, training, and general use of the project. Beta sites are a snapshot of the general release of the project. The team should be asking if there are more efficient and cost-effective ways to ship, install, train, and support the users. The team should look at how difficult or easy it was to get the project to the users and get the users functioning on the project. Taking the time to discuss the process and ways customers can be better supported often saves time and money once the project is released; it also is a good indicator of the actual cost of maintaining the project. For example, the team may find that by conducting a weekly E-Learning course on how to use the application, support calls are cut in half and use of the application doubles.

By the end of beta the Project Manager must confirm that the Release Plan is ready for execution; that any hardware, software, and networking equipment needed for end users have been ordered and will be received on time; that the staging area and people needed to perform the staging are available, trained, and prepared to execute what is needed for the release; that all contracts have been signed; and that end users are prepared to receive the project.

5.4 in a Nutshell

Near the end of beta it is worthwhile for the team to debrief.

➤ The team should discuss what they learned so they can apply this experience to the release of the project.

➤ More efficient ways to install, train, or support users should be discussed.

Tip: Taking the time now to discuss processes and methods to better support customers can save time and money once the project is released.

5.5 Beta Presentation

Once beta sites have reviewed the project, the team can present their beta findings to executive staff (see Figure 5.1).

Page 1: Cover Page. This document should be for controlled distribution and list the names of all the people attending and receiving the review handout. The cover page should have the project name, the phase, and the date.

Page 2: Agenda. List major deliverables for this phase, the team members who will be presenting, and the time

Figure 5.1 Beta Presentation
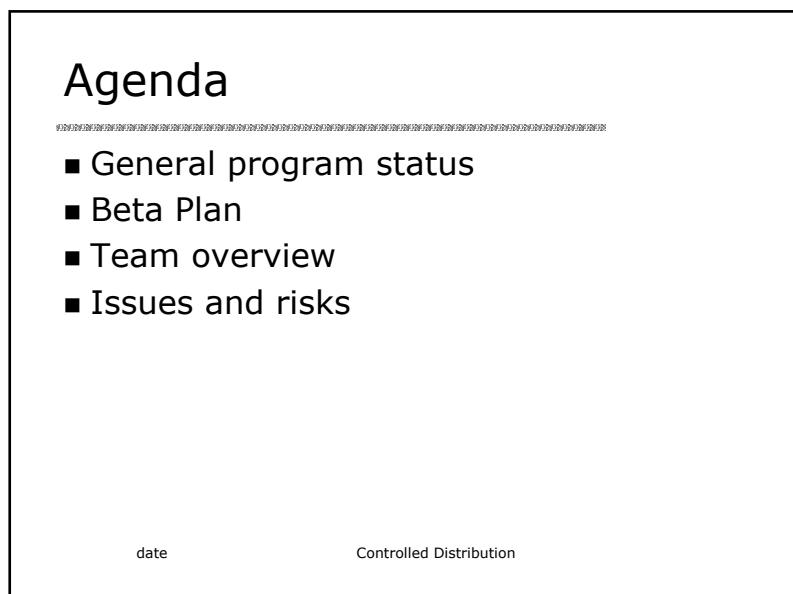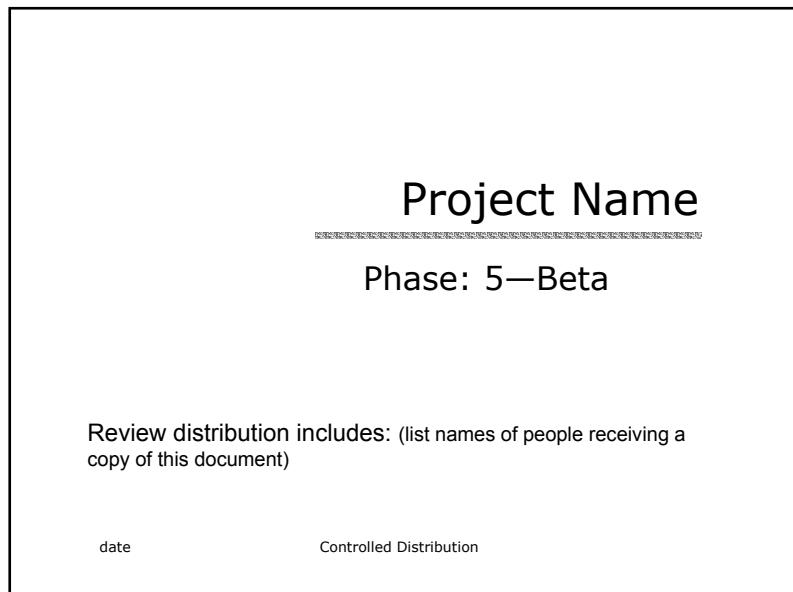
Figure 5.1 (Continued)

Project Status

- Project announcement and worldwide rollout plan implemented
- Release Plan for project in place and ready for execution
- User documentation, training, and logistics support in place
- Help Desk readiness to support user volume
- QA confidence on project readiness to enter general availability projection established

date   Controlled Distribution

Review Phase 4

- After the last review executive staff may have requested that action items take place. List these action items along with the status of each.

date   Controlled Distribution

Integrated Schedule

	Phase 4, Date	Phase 5, Date
Development		
Documentation		
QA		
Beta		
Release		
Maintenance		

date   Controlled Distribution

Updated Development Costs

	Estimated Cost from Phase 4	Current Cost
Business Development		
IT		
QA		
Documentation		
Help Desk		
Training		
Communication		

date   Controlled Distribution

Figure 5.1 (Continued)

Contracted Costs

	Contracted Costs
Hardware	
Software	
Services	
Staging/Fulfillment	
Maintenance	

date   Controlled Distribution

Beta Status

User Name	Date Installed	Date Upgraded	Beta Feedback	Beta Sign-Off

date   Controlled Distribution

Bug Report

- List outstanding bugs not fixed or no action plan in place, list number of severity 1–3 bugs
- List software confidence level as of today
- List QA confidence level for FUS date

date   Controlled Distribution

Team Status

- IT
- Project Manager
- Quality Assurance
- Help Desk
- Documentation
- Communications and Business Development
- Training (if applicable)

date   Controlled Distribution

Figure 5.1 (Continued)

Project Manager's Deliverables

- Update integrated schedule
- Update projected costs
- Update Release Plan readiness

date   Controlled Distribution

Business Development and Communications' Deliverables

- Any changes in the market
- Announcement Plan readiness

date   Controlled Distribution

IT's Deliverables

- Changes between Phase 4 and Phase 5 reviews
- Severity 1 or 2 bugs open
- Monitoring and supporting beta sites
- Ready to release project to projection status
- Transition to projection phase
- Sustaining IT ready to take over

date   Controlled Distribution

Documentation's Deliverables

- Incorporate beta markups
- Reissue beta version of the manuals for beta shipment and IT review
- Release Docs

date   Controlled Distribution

Figure 5.1 (Continued)

QA's Deliverables

- Final testing of bugs fixed during beta
- QA test report complete
- Confidence rating of project

date   Controlled Distribution

Help Desk's Deliverables

- Final project support plan
- Education training plan for additional Help Desk people

date   Controlled Distribution

Training

■ Training is user-ready

date   Controlled Distribution

Issues and Risks

Owner	Risk	Impact

date   Controlled Distribution

(continues)

Figure 5.1 (Continued)

Executive Session

■ Issues
■ Concerns
■ Limitations

date   Controlled Distribution

allotted for each presentation. Agenda items for a Phase 5 review may include introduction, general program status, team overview, and issues and risks.

Page 3: Phase 5—Beta Project Status. Review the action items that have been created or completed in a Phase 5:

■ Project announcement and worldwide rollout plan implemented

■ Release Plan for project in place and ready for execution

■ User documentation, training, and logistical support in place

■ Help Desk prepared to support user volume

■ A projection of QA's confidence on the readiness of the project to enter general availability is established

Page 4: Review Phase 4. Review the action items from Phase 4 to see if they are complete. List the item and its status.

Page 5: Integrated Schedule. For Phases 4 and 5, list the start and completion date for Development, Documentation, QA, Beta, Release, and maintenance.

Page 6: Updated Development Costs. For Phases 4 and 5, list Business Development, IT, QA, Documentation, and Help Desk contracted costs.

Page 7: Contracted Costs Update. For Phases 4 and 5, list the hardware costs, the software costs, and the networking costs, as well as the personnel costs to develop, stage, and support the project, any transportation costs, and sustaining costs to support.

Page 8: Beta Status. List user name, date installed, date upgraded, beta feedback meeting, and beta sign-off.

Page 9: Bug Report. List the outstanding bugs not fixed or those with no action plan in place, the number of bugs with a severity of 1 to 3, the software confidence level as of today, and the QA confidence level for First User Ship date (FUS date).

Page 10: Team Status Cover Sheet. The pages that follow highlight the team deliverables that have been created by team members.

Page 11: Project Manager. Update integrated schedule, projected costs, and Release Plan readiness.

Page 12: Business Development and Communications. Any changes in the market and Announcement Plan readiness will need to be annotated.

Page 13: IT. List the deliverables created by IT, such as changes between Phase 4 and Phase 5 reviews, whether

there are severity 1 or 2 bugs open, IT's involvement with monitoring and supporting beta sites, readiness to release project, readiness of sustaining IT to take over responsibility of the project.

Page 14: Documentation. List the deliverables created by Documentation, such as incorporate beta mark-ups and reissue beta version of the manuals for beta shipment and IT review. Documentation should note if the beta version of the manuals and help files is ready for release.

Page 15: QA. List the deliverables created by QA, such as final testing of bugs fixed during beta, QA test report complete, and confidence rating of the project.

Page 16: Help Desk. List the deliverables created by Help Desk, such as final project support plan and education training plan for additional Help Desk people.

Page 17: Training. Training created and ready for users.

Page 18: Issues and Risks. For this phase, list issue, owner, risk, impact, and status.

Page 19: Executive Session. Executive sign-off, executives note any action items for the team and agree to let the program move to the next phase.

5.5 in a Nutshell

By the end of beta:

- Documentation is completed.

- The team has signed off on its quality.

- The project announcement is ready or in progress.

- There are no known severity 1 or 2 bugs.

- The beta sites have signed off on the project.

- The Release Plan is in place and ready.

- The Project Manager updates the financial and release information.

- The phase review is presented to executive staff.

5.6 Recommendations for Management and Team Members

Management Recommendations

Take phase reviews seriously. Phase reviews are designed to give executive management a "snapshot" of the status of the project. They are an excellent tool for confirming that processes are being followed and team deliverables are completed on time. If executive staff doesn't take phase reviews seriously no one else will.

Hold people accountable. Phase reviews are an excellent way to monitor and track accountability. Save phase reviews so you can track promises and commitments.

Don't release bad code. Remember, fixing a bug in the field is ten times more expensive than fixing a bug before the project is released. Poor quality projects do not help the end users.

Team Recommendations

- Give the beta users a thank you gift.

- Hold a beta team debriefing session.

5.7 The Roles of Team Members

IT Phase 5—Beta

1. Fixes bugs

2. Approves docs

3. Attends phase review

Communications Phase 5—Beta

1. For Internal Announcement:

    a. Gets e-mail ready and approved for companywide blast

    b. Works with company Web editor to place banner announcing new application

    c. Gets approval for banner to be hung in cafeteria or office entrance.

2. For External Announcement:

    a. Completes press kit and project collateral

    b. Interviews users and completes case studies

    c. Stages press tour

    d. Places ads and defines how ads will be monitored for effectiveness

    e. Plans telemarketing campaign and defines how campaigns will be monitored

3. Attends phase review

Business Development Phase 5—Beta

1. Completes Announcement Plan

2. Briefs press and analysts

3. Attends phase review

Project Manager Phase 5—Beta

1. Confirms that Business Development and Communications have completed the Announcement Plan

2. Confirms that Release Plan is complete and ready for execution

3. Confirms that any equipment needed for end users has been ordered and will be received on time; if appropriate, staging area and people are available, trained, and ready; and software contracts have been signed

4. Confirms that beta sites receive the project and have signed off that the project works

5. Presents beta and project status to executive staff (Phase 5 review)

QA Phase 5—Beta

1. Manages beta sites

2. Sends docs and code to beta sites exercising the sales process

3. Continues to test project

4. Reproduces beta bugs

5. Confirms that bugs are fixed

6. Signs off on quality of project

7. Attends phase review

Help Desk Phase 5—Beta

1. Works with QA to support beta sites

2. Confirms bugs are fixed

3. Signs off on quality and supportability of project

4. Attends phase review

Documentation Phase 5—Beta

1. Provides QA with draft docs for beta

2. Updates docs with beta information

3. Attends phase review

Training Phase 5—Beta

1. Creates training course

2. Attends phase review

5.7 in a Nutshell

Each team member is responsible for executing a number of tasks:

➤ IT

➤ Project Manager

➤ Quality Assurance

➤ Help Desk

➤ Documentation

➤ If applicable, Communications and Business Development

➤ Training

5.8 Documents Created During Beta Phase

Beta Sign-Off. This sign-off sheet is presented from the Beta team to the customer to make sure the customer agrees that they have used the project and it works.

Executive Sign-Off. This is a sign-off sheet the Project Manager presents to the executives in the phase review. At the end of each phase review presentation, each member of the executive staff reviews the phase sign-off, reflects on the information presented, and decides if she agrees to allow the project to proceed to the next stage of the project life cycle. On the bottom of this document each executive signs her name and states whether she approves or disapproves of continuing to the next phase.

Announcement Plan—Implemented. The Communications Manager is responsible for creating and monitoring the launch process. Each team is delegated to the appropriate area of responsibility. Business Development is responsible for deciding user demographics and focus for launch. Communications is responsible for understanding press and analyst concerns. Communications confirms that press and analyst deliverables are properly targeted. The Announcement Plan itemizes all the marketing deliverables that need to be completed in order to launch a project.

Phase Review Presentation. This is a sample presentation that would be filled in by the project team for the presentation to executive staff.

Phase Sign-Off. At the end of each phase, before the review presentation, each member of the project team reviews a document that contains information similar to that found in the Summary of Deliverables by Department. The Project Manager reviews this list in a team meeting and places the word *complete* or the date the deliverable will be complete by each team deliverable. The team then votes if they agree all deliverables have been met. Once the team agrees that all phase deliverables have been met, they can present the project status at the phase review. The annotated Summary of Delivera-

bles by Department sheet is attached to the Phase Sign-Off Document. The Phase Sign-Off Document identifies the project and phase and has a place for each member of the team and each executive to sign off if they agree that the project meets the requirements of that phase and can move to the next one.

Release Plan—Implemented. The Project Manager creates this document and drives this process. The Project Manager tests the procedures to ensure that the equipment, staging, people, and all other details are in place, are working in concert, and are in time for release.

Team Minutes. The team minutes are a weekly updated document that provides details on commitments, status, issues, requests, and team decisions.

5.8 in a Nutshell

Phase 5 is when the project is user-tested. The following documents were created:

- ➤ Beta Sign-Off
- ➤ Executive Sign-Off
- ➤ Announcement Plan—implemented
- ➤ Phase review presentation
- ➤ Phase Sign-Off
- ➤ Release Plan
- ➤ Team minutes

Beta is when the project is first viewed by the user community. Beta provides the team with direct use so that the team can ensure everything is in place so that the project meets the needs of the user community.

Phase 6—Release

"All mankind is divided into three groups: those that are immovable, those that are movable, and those that move."

—Benjamin Franklin

Concept

Design

Development

Quality Assurance

Beta

Release

General Availability

End of Life
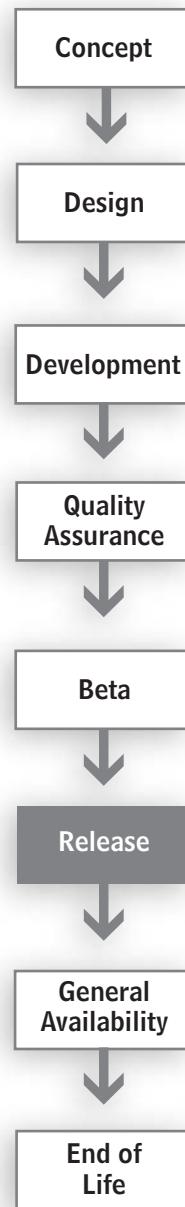
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6.1 Release Overview

After the beta sites sign off on the quality of the project, and the team completes its phase review, the project is released. Release entails the actions taken to make the project available to users. This may be as simple as enabling a link on a Web site or as complex as setting up a staging area where equipment is received, configured, and given to employees. For Release to begin, the team has decided on the scope of the Release—monitored or normal. Help Desk states they are ready to take over full support of the project, and user training is ready. Communications confirms that advertising, collateral, and the press information are ready and being delivered. The role of each project team involved in Phase 6 is listed below.

IT

IT is the functional area responsible for programming, managing, and integrating the project's hardware and software. They are also responsible for defining, designing, and devel-

oping a project, as well as for conducting its initial testing and fixing any errors before it is released. IT is the key member on the project team and needs to be available to provide technical information both written and verbal to all members of the team.

Communications

Communications is the functional area responsible for all communications inside and outside of the company. Smaller companies do not need a separate communications person for internal projects; the Project Manager will handle all the internal corporate communication. Larger companies with offices scattered around the country or around the globe will need a person to provide communications to end users. If the project being developed will be made available to people outside the company, the communications person will need to interact with public relations, advertising, industry analysts, and other outside agencies.

Business Development

The Business Development person is responsible for directing and driving the project, for analyzing the industry and the competition, and for understanding the user. Business Development works with all areas of the company to make sure the project is focused on the user and is presented in the best possible light.

Project Manager

The Project Manager's responsibility is to make sure each member of the team understands his or her interdependencies. The Project Manager facilitates communications among departments as well as manages processes and confirms that

the deliverables within each stage of the project life cycle have been met. When deliverables slip, it is the responsibility of the Project Manager to escalate this information and to facilitate resolution. In smaller companies, the Project Manager's duties usually incorporate those of Business Development and Communications.

Quality Assurance

Quality Assurance (QA) is responsible for defining, designing, developing, and implementing a test plan. QA tests the project to confirm that it meets the design specifications outlined in the Design Document and the PRD. QA uses the user manuals and help files developed by Documentation to ensure that they correctly explain how to install and use the project and identify how errors are to be handled. QA is responsible for managing the user test procedures defined in the Beta Plan and for confirming that bugs have been fixed.

Help Desk

Help Desk is responsible for defining, designing, and developing a detailed plan that articulates how the company will support a project after it is released. The Support Plan defines how Help Desk personnel are trained, how users will access help, how bugs will be tracked and fixed after release, what training will be available to end users, and how updates and fixes will be sent to users.

Documentation

Documentation is responsible for defining, designing, and developing all the documentation required to install, support, and answer any questions a user may have regarding a project. Documentation defines what publications will be pro-

duced in the Doc Plan; these may include online help, E-Learning courses, or manuals. Documentation works closely with IT to develop these documents and works closely with QA to ensure that documents are appropriate for end users.

Training

Training is responsible for developing and providing training courses to employees, partners, and customers. These may be on-site classes or training over the Web.

6.1 in a Nutshell

Release entails the actions taken after the beta for the project to be made available to users.

➤ This may be as simple as enabling a link on a Web site or as complex as setting up a staging area where equipment is received, configured, and given to employees.

➤ Help Desk is ready to take over support of the project.

➤ Communications is ready to announce the project.

The following groups are responsible for releasing the project:

➤ IT

➤ Communications

➤ Business Development

➤ Project Manager

➤ Quality Assurance

➤ Help Desk

➤ Documentation

➤ Training

6.2 Tasks Completed During Release

In Phase 5—Beta, the documentation was completed, the team signed off on the project's quality, the project announcement was ready for release, all outstanding severity 1 or 2 bugs had been fixed, and the company had received sign-off sheets from each of the beta sites. The Project Manager ensured that the company was ready to execute the release of the project and had updated the financial information associated with the project. The phase review was presented to executive staff. Executive staff agreed to release the project.

Release is a chaotic time. It has been compared to having the family over for Thanksgiving dinner. No matter how organized the cook is, she always spends Thanksgiving Day in the kitchen cooking the turkey.

At Release all the last-minute details come together and the team members are responsible for ensuring that the project installation goes smoothly.

- If applicable, Communications sends the press release out over the news wire and releases the marketing materials, including brochures, promotions, mailers, and advertising.

- If the project was announced during a public beta, documents may need to be updated and a press release announcing general availability should be released. An announcement highlighting the new features or the new project is e-mailed and if applicable mailed to users.

- Help Desk confirms they are ready to support users. The employees responsible for assisting users in installing the project are trained and can differentiate user errors from project errors.

- The Training department confirms their class schedule is final and available to users.

- The Project Manager is actualizing the Release Plan.

- The team meets for the last time to review assignments and confirm that all deliverables are complete. The team then signs the quality pledge (see Figure 6.1).

Figure 6.1 Quality Pledge

<div style="border:1px solid;">

<div align="center">**Quality Pledge**</div>

Description:

This document is signed by the project team at the end of Phase 6. The purpose of this document is for each member of the project team to sign his or her name by the quality pledge. Once a team member signs the quality pledge he or she has confirmed that this project meets the quality standards defined by the department and the company.

Project name:
Date:

The members of the project team are aware of the quality standards of (company name) and confirm that this project meets those requirements.

Signature:

Project Manager _____ .

Communications _____ .

Business Development _____ .

Help Desk _____ .

IT _____ .

QA _____

Documentation _____ .

</div>

6.2 in a Nutshell

At release, all the last-minute details come together and the team members are responsible for making sure the project installation goes smoothly.

➤ Help Desk confirms they are prepared to take user questions.

➤ The Training department confirms their class schedule is final and available to users.

➤ The Project Manager is actualizing the Release Plan.

6.3 The Release Presentation

The team now presents release to the executive staff (see Figure 6.2).

Page 1: Cover Page. This document should be for controlled distribution and list the names of all the people attending and receiving the review handout. The cover page should have the project name, the phase, and the date.

Page 2: Agenda. List major deliverables for this phase, the team members who will be presenting, and the time allotted for presentations. Agenda items for a Phase 6 review may include: introduction, general program status, Beta Plan, team overview, and issues and risks.

Page 3: Phase 6—Release Project Status. Review the items that have been created or completed in a Phase 6—Release:

■ Project is ready for release

■ Hardware, software, networking services, and documentation are ready for use or to be shipped to users

■ Launch plan is executed

Figure 6.2 Release Presentation

Project Name

Phase: 6—Release

Review distribution includes: (list names of people receiving a
copy of this document)

date   Controlled Distribution

Agenda

- General program status
- Team status
- Issues and risks

date   Controlled Distribution
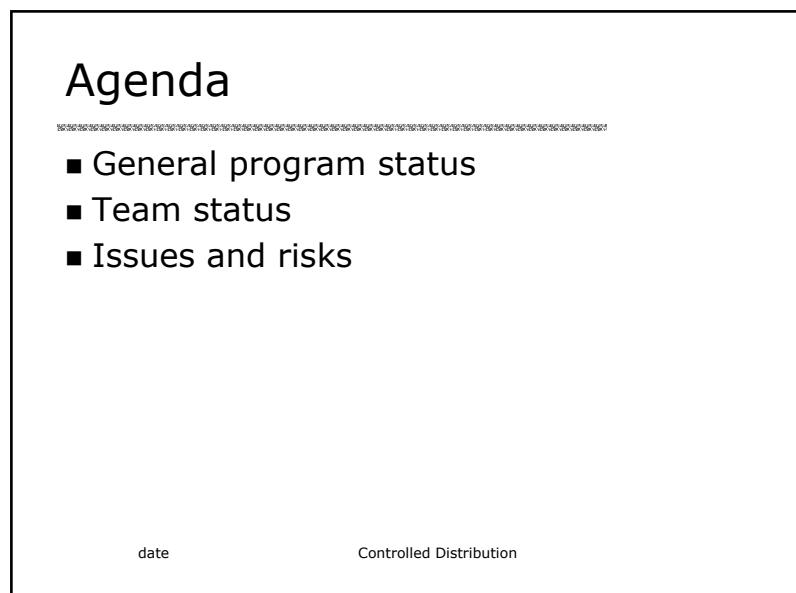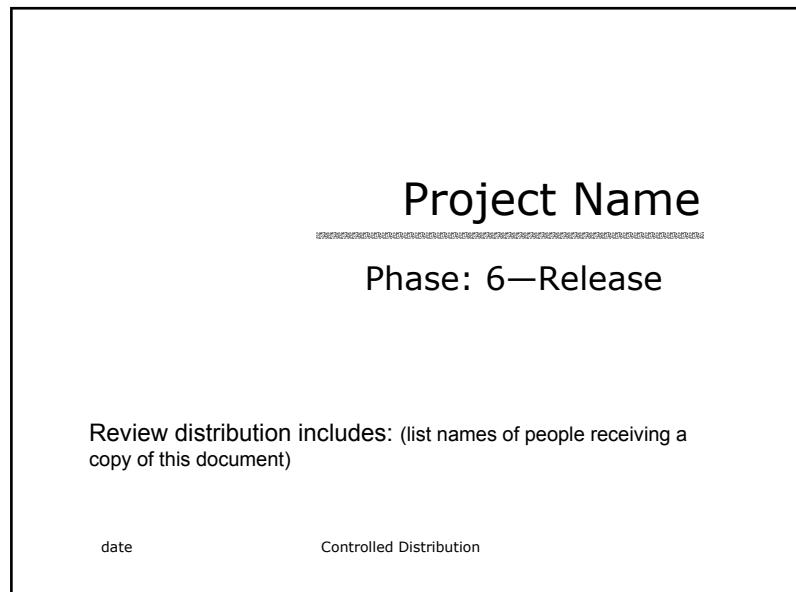
Project Status

- Project is ready for release
- Hardware, software, networking services, and documentation are ready for use or to be shipped to users
- Launch plan is executed

date   Controlled Distribution

Review Phase 5

- After the last review executive staff may have requested that action items take place. List these action items along with the status of each.

date   Controlled Distribution

Figure 6.2 (Continued)

Integrated Schedule

	Phase 5, Date	Phase 6, Date
Development		
Documentation		
QA		
Beta		
Release		
Maintenance		

date   Controlled Distribution

Updated Development Costs

	Estimated Cost from Phase 5	Current Cost
Business Development		
IT		
QA		
Documentation		
Help Desk		
Training		
Communications		

date   Controlled Distribution

Contracted Costs

	Contracted Costs
Hardware	
Software	
Services	
Staging/Fulfillment	
Maintenance	

date   Controlled Distribution

Team

- IT
- Communications
- Business Development
- Project Manager
- Quality Assurance
- Help Desk
- Documentation
- Training

date   Controlled Distribution

Figure 6.2 (Continued)

Project Manager's Deliverables

- Release plan execution
- Announcement execution
- Any changes from Phase 5

date   Controlled Distribution

Issues and Risks

Owner	Risk	Impact

date   Controlled Distribution

Executive Session

- Issues
- Concerns
- Limitations

date   Controlled Distribution

Page 4: Review Phase 5. Review the action items from Phase 5 to see if they are complete. List the item and its status.

Page 5: Integrated Schedule. For Phases 5 and 6, list the start and completion date for Development, Documentation, QA, Beta, Release, and Maintenance.

Page 6: Updated Development Costs. For Phases 5 and 6, list the contracted costs for Communications, IT, QA, Documentation, and Help Desk.

Page 7: Contracted Costs. For Phases 5 and 6, list the hardware costs, the software costs, and the networking costs, as well as the personnel costs to develop, stage, and support the project, any transportation costs, and the sustaining costs to support.

Page 8: Team Status Cover Sheet. The following sheets highlight the team deliverables that have been created by team members.

Page 9: Project Manager.

- Release Plan execution

- Announcement execution

- Any changes from Phase 5

Page 10: Issues and Risks. For this phase, list issue, owner, risk, impact, and status.

Page 11: Executive Session. Executive sign-off, executives note any action items for the team and agree to let the program move to the next phase.

6.3 in a Nutshell

The Project Manager updates the project financials.

➤ The team presents the final phase review to executive staff.

➤ Management will need an update to ensure the release went as scheduled, resulting in the briefest phase review.

Tip: It is a good policy to follow the release phase review with a party where awards are given out. Executive staff should thank all the people who have contributed to the success of this project's release.

6.4 Recommendations for Management and Team Members

Management Recommendations

- **Take phase reviews seriously**. Phase reviews are designed to give executive management a "snapshot"

of the status of the project. They are an excellent tool for confirming that processes are being followed and team deliverables are completed on time. If executive staff doesn't take phase reviews seriously, no one else will.

- **Hold people accountable; track phase review promises**. Phase reviews are an excellent way to monitor and track accountability. Save phase reviews so you can track promises and commitments.

Team Recommendations

- Remember the devil is in the details.
- Celebrate the project's release.

Tip: Reward teams by letting them throw a party.

6.5 The Roles and Responsibilities of Team Members

IT Phase 6—Release

1. Attends phase review

Communications Phase 6—Release

1. Sends out press release
2. Releases advertising and collateral
3. Attends phase review

Business Development Phase 6—Release

1. Supports communications
2. Attends phase review

Project Manager Phase 6—Release

1. Stages project and begins user shipments

2. Has team sign Quality Pledge

3. Presents release recommendation to executive staff (Phase 6 review)

QA Phase 6—Release

1. Attends phase review

Help Desk Phase 6—Release

1. Confirms Help Desk is ready to support users

2. Confirms that training is ready

3. Attends phase review

Documentation Phase 6—Release

1. Prepares documents for release

2. Attends phase review

Training Phase 6—Release

1. Prepares training for release

2. Attends phase review

6.5 in a Nutshell

Each team member was responsible for executing a number of tasks.

➤ IT

➤ Communications

➤ Business Development

➤ Project Manager

➤ Quality Assurance

➤ Help Desk

➤ Documentation

➤ Training

6.6 Documents Created During Release Phase

Executive Sign-Off. This is a sign-off sheet the Project Manager presents to the executives in the phase review. At the end of each phase review presentation each member of the executive staff reviews the phase sign-offs, reflects on the information presented, and decides if he agrees to allow the project to proceed to the next stage of the project life cycle. On the bottom of this document each executive signs his name and states whether he approves or disapproves of continuing to the next phase.

Phase Review Presentation. This is a sample presentation that would be filled in by the project team for the presentation to executive staff.

Phase Sign-Off. At the end of each phase, before the review presentation, each member of the project team reviews a document that contains information similar to that found in the Summary of Deliverables by Department. The Project Manager reviews this list in a team

meeting and places the word *complete* or the date the deliverable will be complete by each team deliverable. The team then votes if they agree that all deliverables have been met. Once the team agrees that all phase deliverables have been met, they can present the project status at the phase review. The annotated Summary of Deliverables by Department sheet is attached to the Phase Sign-Off Document. The Phase Sign-Off Document is a document that identifies the project and phase and has a place for each member of the team and each executive to sign off if they agree the project meets the requirements of that phase and can move to the next phase.

Quality Pledge. The project team signs this document at the end of Phase 6. The purpose of this document is for members of the project team to sign their names on the quality pledge. Once a team member signs the quality pledge she has confirmed that this project meets the quality standards defined by her department and the company.

Team Minutes. The team minutes are a weekly updated document that provides details on commitments, status, issues, requests, and team decisions.

6.6 in a Nutshell

➤ Executive Sign-Off

➤ Phase Review Presentation

➤ Phase Sign-Off

➤ Quality Pledge

➤ Team Minutes

Phase 7—General Availability

If you think you can do a thing or think you can't do a thing, you're right.

—Henry Ford

Concept

↓

Design

↓

Development

↓

Quality Assurance

↓

Beta

↓

Release

↓

General Availability

↓

End of Life
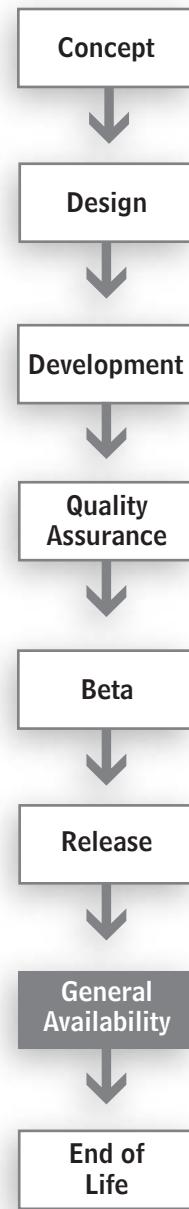
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7.1 General Availability Overview

General Availability is when the project is available to the end user. If the proper due diligence was performed during QA and Beta the project should be relatively bug free. Sustaining costs will be incurred by the project, which may include the cost of Help Desk support, of training, and of scheduled software or hardware upgrades, as well as the cost of the IT personnel needed to maintain the software and hardware the application runs on.

Yearly, the executive management team should review the project fit and maintenance costs. The phase review is used as an after-the-fact tool to measure the effectiveness of the estimates created during the earlier PLC process and to identify if enhancements to the project are needed. If a new project is being released that will eventually make obsolete the current project, a General Availability review should still be performed. It is valuable to take the time to review the acceptance of the project and compare this to predictions. Typically companies are so focused on releasing the next version they don't take the time to review the acceptance of

the current project. Yearly reviews are an invaluable tool in understanding how close earlier estimates are to reality. The Phase 7 review gives the company valuable information that can be used to fine-tune and benchmark the process. The role of each project team involved in day-to-day sustaining activities is listed below.

IT

IT is the functional area responsible for managing projects after they are released. Earlier in the process they were the key member responsible for programming, managing, and integrating the project's hardware and software. IT is also responsible for defining, designing, and developing a project, as well as for conducting its initial testing and fixing any errors before it is released. IT is the key member on the project team and needs to be available to provide technical information both written and verbal to all of the members.

Help Desk

Help Desk is responsible for answering user questions after the project is released. Earlier in the process they were responsible for defining, designing, and developing a detailed plan that articulates how the company will support a project after it is released. The Support Plan defines how Help Desk personnel will be trained, how users will access help, how bugs will be tracked and fixed after release, what training will be available to end users, and how updates and fixes will be sent to users.

Training

The training department is responsible for creating and delivering training programs to end users. This may entail classroom training, conference training, or Web-based training.

7.1 in a Nutshell

General Availability is when the project is being used. The following activities take place to ensure that the project runs smoothly and meets end-user needs:

➤ Help Desk answers user questions.

➤ End-user training is available.

➤ Scheduled software or hardware upgrades take place.

➤ IT fixes bugs and maintains the software and hardware the application runs on.

The people involved in the day-to-day activities of managing a released project are:

➤ IT

➤ Support

➤ Training

7.2 Tasks Completed During General Availability

The project is now released and in use. The previous phases should have ensured that it meets the needs and provides the necessary quality for the projected end users.

After the project has been released and available for a year, a project review should take place. Many times projects are released and supported, but no follow-up phase review is performed. Don't overlook yearly phase reviews on released projects. It is very important for a company to track its accuracy for predicting costs and the effectiveness of its projects. A General Availability phase review provides a yearly forum for executives to view past projects.

For projects that were created and provided to customers or partners, the yearly review meeting is not a sales or territory review; sales figures should not be discussed. The purpose of the yearly review is to compare the estimated cost of maintaining the project to its actual cost; to review Help Desk issues, training costs, and the program's effectiveness; to identify user penetration; and to decide if an update or follow-on project is needed. The review highlights areas the company needs to address. For instance, if users have been requesting additional functionality, Business Development might leave this review with the task to research the profitability of adding on to the project. If bugs are higher than expected, the IT organization should be notified so that they can review the project to better understand where the problem lies. The problem could have been with test procedures used in QA; it could be with immature software purchased from a vendor; or it could be because the end-user needs changed from what was originally anticipated. The bugs are not really bugs, but new features. The IT organization should periodically review bug lists and sustaining activities. The information should be used to increase IT productivity through better planning.

7.2 in a Nutshell

The project is in full use. Yearly, the project should be reviewed for effectiveness.

➤ Review the estimated cost of maintaining a project versus its actual cost.

➤ Review Help Desk issues.

➤ Review Training costs.

➤ Review the program's effectiveness.

➤ Identify user penetration and decide if an update or follow-on project is needed.

7.3 Maintaining a Project Once It Is Released

Most software and hardware has a scheduled maintenance period and a need for sustaining activities. For servers, this includes daily system administration, applying bug fixes, and managing operations. For PCs, a field person is needed for every twenty-five to forty PCs to ensure that the network and the computers are working effectively.

Fixing Bugs. Smaller companies or smaller projects tend to have the same people creating and developing projects and fixing problems found in the project after it has been released. Fixing a released project is referred to as sustaining IT. There are pros and cons to using the same people for new development and sustaining IT. On the pro side, programmers will fix what they designed or developed. This may be beneficial since the programmers are familiar with the applications they developed. Having programmers responsible for fixing applications they wrote may drive programmers to design applications that will be easier to fix, since they know they will be responsible later. On the con side, having programmers working on a new project while being responsible for fixing sustaining problems can cause new project schedules to slip. A hot problem gets a lot more attention than a release date that is a year away. No matter what the size of the company, it is important to define the scope of sustaining tasks and who is responsible for handling any problems.

There is a constant battle in most companies between bringing down the project bug count and developing new technology. Typically, sustaining engineers report in through the IT department. Released projects are managed through the Help Desk organization. IT is responsible for getting quality projects out on time. Help Desk is measured on the speed of turning around user questions. Help Desk organizations want zero open bugs. It is

very important for Help Desk to clearly identify how quickly bugs need to be fixed. Help Desk and IT need to set clear guidelines for identifying what the bug classifications are and for identifying what is a bug and what is an enhancement. While developing the project, IT presented their sustaining IT estimates to executive staff. It is important for IT to keep track of the actual time programmers spend supporting sustaining efforts. This information is very useful in identifying the true cost of the project and providing justification for the addition of sustaining engineers. The people responsible for managing a released project need to clearly identify which problems are bugs and which are enhancements. Business Development's responsibility is to clearly identify the features of a project. If there are reports of bugs that are really feature requests, Business Development needs to evaluate how this project is being used and what level of expectation end users have for the project. A decision will need to be made if the bugs are considered fixes or if a new project needs to be started.

New OS Releases. Another problem to account for is the release of new operating systems. Many companies upgrade employee operating systems on a fixed calendar, for example, every two years regardless of how often the vendor upgrades their operating system. Generally available projects need to be tested with each new operating system to ensure changes in the operating system do not negatively affect this project. If there is an effect on the project, it should be decided whether this is a simple fix and still considered part of sustaining a project through General Availability or whether a new project needs to be created. Most companies have an idea of what size fix equals a new project. For example, a new project will be started if the company plans on upgrading the operating system and user application for all PC users. The new project will also be responsible for test-

ing all other applications found on users' desks to make sure they work with the new operating system. Typically, testing of the other applications will fall under the project responsibility of the PC upgrade team. Management will decide if a new project is created or the original team is responsible if another application does not work with the proposed changes.

Organizations also need to ensure that training courses are available. These might be online E-Learning courses or classroom courses given by an internal training organization or by an outside training organization. Help Desk people need to be available and trained on the applications being supported.

7.3 in a Nutshell

➤ Daily maintenance needs to take place.

➤ Bugs need to be tracked and fixed.

➤ New software added to users' computers should be tested with this project to ensure that nothing is incompatible.

➤ Training and support need to be available.

It's true: The company needs to decide if a bug is a fix for something broken or a new feature.

7.4 General Availability Review

The team now presents the General Availability review to executive staff (see Figure 7.1).

Page 1: Cover Page. This document should be for controlled distribution and list the names of all the people

Figure 7.1 General Availability Presentation

Project Name

Phase: 7—General Availability

Review distribution includes: (list names of people receiving a
copy of this document)

date   Controlled Distribution

Agenda

■ General program status
■ Issues and risks

date   Controlled Distribution
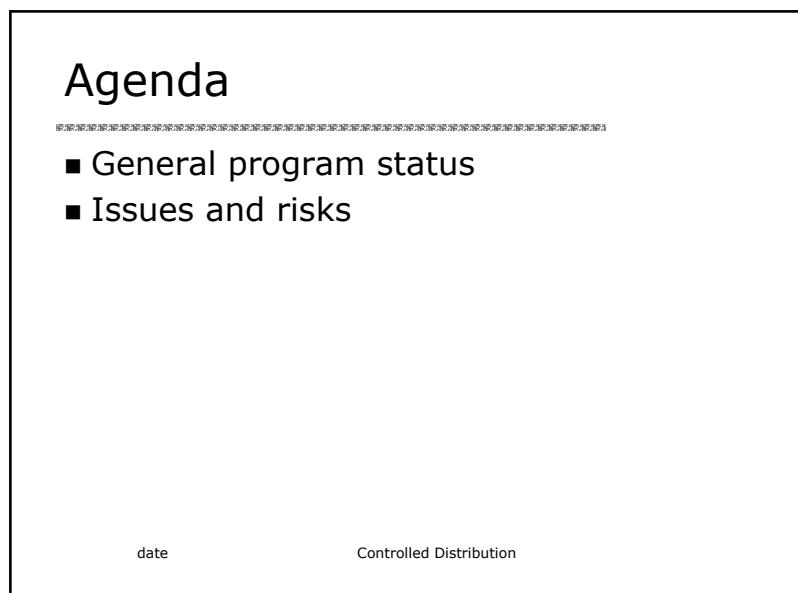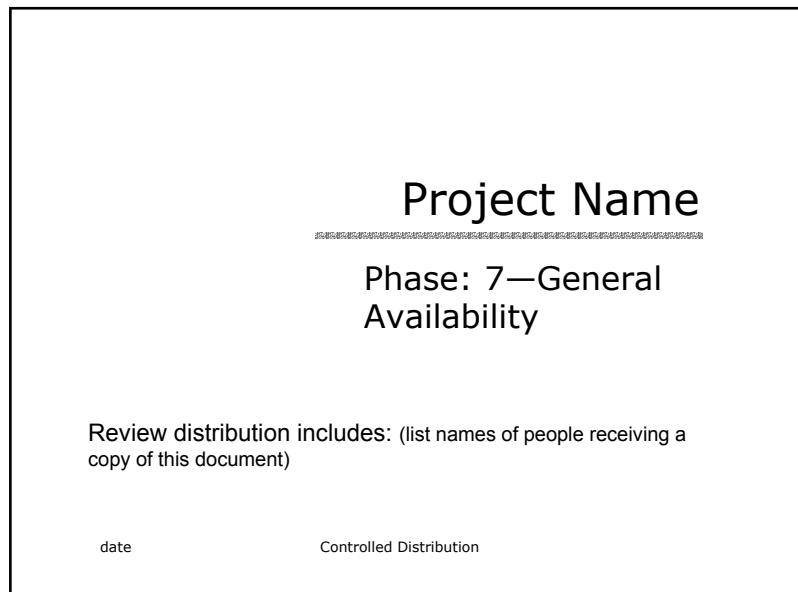
Project Status

- User acceptance
- Outstanding bugs
- Future development
- Maintenance record
- Available training
- Help desk availability
  - Number of people trained on the application
  - Number of user questions on this project
  - Speed of answering user questions

date   Controlled Distribution

User Acceptance and Status

date   Controlled Distribution

(continues)

Figure 7.1 (Continued)

Financial Summary

- List actual cost to sustain (hardware, software, updates, people costs)

<div style="text-align:center">date   Controlled Distribution</div>

Executive Session

- Issues
- Concerns
- Limitations

<div style="text-align:center">date   Controlled Distribution</div>

attending and receiving the review handout. The cover page should list the project name, the phase, and the date.

Page 2: Agenda. List major items, the team members who will be presenting, and the time allotted for presentations. Agenda items for a Phase 7 review may include an introduction, actual costs, user acceptance, and summary.

Page 3: Phase 7 Yearly Review. Review the items that have been created or completed over the past year:

- User acceptance

- Outstanding bugs

- Future development

- Maintenance record

- Available training

- Help Desk availability—for example, the number of people trained on the application, the number of user questions on this project, and the speed of answering user questions.

Page 4: User Acceptance and Status.

Page 5: Financial Summary. List actual cost to sustain.

Page 6: Executive Session. Executive sign-off, executives note any action items and decide if this project should continue or be discontinued.

7.4 in a Nutshell

The project team should present the project's status to executive staff on a yearly basis.

➤ IT needs to present the current bug count and review what the sustaining IT costs are for the project. These costs may include additional programming, the project's share of hardware resources, and IT personnel.

➤ Help Desk reviews the project's costs and effectiveness.

➤ Business Development discusses the effectiveness of the program.

➤ Training needs to present training costs and effectiveness.

➤ The past phase review information is compared to the actual costs of maintaining the project.

➤ Executive staff reviews this information and decides if the project should be funded for another year or if the project should be taken off the market and an End of Life (EOL) review presented.

7.5 Recommendations for Management

Management Recommendations

■ **Take phase reviews seriously.** Phase reviews are designed to give executive management a "snapshot" of the status of the project. They are an excellent tool for confirming that processes are being followed and that team deliverables are completed on time. If executive staff doesn't take phase reviews seriously no one else will.

■ **Hold people accountable.** Track phase review promises—phase reviews are an excellent way to monitor and track accountability. Save phase reviews so you can track promises and commitments.

■ **Don't forget to review generally available projects.**

7.6 The Roles of Team Members

IT Phase 7—General Availability

1. Fixes bugs

2. Attend phase review

Project Manager Phase 7—General Availability

1. Updates costs

2. Presents current status to executive staff (Phase 7 review)

Help Desk Phase 7—General Availability

1. Outlines open bugs and recommended features

2. Outlines costs for supporting users

3. Attends phase review

Training Phase 7—General Availability

1. Outlines training classes available

2. Attends phase review

7.6 in a Nutshell

➤ IT

➤ Help Desk

➤ Training

7.7 Documents Created During General Availability Phase

Executive Sign-Off. This is a sign-off sheet the Project Manager presents to the executives in the phase review. At the end of each phase review presentation, each member of the executive staff reviews the phase sign-offs, reflects on the information presented, and decides if she agrees to allow the project to proceed to the next stage of the project life cycle. On the bottom of this document each executive signs her name and states whether she approves or disapproves of continuing to the next phase.

Phase Review Presentation. This is a sample presentation that would be filled in by the project team for the presentation to executive staff.

Phase Sign-Off. At the end of each phase, before the review presentation, each member of the project team reviews a document that contains information similar to that found in the Summary of Deliverables by Department. The Project Manager reviews this list in a team meeting and places the word *complete* or the date the deliverable will be complete by each team deliverable. The team then votes if they agree all deliverables have been met. Once the team agrees that all phase deliverables have been met, they can present the project status at the phase review. The annotated Summary of Deliverables by Department sheet is attached to the Phase Sign-Off Document. The Phase Sign-Off Document is a document that identifies the project and phase and has a place for each member of the team and each executive to sign off if they agree the project meets the requirements of that phase and can move to the next one.

7.7 in a Nutshell

➤ Executive Sign-Off

➤ Phase Review Presentation

➤ Phase Sign-Off

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Phase 8—End of Life

"Denial ain't just a river in Egypt."

—Mark Twain

Concept
↓
Design
↓
Development
↓
Quality Assurance
↓
Beta
↓
Release
↓
General Availability
↓
End of Life
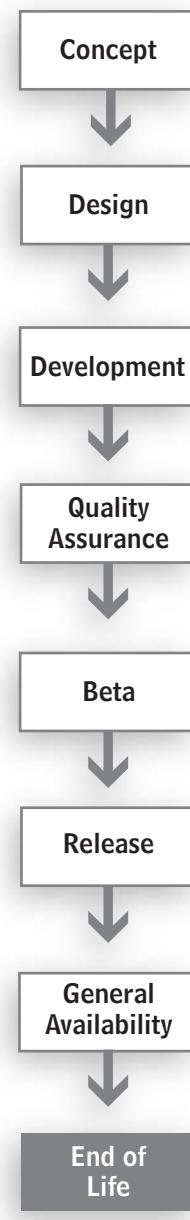
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8.1 End of Life Overview

End of Life (EOL) is the process whereby the project history can be reviewed and a decision made regarding whether a project should be discontinued. At some point the project will become obsolete, get too expensive to support, or a better mousetrap will have been invented. The role of each project team involved in EOL is listed below.

Business Development

The Business Development person is responsible for project direction, industry analysis, and competitive analysis, as well as understanding the user and identifying and driving the project's direction. Business Development works with all areas of the company to make sure the project is focused on the user and is presented in the best possible light.

Project Manager

The Project Manager's responsibility is to make sure each member of the team understands his or her interdependen-

cies. The Project Manager facilitates communication among departments, manages processes, and confirms that the deliverables within each stage of the project life cycle have been met. When deliverables slip, it is the responsibility of the Project Manager to escalate this information and to facilitate a resolution. In smaller companies, the Project Manager's duties usually incorporate those of Business Development and Communications.

Help Desk

Help Desk is responsible for defining, designing, and developing a detailed plan that articulates how the company will support a project after it is released. The Support Plan defines how Help Desk personnel will be trained, how users will access help, how bugs will be tracked and fixed after release, what training will be available to end users, and how updates and fixes will be sent to users.

8.2 Tasks Completed During End of Life

Companies tend to overlook EOL, since a project that has ended is typically not being used or a new application has taken its place. It is worthwhile to create and implement an end-of-life procedure. Companies fail to take into account all of the hidden costs of maintaining a project, such as sustaining IT, end-user training, and ensuring there are knowledgeable Help Desk people available. Projects that are not being used can impact the efficiency of a company. There are many reasons to end a project: The project now costs more to support than new applications; end users are still using this application when new, more efficient applications are available; the technology has become obsolete; and it is expensive to continue to pay for support. New project releases usually render an existing release obsolete. Many times the old proj-

ect is automatically EOL when the new release becomes available. If this is not true, at some point the old project needs to be EOL.

During EOL, the Project Manager reviews the project's financial history, comparing forecasted costs to actual costs. The Project Manager prepares a statement defining why the project is being EOL. The company needs to decide how to pull the plug.

Help Desk has the key position in EOL. During EOL, Help Desk prepares a list of all the current users and the cost of supporting these users. Help Desk's cost should include IT's sustaining efforts. Help Desk creates a plan that outlines how it will discontinue support. All users need to be notified that at a predetermined date the project will no longer be supported.

The Project Manager and Help Desk department review with the legal/contract administrator all existing contracts to ensure that they are not required to pay support on a project the company no longer supports. If there is a conflict, a recommendation is presented on how to resolve it. Executive staff is responsible for approving the project for EOL.

Many times management is not aware if a project slated for EOL is costing the company money. By creating an EOL presentation, the information necessary for successful business decisions can be made available. For a project that is draining cash, management can make an informed decision to "pull the plug."

8.2 in a Nutshell

There are hidden costs to maintaining old projects:

➤ Time Help Desk spends supporting users

➤ Support costs paid to software companies

➤ Maintenance costs for older hardware

8.3 The End of Life Presentation

End of Life is presented to executive staff (see Figure 8.1).

Page 1: Cover Page. This document should be for controlled distribution and list the names of all the people attending and receiving the review handout. The cover page should have the project name, the phase, and the date.

Page 2: Agenda. List major deliverables for this phase, the team members who will be presenting, and the time allotted for the presentations.

Page 3: Phase 8—EOL Project Status. Review the items that have been created or completed in a Phase 8—EOL. Agenda items for a Phase 8 review may include: introduction, reason to EOL, sustaining costs, and contracts.

Page 4: Status.

- Impact study

- Contract review status

- User notification

Page 5: Reason for EOL.

Page 6: Install Base Status.

Page 7: Financial Summary. Sustaining costs, contract costs, cost to EOL.

Page 8: Recommendations.

Page 9: Executive Session.

Figure 8.1 End of Life Presentation
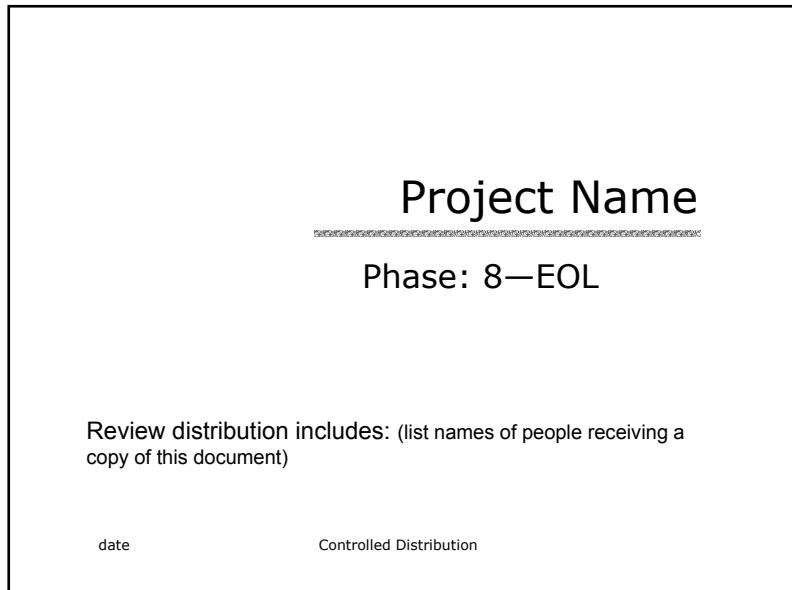
Project Name

Phase: 8—EOL

Review distribution includes: (list names of people receiving a copy of this document)

date   Controlled Distribution

Agenda

- General program status
- Issues and risks

date   Controlled Distribution

(continues)

Figure 8.1 (Continued)

Project Status

- Introduction
- Reason to EOL
- Sustaining costs
- Contracts

date   Controlled Distribution

Status

- Impact study
- Contract review status
- User notification

date   Controlled Distribution

Reason for EOL

date   Controlled Distribution

Install Base Status

date   Controlled Distribution

Figure 8.1 (Continued)

Financial Summary

- Sustaining costs
- Contract costs
- Cost to EOL

date   Controlled Distribution

Recommendations

date   Controlled Distribution

Executive Session

- Issues
- Concerns
- Limitations

date   Controlled Distribution

8.3 in a Nutshell

➤ Business development creates an impact study. This study identifies the impact of discontinuing the project.

➤ The Project Manager reviews any outstanding contracts and the cost/savings to cancel the project.

➤ Help Desk reviews the cost of supporting the project and the cost/savings to discontinue the project.

8.4 Recommendations for Management

- **Take phase reviews seriously**. Phase reviews are designed to give executive management a "snapshot" of the status of a project. Phase reviews are an excellent tool for confirming that processes are being followed and team deliverables are completed on time. If

executive staff doesn't take phase reviews seriously no one else will.

- **Hold people accountable; track phase review promises**. Phase reviews are an excellent way to monitor and track accountability. Save phase reviews so you can track promises and commitments.

8.5 The Roles of Team Members

Business Development Phase 8—EOL

1. Performs impact study

2. Attends phase review

Project Manager Phase 8—EOL

1. Receives impact study from Business Development

2. Works with Legal department to review contracts that refer to this project

3. Presents EOL plan to executive staff (Phase 8 review)

4. Works with Help Desk to notify users

Help Desk Phase 8—EOL

1. Notifies users that project has been EOL

2. Attends phase review

8.5 in a Nutshell

➤ Business Development

➤ Project Manager

➤ Help Desk

8.6 Documents Created During End of Life Phase

Executive Sign-Off. This is a sign-off sheet the Project Manager presents to the executives in the phase review. At the end of each phase review presentation, each member of the executive staff reviews the phase sign-offs, reflects on the information presented, and decides if he agrees to allow the project to proceed to the next stage of the project life cycle. On the bottom of this document each executive signs his name and states whether he approves or disapproves of continuing to the next phase.

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8.6 in a Nutshell

➤ Executive Sign-Off

➤ Phase Review presentation

➤ Phase Sign-Off

In most companies EOL is an overlooked phase. Projects slowly fade away. EOL is an effective management tool that provides closure to projects. EOL allows IT departments to close unused or old projects, focusing resources on those projects that provide better return on investment.

Index