

Lesson 10:

IT Project and Program Management

Objectives

By the end of this lesson, you will be able to:

- ✦ 1.5.8: Distinguish among the following from a business standpoint: intranet, extranet, Internet.
- ✦ 1.5.12: Identify business uses of the Web and Web clients, including Webinars and Web conferencing.
- ✦ 1.7.7: Use Internet conferencing software.
- ✦ 1.15.1: Identify components of the project triangle.
- ✦ 1.15.2: Identify components of a needs analysis, including receiving, evaluating and processing input; determining customer needs.
- ✦ 1.15.3: Define project scope and scope creep.
- ✦ 1.15.4: Use project management software and charts (e.g., Gantt charts) to determine a project timeline.
- ✦ 1.15.5: Identify a cross-functional team and its relevance to an IT-based project.
- ✦ 1.15.6: Explain common models for information flow and reporting between IT and upper management, as well as IT and other areas of the organization, including identifying project approval steps, SWOT analysis, data modeling vs. business ontology.
- ✦ 1.15.7: Relate IT-based concerns to organizational policies and rules, and identify rights and responsibilities of IT workers.
- ✦ 1.15.8: Identify the value of a Statement Of Work (SOW) order.
- ✦ 1.15.9: Analyze social and practical implications of technical decisions, and identify ways that technical changes affect a business's bottom line.
- ✦ 1.15.10: Use the concept of Return On Investment (ROI) to justify IT-based expenses in relation to a budget.
- ✦ 1.15.11: Define and perform a formal project review, including acceptance tests, determining success and implications of activities.

- ↗ 1.15.12: Identify the importance of documenting a project.
- ↗ 1.15.13: Explain how the concept of separation of duties can help ensure quality management.
- ↗ 1.15.14: Map technical information systems functions, concerns and capabilities to business concerns.
- ↗ 1.15.15: Identify the importance of quality management and assurance, including ISO 9000 standards.
- ↗ 1.15.16: Plan and schedule meetings.
- ↗ 1.15.17: Identify times when it is necessary to evaluate risks and escalate concerns.
- ↗ 1.15.18: Explain how to divide projects into discrete phases, with key milestones.
- ↗ 1.17.1: List elements of a successful Webcast (e.g., slide shows, polls, call-in features).
- ↗ 1.17.2: Identify benefits and drawbacks of Webcasts versus in-person meetings.

Pre-Assessment Questions

1. What is scope creep?

2. Why do the executing phase and the controlling phase of a project usually overlap?

3. What is the project triangle?

- a. The relationships among project scope, time and money.
- b. The relationships among the planning, executing and controlling phases of project management.
- c. The relationships among project tasks, resources and assignments.
- d. The relationships among the planning skills, organizational skills and communication skills needed by good project managers.

Overview of IT Project and Program Management

Business and project management skills are becoming increasingly important for IT professionals to master. Failed IT projects can put significant strain on business resources and can adversely affect an organization's bottom line. Poor project management is one of the primary reasons for IT project failure.

Businesses are starting to realize that successfully managed IT projects increase productivity, yield a greater return on investment, increase profits, and improve customer service and satisfaction. In fact, many organizations are starting to require project management skills for IT job advancement.

IT projects differ from other projects in one significant way. The IT department manages a business's data, which may include proprietary product data, customer and vendor data, financial data, personnel data, and so forth. Therefore, IT projects may involve several different systems. As an IT project manager, you must be able to work with these various systems and the individuals involved with them. IT projects can include hardware and software installations and upgrades, network security implementations, process improvements, training and support, and so forth.

Program management differs from project management in that program management is the process of managing multiple interdependent projects for the common purpose of improving an organization's performance.

This lesson will discuss vital IT resources available to IT managers, program management fundamentals, and the importance that project management concepts and skills are gaining in IT job roles, particularly IT project leadership positions.



CIW Online Resources – Movie Clips

Visit CIW Online at <http://education.Certification-Partners.com/CIW> to watch a movie clip about this topic.

Lesson 10: IT Project and Management

Resources for Technical Data

You should be aware of the available resources for technical data. This data can help you make better decisions as an IT manager. For example, if your company is considering a specific server product, you can check its installation base on the Internet. It is usually easier to hire qualified network and server administrators, Web developers and programmers if you choose a widely implemented server.

The following list suggests a few Web sites you can visit to learn about current technology and Internet trends.

- <http://news.netcraft.com>
- www.w3schools.com/browsers/browsers_stats.asp
- <http://whatis.techtarget.com>
- www.howstuffworks.com
- www.learnthenet.com
- <http://technet.microsoft.com>

If you visit these sites on your own, be sure to follow the links to related sites. The best way to learn about available resources is to visit and browse them.

The Netcraft site (<http://news.netcraft.com>) performs market research and analyzes current trends in Internet business. The site provides a wide variety of Internet-related information, including data about the fastest-growing hosting companies, statistics on widely used server software, and trends in e-commerce.

In the following lab, you will view Web statistics. Suppose the IT manager has instructed you to compile statistics about the latest trends in server software for an upcoming meeting in which the software to implement on the new server will be chosen. You should be familiar with at least a few of the technical resources available.



Lab 10-1: Accessing statistics, and accessing secure and non-secure Web pages

In this lab, you will visit the Netcraft site and examine Internet statistics. You will also access secure and non-secure pages, and display security properties for each.

NOTE:

Explore the Netcraft site on your own to become familiar with available types of data.

1. First, you will visit the Netcraft site. Open your browser and go to **news.netcraft.com**. Notice that the home page displays helpful statistics, such as a the most reliable hosting sites and a Web server survey for the latest month available.
2. Scroll down on the page to the graph with the title **Web server developers: Market Share of all sites**. After viewing the graph, can you tell which is currently the most popular Web server?

Note: Apache Server has traditionally been the most popular Web server, and Microsoft IIS has been second most popular.

3. Read the **Most Reliable Hosting Company Sites** statistics. What else can you learn about hosting company reliability?
4. In the upper-left corner of the Web page, select the text in the text box that appears below **What's That Site Running?** You can enter a URL into this text box to learn the Web server software being used at the specified site.
5. Type **www.microsoft.com**, then press **ENTER**. Netcraft displays the results of your site software inquiry. Notice that various Microsoft Web servers run Microsoft IIS 8.0 or 8.5. Notice also that the results include information about the operating system used on the server.
6. In the Lookup Another URL field, type **www.unix.org**. Notice that UNIX runs Apache 1.3.37.
7. Browse other sites that provide statistics and helpful information for you to make better technology decisions. Pick two sites from the following list and search for technology or statistics that interests you.

- www.w3schools.com/browsers/browsers_stats.asp
- <http://whatis.techtarget.com>
- www.howstuffworks.com

- www.learnthenet.com
- <http://technet.microsoft.com>

8. Close your **browser**.

Reviewing Web trends

Google offers a resource called Google Trends (www.google.com/trends/), which you can use to gather data and statistics about what people all over the world are searching for on Google. Google tracks search trends around the world by collecting data on the search queries entered by users over a given period of time — weekly, monthly and annually. Google then publishes this information that you can access on Google Trends. By looking through Google Trends, you can conduct your own research about Web trends according to time period, country, category, popularity and so forth.

In the following lab, you will review Web trends based on user search queries. Suppose you are an Internet marketing manager and want to research data on the number of queries about your company's competitors over the past several years. What resources are available to you to quickly gather this information?



Lab 10-2: Reviewing Web trends

In this lab, you will visit the Google Trends site and examine current Web trends.

1. Open your **browser** and go to www.google.com/trends/. The Google Trends home page will appear, as shown in Figure 10-1. Notice the Launch Zeitgeist link that appears on the page. Zeitgeist is a Google resource that presents a synopsis of the top sites visited during the past calendar year. (The word "zeitgeist" refers to the general intellectual and cultural climate of an era; or "the spirit of the times," according to Google.)

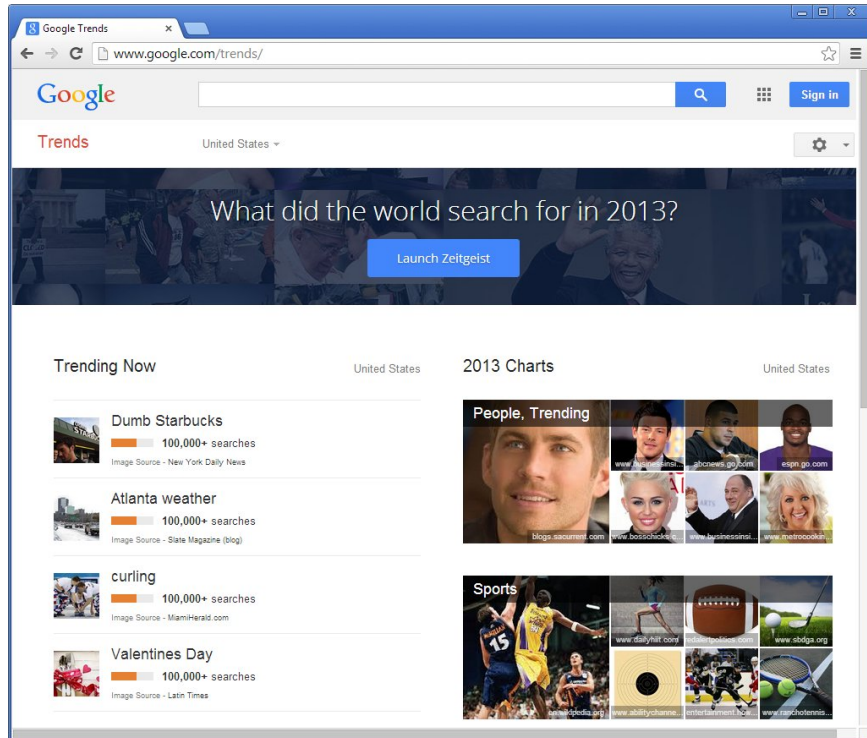


Figure 10-1: Google Trends home page

2. Click the **Launch Zeitgeist** link. The Google Zeitgeist page will appear, as shown in Figure 10-2.

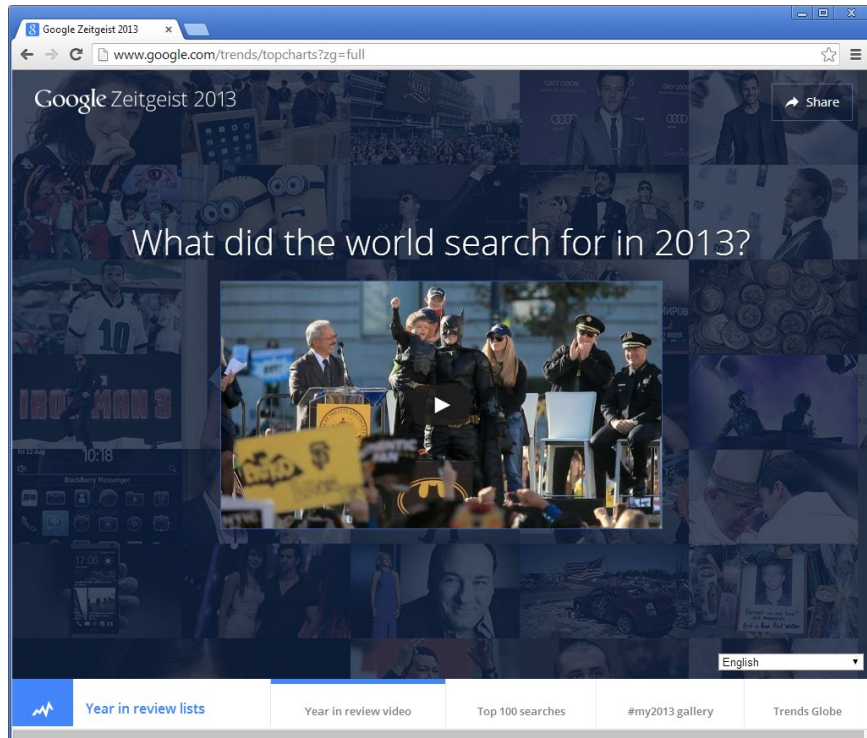


Figure 10-2: Google Zeitgeist page

3. Click the **Start** button (the right-pointing arrow) in the middle of the video to play the video. A short video will play highlighting the top Web searches of the given calendar year.
4. When the video finishes playing, click the **Year In Review Lists** link at the bottom of the page. Scroll through the page and notice the various categories and subjects that appear under each category.
5. Click a link for a particular subject, then click the **Explore** link that appears to the right of the subject. Notice that a graph appears showing search queries for the specified topic over the past year (see Figure 10-3). Also, the relative number of queries is shown by region and by other searches related to the specified topic.

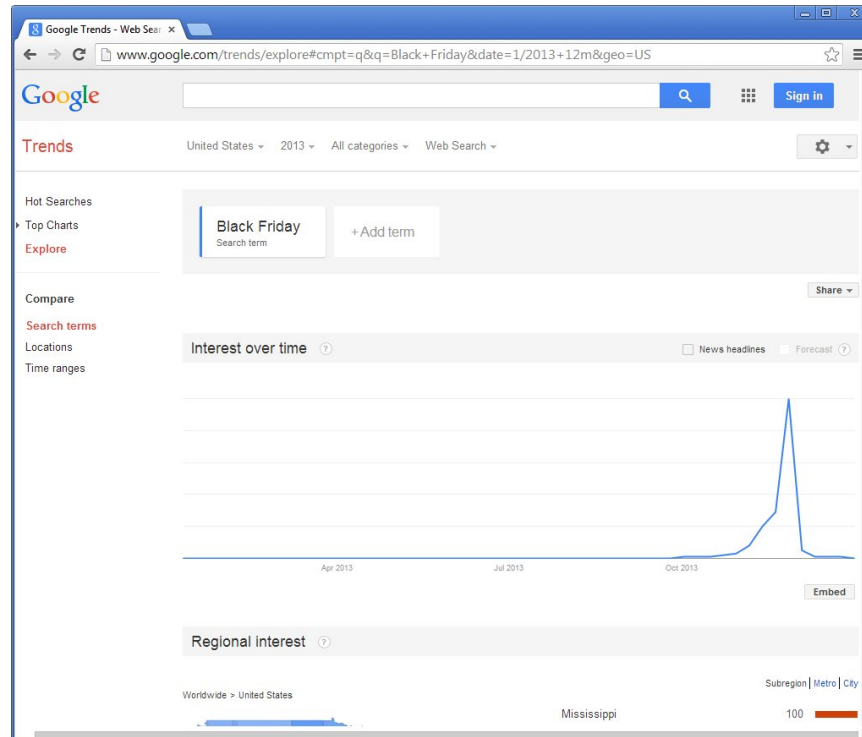


Figure 10-3: Graph of search queries

6. You can also enter search criteria or a URL in the Google bar at the top of the screen. When you press **ENTER**, you will receive similar information about the topic or URL you entered. Try it for a topic or Web site that interests you.
7. On the left side of the page, click the **Top Charts** link. The Top Charts page will appear, displaying the Zeitgeist video and the categories and subjects that received heavy traffic during the given calendar year.
8. Explore the Google Trends site and determine the relative popularity of particular Web searches over time. Do you find the Google Trends site easy to use? Do you find the information useful or informative?
9. Close your **browser**.

NOTE:

Familiarize yourself with the Google Trends site so you can determine Web search patterns and trends.

Project Management Fundamentals

project management

The practice of applying skills and processes to activities in order to meet deadlines and achieve desired results.

NOTE:

Can you think of other everyday activities that can be viewed as projects?

project

A sequence of tasks that must be accomplished within a certain time frame to achieve a desired result.

task

A unit of work that must be accomplished during the course of a project.

resource

A person, department or device needed to accomplish a task.

assignment

The appointment of a specific resource to a specific task.

OBJECTIVE

1.15.3: Project scope/scope creep

scope

The goals and tasks of a project, and the work required to complete them.

Project management is the practice of applying knowledge, skills and processes to activities in order to meet deadlines and achieve desired results. Project management skills can be applied to all industries and job roles. Whether you are creating a Web site, installing services and clients on your organization's computers, or developing courseware, the same basic project management techniques apply.

You have probably applied project management skills and techniques to projects you have undertaken. For example, before you purchase a new photocopier machine for your company, you assess the need for a new machine and the time frame within which you want it; you determine the brand and model that will best meet your company's needs; and then you contact vendors via telephone for price estimates. You then make the purchase. After the new photocopier machine is put to use, you may evaluate the decisions you made, as well as employees' level of satisfaction with the new machine.

Even though the steps involved in making such a purchase seem obvious, the relationships, phases and processes you use can be applied to all projects, large and small.

Defining project management terms

A **project** is a sequence of tasks that must be accomplished within a defined time frame in order to achieve a desired result. Projects differ from ongoing work operations in that projects are temporary and unique. A project has a start date and an end date, and it produces a specific deliverable, or end product. For example, the photocopier machine purchase project began when you were given the task of buying a new machine, and ended when you finalized purchase arrangements. Even if you purchased a new photocopier machine every year, each purchase cycle would be a temporary, unique, separate and distinct project.

A **task** is a unit of work that must be accomplished during the course of a project. In the photocopier machine purchase scenario, tasks include determining the type of machine you need and contacting vendors for price estimates. A **resource** is a person, department or device needed to accomplish a project task. In the scenario, you, the vendor and your telephone can all be considered resources. An **assignment** is made when a resource is given a specific task to perform.

As a project manager (IT or otherwise), you will usually manage project elements such as:

- Schedules.
- Costs.
- Performance risks.

You use project management skills and techniques to control these project elements. You begin the project management process by creating realistic objectives and establishing the scope of the work to be completed.

Scope and scope creep

The end product or ultimate goal of a project, along with the tasks required to achieve that goal, constitute the project **scope**. In the photocopier machine purchase scenario, all the work required to research and make the purchase is included in the scope of the project.

NOTE:

Scope creep is usually second only to insufficient funding as the most common problem in implementing a project. Insufficient funding can often occur because of scope creep. One forgotten step can put a project behind schedule, which can cause project costs to dramatically increase.

scope creep

Gradual increases in project scope that can undermine the success of a project.

NOTE:

Visit these (and other) Web sites to learn more about project management certifications that can help you on the job.

Project scope varies depending on the complexity of the project and the number of tasks required to complete it. For example, developing a Web site is a project of greater scope than designing a company newsletter. You must consider the project's scope when planning a project of any size.

A common problem associated with project management is the tendency for the project's scope to increase over time. Any changes in the schedule, cost or performance required to complete the project can affect its scope. Issues often arise during the project that were not initially considered. You may be able to contain the scope of the project, but only by introducing subprojects, which also must be managed.

Changes in project scope tend to occur in small increments, and therefore might seem negligible. However, small increases in scope will add up. These gradual increases are called **scope creep**. If you do not adequately manage scope creep, the success of your project may be compromised.

Project Management Skills

To effectively manage a project, you must have strong planning, organizational, communication and problem-solving skills. If you are a novice project manager, managing a part of a project is a good way to start. As you gain experience, you can manage bigger pieces and, eventually, take on the role of project manager for an entire IT project.

Earning project management certification can strengthen your project management skills. Two of the most recognized certifications are:

- The Project Management Professional (PMP) certification from the Project Management Institute (www.pmi.org/CareerDevelopment/Pages/AboutCredentialsPMP.aspx).
- The Project+ certification from CompTIA (<http://certification.comptia.org/getcertified/certifications/project.aspx>).

The Project Management Professional (PMP) certification is the more widely known of the two and is geared toward various professions. The CompTIA Project+ certification is geared specifically for IT professionals.

Planning skills

To plan a project well, you must be able to identify the tasks that constitute the project, understand the ways in which tasks are dependent upon one another, and know the ways that project dependencies will affect the project as a whole.

You must also make the most effective use of the people involved with the project, which includes the following:

- **Identifying the project stakeholders** — **Stakeholders** are people or groups that can exert influence over the project and affect results. Stakeholders include the project manager, the project team, the sponsors and the customers.
- **Acquiring the right staff for the project** — Projects require employees with varied skills, backgrounds and job roles. You must be able to recognize the needs of the project and staff it with the right people.
- **Developing and managing teams** — Projects often involve temporary processes and disparate groups of people. For example, individuals may be brought together who work in different departments or are at different levels within the organization. You

stakeholder

A person or group with an interest in a project, and with the power to exert influence (either positive or negative) over the project and affect results.

must be able to bridge departmental boundaries and individual skill levels in order to accomplish the goal. You must also be able to impart ownership to project participants by holding them accountable for the completion of their tasks, and by soliciting their input and incorporating it into project processes.

Organizational skills

As a project manager, you must have the ability to control how and when individual tasks are completed throughout the course of the project. Managing a project is like conducting an orchestra. Whereas a conductor must be able to follow a score, cue the musicians to play at the correct time and conduct multiple sections at once, a project manager must be able to follow a project plan, ensure that each resource begins and completes tasks at the proper time, and manage a variety of tasks simultaneously.

You must be able to help project participants organize and prioritize their tasks to stay within the project scope. You can accomplish this by identifying and assigning project roles and responsibilities, as well as reporting relationships. That is, you must define the organizational structure for the project.

Communication skills

Before you begin a project, you must gather information from the customers to ensure that the end product will meet their needs. Failure to determine goals at the outset can hinder project success.

Figure 10-4 shows a project manager updating his customers about recent development efforts. He is making sure they approve of the current direction of the project and finding out if they would like any changes.



Figure 10-4: Communication skills with customers is critical

As a project progresses, you must be able to evaluate the condition of the project and communicate project data effectively. You are responsible for keeping project participants informed in order to keep the project running smoothly. Regular communication helps manage scope creep and determine whether costs are exceeding the budget. Understanding the status of a project can also help participants focus on areas that need immediate attention.

Problem-solving skills

As a project manager, you must be able to quickly identify problems (real or potential) and propose solutions. Problem-solving skills will help you implement solutions without affecting project scope. You must have the ability to make appropriate decisions in a timely manner to prevent problems from adversely affecting the project.

Leadership skills

In addition to possessing planning, organizational, communication and problem-solving skills, a project manager must also be able to motivate a group of people toward a common goal. Common leadership skills that will benefit a project manager are:

- **Understanding the needs and characteristics of the group** — You need to treat each person in the group as an individual, which promotes trust and builds confidence among group members.
- **Controlling group performance** — You can help keep group members focused on achieving the project goals by communicating clear instructions, offering help when necessary, and quickly dealing with disputes.
- **Setting a good example** — You can influence the performance of group members by your own actions. By setting the example of how you want your group members to conduct themselves, you can positively (or negatively) affect group performance and the outcome of the project.
- **Providing counseling** — When a group member encounters a problem, you can provide encouragement, reassurance and information to help them decide what the solution is to resolve his or her difficulty.
- **Teaching effectively** — You can help increase the knowledge, skills and aptitudes of group members as they progress through their tasks and overcome obstacles.

Project Management Phases

Five project management phases constitute the project life cycle:

- Initiating phase
- Planning phase
- Executing phase
- Controlling phase
- Closing phase

Each phase is marked by the completion of one or more deliverables. The conclusion of each project phase usually includes a review of performance to date and a decision about whether to proceed to the next phase.

Project management phases often overlap. Typically, the executing and controlling phases of a project occur simultaneously. It is also important to note that some phases may occur more than once throughout the project life cycle.

Initiating a project

The initiating phase sets the foundation for the project. This phase defines the project scope, the project goals and the tasks required to accomplish those goals. The initiating phase of a project consists of the following tasks:

- Conducting a needs analysis
- Determining project objectives, assumptions and constraints
- Developing a Statement Of Work (SOW)

OBJECTIVE
1.15.2: Needs analysis

needs analysis

Determining a customer's needs by acquiring information, processing and evaluating the information, then creating a plan of action to address the needs.

NOTE:

A needs analysis is vital in determining the customer's needs to ensure that the project plan meets those needs.

Needs analysis

A critical first step in the initiating phase is to conduct a **needs analysis**, which will help identify the goals of the project. A needs analysis identifies the problems or needs that the project must resolve or address. You can then translate the results of the needs analysis into the requirements that the project must meet.

Conducting a needs analysis consists of learning the customer's needs. The customer is the person, department or company for whom you are performing a project. You must elicit needs information, such as the problem the customer is experiencing, the time frame for solving the problem, and the budget for solving the problem. You must get as much information as possible from the customer, and from all systems and individuals that will be affected by the project; process and evaluate the information you receive; and turn it into a cogent plan of action.

The needs analysis will help you clearly define the project objectives. The success of a completed project can be judged by how closely each objective was met.

Project objectives, assumptions and constraints

A project objective should be specific and measurable. Objectives can include a list of project deliverables, deadlines for the final deliverable as well as intermediate tasks, quality criteria for the deliverables, and cost limitations for the project. All stakeholders must understand and agree to the project objectives.

During this time, you should also define any project assumptions. An **assumption** is any factor that is considered to be real or certain. For example, if you need to utilize resources from other departments, who will manage those resources? When, and for how long, will those resources be available to you? Assumptions should be clearly defined so that others will know what is expected of them.

You should also try to determine project **constraints** at this time. Constraints are factors that limit your options. Generally, a constraint is a restriction. A project may be constrained by a fixed budget or a deadline. One task may need to end by a specific date so another task that is reliant on the first task can begin.

The three major constraints on any project are:

- Schedule (time).
- Resources (money, people, equipment).
- Scope.

assumption

A factor that is considered to be real or certain for planning purposes.

constraint

A factor, such as budget or time, that limits a project manager's options.

OBJECTIVE
1.15.8: Statement Of Work (SOW)

Statement Of Work (SOW)

A contract to initiate a project; the contract contains project goals and specifies how those goals will be met.

Statement Of Work (SOW)

Finally, you and all stakeholders should define the ways that project success will be measured. At the end of the initiating phase, you should complete a **Statement Of Work** before you proceed to the next phase. The SOW outlines the requirements for each project task to ensure that the project objectives are met. The SOW should contain clearly defined goals and an agreed-upon plan to achieve them.

The SOW can be created between individuals, between departments, between individuals and departments, and so forth. If the SOW is completed between your organization and an outside organization or individual, the payment structure can be included in the SOW.

By determining the customer's needs during the initiating phase, you can create a project that meets those needs, and you can determine the tasks, time and cost required to complete the project.

Planning a project

The planning phase addresses project details. Project planning involves identifying all the tasks required to achieve the project goals, the people who will perform those tasks, and the resources that will be required. Planning also involves estimating the time each task will take to complete and determining project tasks that are dependent upon one another.

OBJECTIVE

1.15.18: Project phases and milestones

project schedule

A document that lists the planned dates for performing tasks and meeting goals defined in a project plan.

milestone

The end of a stage that marks the completion of a task or series of related tasks, resulting in a key deliverable.

Project schedule

During the planning phase, you must develop a **project schedule**. A project schedule lists the planned dates for performing tasks and meeting goals identified in the project plan. To develop a project schedule, you should meet with the entire project team to determine the time and money required to complete each task. You should then outline the required tasks and assign resources to each.

As you are scheduling tasks, there may be points in the schedule that signify the completion of an important phase of the overall project, known as a **milestone**. Each task can end in a milestone, or the completion of a group of related tasks that result in a key deliverable can be considered a milestone. Milestones can also be applied to the end of each phase of the project management cycle.

Milestones can add significant value to project scheduling because they can become the points at which the project team or project stakeholders evaluate the project's progress and make decisions that may affect the status of the project going forward.

Project team

Project teams can (and often do) consist of individuals from different departments. For example, your project may consist of IT professionals from within your department, as well as individuals from the Web development, marketing and accounting departments. Each person offers a different perspective and perhaps a different set of priorities. Consider the following examples:

- The person from the accounting department may be primarily concerned with project costs and may have authority over budget constraints.
- The person from the marketing department may be concerned with the project's effect on customers' perceptions of the products or company, or on promotional or advertising functions.
- The Web designer may be concerned with Web site content or design changes as a result of the project.
- The IT department members will probably be most concerned about the tasks required to meet the project goals and the time constraints imposed on them.

As the project manager, you will be responsible for satisfying these disparate priorities as you seek to complete the project schedule within the project constraints. Figure 10-5 shows a project manager meeting with his project team to discuss project costs.

OBJECTIVE

1.15.5: Cross-functional teams



Figure 10-5: Project team meeting

At the completion of the planning phase, you should have a schedule outlining tasks, responsibilities, budgets and deadlines. However, remember that planning is a constantly evolving process that lasts throughout most of the project life cycle.

SWOT analysis

OBJECTIVE
1.15.6: Information flow and reporting models

A SWOT analysis is a strategic planning method that you can use to evaluate the strengths, weaknesses, opportunities and threats in relation to an organization. In a project management context, a SWOT analysis is an integral part of the planning phase because it enables you to determine how your company's (or project team's) strong and weak points can affect the outcome of a project, as well as the ways in which opportunities and outside threats may play into the project.

SWOT analysis treats strengths and weaknesses as issues internal to the organization or project. You can evaluate your organization's or team's strengths to determine whether they will assist you in accomplishing the project objectives.

Following are examples of project strengths:

- Project team members with the skills necessary for the project
- Resources (e.g., equipment and infrastructure) necessary for the project
- Support from all stakeholders to commit to a successful project outcome

Conversely, you can evaluate your organization's or team's weaknesses to determine whether they will be obstacles to success. Once you identify the obstacles to success, you can control, minimize or eliminate them to ensure that you achieve the desired project results.

Following are examples of project weaknesses:

- Project team members who are unsuitable for the tasks they are assigned to perform
- Flaws in the project objectives or assumptions

SWOT analysis treats opportunities and threats as issues external to the organization or project. Opportunities are external factors that might be helpful in achieving project objectives. Threats are external factors that could damage the organization's or team's performance.

Following are examples of project opportunities:

- Additional project resources (e.g., team members, equipment) that were not anticipated during the initial planning stages
- An increase in project funding
- An extension of the project deadline date

Following are examples of project threats:

- Integral team members who are reassigned before they complete their portions of the project
- A reduction in project funding
- A contraction of the project deadline date

Executing and controlling a project

During the executing and controlling phases of a project, project work is performed (executed), progress is monitored and corrective action is taken as needed (controlled). At the start of the executing phase, you coordinate people and other resources to carry out the project plan. As work progresses, you must delegate or reassign tasks and resolve conflicts as necessary.

NOTE:

The executing and controlling phases are concurrent. They are listed as distinct project management phases because of the difference in the nature of the work, rather than for the point in the project at which they take place.

The executing phase continues as work progresses. Meanwhile, you begin the controlling phase. This phase includes coordinating project activities, detecting disruptions, taking corrective measures, troubleshooting problems, updating team members about project status and driving the project forward. Thus, during these concurrent phases, you ensure through regular monitoring that all objectives are being met. By comparing actual data to the original estimates determined during the planning phase, you can identify variations and take corrective action when necessary. Corrective action might involve replacing or assigning additional resources, changing tasks or adjusting the budget.

Finally, to successfully execute and control a project, you must produce action plans and status reports to keep everyone apprised of the project's progress. Controlling your project can be especially challenging when your project team consists of cross-departmental members whose reporting structures differ. Figure 10-6 illustrates an organizational structure in which various project team members report to different company officers. Actual company structures will vary, of course.

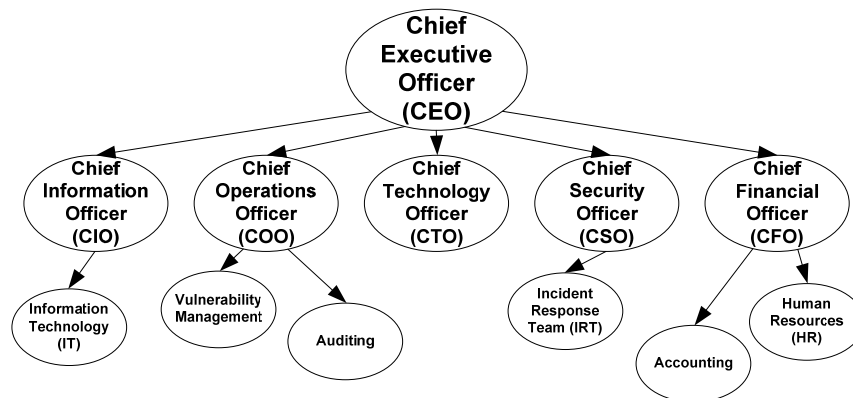


Figure 10-6: Organizational structure — project team members

OBJECTIVE

1.15.6: Information flow and reporting models

The organizational structure shown in the figure is for a relatively large company (350 or more employees). Of course, not all companies and organizations follow this model

exactly. However, all companies and organizations should create a model that ensures accountability among departments and reduces conflicts of interest.

Conflicts of interest

Project team members will probably forward action plans and status reports to others within their departments. Each department will have a different reaction to project plan modifications, particularly if the modifications affect them directly. Following are examples of conflicts of interest that can develop among the various departments represented in your project:

- The Chief Financial Officer (CFO) may veto a proposed change due to the extra costs involved.
- The Chief Information Officer (CIO) may resist changes that require additional personnel who cannot be spared or additional tasks that adversely affect the project timeline.
- The Chief Operations Officer (COO) may determine that the returns on certain phases of the project are not worth the risk, and may seek to eliminate or modify certain tasks.
- The Chief Security Officer (CSO) may determine that the tasks involved in certain phases of the project pose too great a security risk to the company's data or network, and may seek to eliminate the tasks from the project.

Adjusting the project plan

If situations such as the ones in the previous list occur, you must make appropriate recommendations and adjust the project plan accordingly without losing sight of the project's ultimate goal. You may need to engage in **change management** as you adjust the project plan. Change management can help you manage the changes to the project's scope in a systematic fashion so that the project's objectives are not compromised.

In a worst-case scenario, departmental differences may become untenable and put the entire project at risk. Change management techniques may or may not help with such obstacles over which you have no control. In some cases, the appropriate course of action may be to terminate the project if it simply will not justify the investment required. Terminating unprofitable projects helps the bottom line.

Remember that as the project manager, you are the owner of the project. You must accept final responsibility for all project decisions and outcomes.

Closing a project

The final phase of a project is the closing phase. During the closing phase, your team should evaluate the project schedule, budget, scope, resources and assignments to determine the aspects of the project that worked well and the changes that should be implemented in the future. A project is deemed a success when it is completed within the budget and time frame specified, and the finished product meets quality standards.

At the end of the closing phase, you should receive a formal acceptance of the project deliverable from the customer, a documented history of the project, and recommendations for revising the project plan for future projects.

change management

The process, tools and techniques that help people implement changes to achieve a desired outcome.

NOTE:

Team members must also understand how to make adjustments to their tasks based on changes to the project plan.



Visit CIW Online at <http://education.Certification-Partners.com/CIW> to complete an interactive exercise that will reinforce what you have learned about this topic.

Exercise 10-1: Project management phases

OBJECTIVE
1.15.1: Project triangle

The Project Triangle

Three factors — time, money and scope — affect every project, and they form what is sometimes referred to as the project triangle. When any one of these elements is adjusted, the other two are also affected. For example, if you decrease the budget on a project, you may need to limit its scope as well. Or if you add more time to a schedule, you may be able to reduce costs by eliminating overtime expenses.

All three of these elements are important, but typically one will have a greater impact on a project than the others. The relationship among these three elements will determine the kinds of problems that may arise during a project, as well as the solutions you can implement.

A fourth element — quality — is at the center of the project triangle. It is not a factor in the triangle, but changes you make to the other three factors will most likely affect quality. For example, if you have extra time in your schedule, you may be able to increase the project's scope, which may result in a higher level of quality. If you need to cut costs, you may need to decrease scope, and a lower level of quality may result. Therefore, as you optimize a project's schedule, consider the ways that adjusting one element of the triangle might affect the other two, and how overall quality will be affected.

Project Management Software

As you can see, project management is a balancing act. Although experience is the best way to become an excellent project manager, project management software can help you with the details. Most project management software stores your schedule information in a database. This database might be proprietary (for example, part of a project management program). In many cases, you can export information to a database application (for example, Microsoft Access or MySQL).

Scheduling information

Project management software stores the following schedule information:

- A project start date
- A project calendar
- Necessary tasks and their durations
- Project resources and their costs

As you establish relationships among project tasks, project management software calculates the length of time required to complete the tasks, as well as resource availability. As you adjust the schedule, the software recalculates the finish dates and adjusts the project calendar.

Tracking project progress and status

As you post progress information to the database, you can use project management software to compare the actual performance to the planned performance, and display variations. The software can alert you if your project is behind schedule or over budget, as well as inform you when you are ahead of schedule. These features can help you to increase quality and reduce costs. Finally, most project management software enables you to produce charts and reports to communicate project status.

Using a successful project as a template

After closing a project, if you decide that the project was planned and executed well, you can save the old project as a template and use it as a starting point for future projects of a similar nature.

NOTE:

GanttProject is one of many project management applications available. Conduct Web searches for free project management software to learn about available products.

There are many project management applications available. GanttProject (www.ganttproject.biz) is downloadable software that is installed directly on your computer. There are also cloud-based project management applications that allow collaboration with team members over the Internet, such as Project Insight (www.projectinsight.net).

In the following lab, you will install a free project management application called GanttProject. Suppose you are the IT administrator at your company. A new project manager will be joining your department next week, and you want to prepare the project manager's computer so that she has all the resources necessary to be immediately productive.



Lab 10-3: Installing the GanttProject project management tool

In this lab, you will install the GanttProject project management software application.

1. Open **Windows Explorer** and navigate to the **C:\CIW\Internet\Lab Files\Lesson10** folder.
2. Double-click **ganttproject-2.0.9.exe**, then click **Run** to display the GanttProject Setup Wizard.
3. Follow the instructions to install GanttProject on your computer. Accept all defaults.
4. When the installation is complete, close **Windows Explorer**.

Now you are ready to use GanttProject to create and manage a project, which you will do in the next section.



CIW Online Resources – Course Mastery

Visit CIW Online at <http://education.Certification-Partners.com/CIW> to take the Course Mastery review of this lesson or lesson segment.

IBA Lesson 10 - Part A

Creating Project Schedules

OBJECTIVE

1.15.4: Project software, charts and timelines

Once you have completed the initiating phase of a project, you are ready to begin the planning phase and create the project schedule. When you start this phase, you should have clearly defined goals and objectives in mind, as well as the tasks necessary to achieve them. You should also know the approximate length of time each task will take, the order in which tasks should be performed and the employees who will perform them. You can then create a project schedule to determine the project timeline.

Gantt charts

Gantt chart

A horizontal bar chart that graphically displays project tasks and durations.

Project management software often contains **Gantt charts** that graphically display the project tasks and task durations. A typical Gantt chart is shown in Figure 10-7. In a Gantt chart, each task is represented by a separate bar. The top of the Gantt chart displays dates in increments of days, weeks or months, depending on the length of the project. The task duration is represented by the length of the horizontal bar. The left end of the taskbar marks the task start date, and the right end marks the task completion date. Tasks may be performed concurrently, they may overlap, or they may run sequentially if the start of one task is dependent on the completion of another.

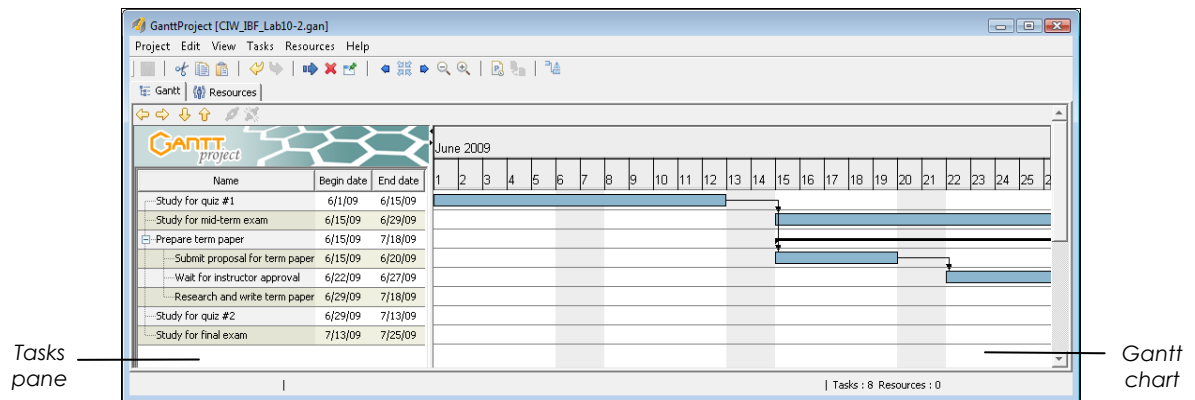


Figure 10-7: Sample Gantt chart

NOTE:

Henry Gantt, an American engineer and pioneer in the field of scientific management, developed Gantt charts in 1917 as a tool for scheduling production work for military projects.

In addition to the basic elements of the Gantt chart shown in the figure, most project management software can enhance the chart to display the following information:

- A vertical marker that represents the current date.
- The progression of each task, indicated by shading the portion of the task that is completed. Shading completed tasks or portions of tasks provides a visual representation of the status of the project.
- Sequential relationships among tasks to illustrate task dependencies, usually in the form of link arrows.
- The resources assigned to each task.
- Project milestones, which mark major events during the course of the project.



CIW Online Resources – Online Exercise

Visit CIW Online at <http://education.Certification-Partners.com/CIW> to complete an interactive exercise that will reinforce what you have learned about this topic

Exercise 10-2: Project schedules

In the following lab, you will use GanttProject to create a project schedule. Suppose you are a high school senior and you want to take a five-credit-hour, eight-week summer class at your local university to familiarize yourself with the campus and, at the same time, get five credit hours out of the way before the Fall semester begins.



Lab 10-4: Creating a project schedule

In this lab, you will use GanttProject to create a project schedule. The project for which you are creating a schedule maps out the summer-school session you have decided to take at the local university. In addition to the daily classroom assignments, your grade will be determined by two quizzes, one term paper, one midterm exam and one final exam.

1. First, you will create the tasks and subtasks necessary to complete the course. Minimize any open windows to display the Desktop.
2. Double-click the **GanttProject** icon to display the GanttProject window (Figure 10-8).

*Note: If a Tips Of The Day message box appears, click the **Close** button to close it.*

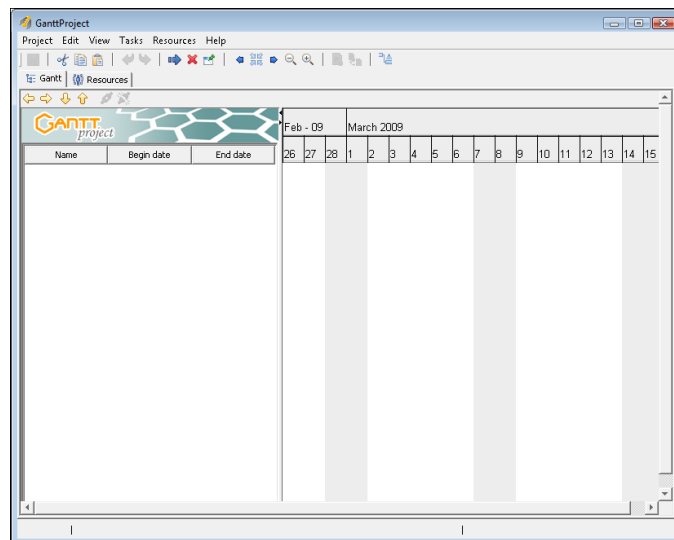


Figure 10-8: GanttProject window

NOTE:
Use the pop-up ScreenTips to determine the names of the buttons in the GanttProject toolbar.

3. In the toolbar, click the **New Task** button to add a task to the Tasks pane.
4. In the Tasks pane, notice that the text in the Name column is selected, enabling you to name the task. Type **Study For Quiz #1**, then press **ENTER** to specify the task name. Notice also that a task bar appears in the Gantt chart reflecting the task you just created, and that the task start date defaults to today's date.
5. With the Study For Quiz #1 task still selected, click the **Task Properties** button on the toolbar to display the Properties dialog box (shown in Figure 10-9). Notice that the name you specified for the task in Step 4 displays in the Name text box.

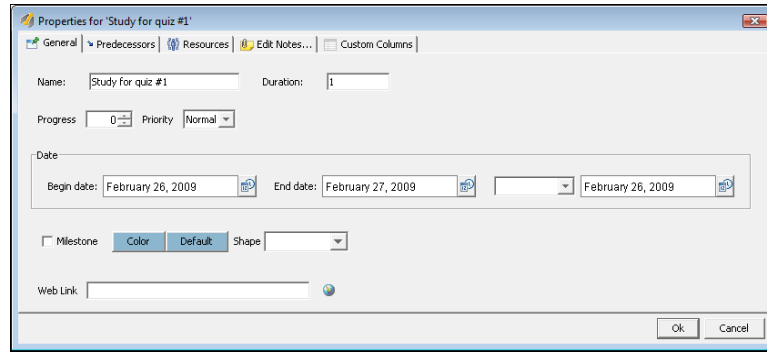


Figure 10-9: GanttProject Properties dialog box for task

6. Specify a duration of **10** days. In the Date section, click the **Show Calendar** button next to the Begin Date box, then select the date representing the first Monday of next June. Click **OK**.
7. Position the mouse pointer on the right side of the Gantt chart, click and hold the mouse button, then drag the chart to the left as many times as necessary until the month of June scrolls into view.
8. Click anywhere in a blank area of the Tasks pane to deselect any tasks.
9. Click the **New Task** button to add a second task to the Tasks pane. Type **Study For Midterm Exam**, then press **ENTER** to specify the task name. Specify a duration of **10** days for this task.
10. Deselect any tasks, then add a third task named **Prepare Term Paper**. Do not specify a duration for this task.
11. Deselect any tasks, then add a fourth task named **Submit Proposal For Term Paper**. Specify a duration of **5** days for this task.
12. With the Submit Proposal For Term Paper task selected, click the **Indent** button in the Gantt tab toolbar. Notice that the fourth task is indented and displays as a subtask of the third task. Notice also in the Gantt chart that the bar for the third task has been replaced by a thick black line, which indicates that the third task is a top-level task that will be defined by its subtasks.
13. Click anywhere in a blank area of the Tasks pane to deselect any tasks.
14. Click the **New Task** button to add a fifth task and specify a name of **Wait For Instructor Approval** and a duration of **5** days. With the fifth task still selected, click the **Indent** button to indent the task and make it the second subtask of the top-level task, Prepare Term Paper.
15. With the Wait For Instructor Approval subtask still selected, click the **New Task** button and specify a name of **Research And Write Term Paper**. Notice that when you press **ENTER**, the task automatically displays as a subtask of Prepare Term Paper. This is because the previous subtask was selected when you created this new task. Specify a duration of **15** days for this task.
16. Click anywhere in an empty area of the Tasks pane to deselect any tasks, then click the **New Task** button. Specify a name of **Study For Quiz #2**, then press **ENTER**. Notice that because no task was selected and you did not click the Indent button,

NOTE:

In Step 10, you did not specify the task duration for the third task because it will be a top-level task in the final schedule. The duration of a top-level task is defined by its subtasks.

NOTE:

In Step 15, if a subtask is selected when you click the New Task button, the new task will be added as a subtask of the top-level task.

this task did not become a subtask of the Prepare Term Paper task and displays as a top-level task. Specify a duration of **10** days for this task.

17. Add one last top-level task with the name **Study For Final Exam** and a duration of **10** days. Adjust the size of the **Name** column so that you can view the task names. Your task list and Gantt chart should resemble Figure 10-10.

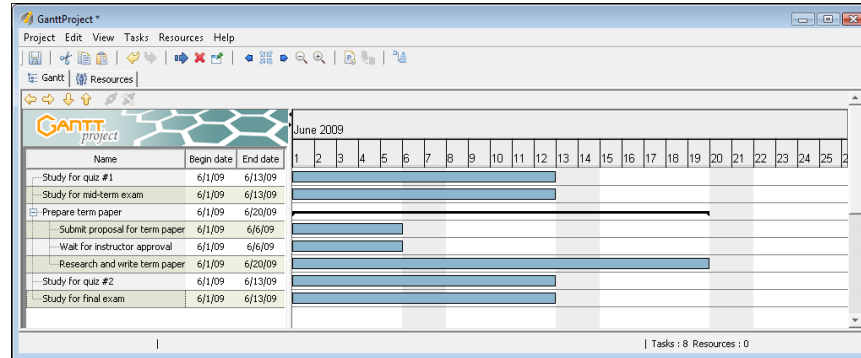


Figure 10-10: Task list and Gantt chart

18. Next, you will specify task dependencies. In the Gantt chart, click and hold the Gantt bar for the **Study For Quiz #1** task, drag it to the Gantt bar for the **Study For Midterm Exam** task, then release the mouse button. This step specifies that the start of the second task is dependent on the completion of the first, and moves the start date of the second task forward two weeks (10 working days).

Note: Weekend dates in the project timeline are automatically bypassed.

19. Click and hold the Gantt bar for the **Study For Quiz #1** task, drag it to the Gantt bar for the **Submit Proposal For Term Paper** task, then release the mouse button. This step specifies that the start of the first subtask for the Prepare Term Paper task is dependent on the completion of the first task, and moves the start date of the first subtask forward two weeks.
20. Click and hold the Gantt bar for the **Submit Proposal For Term Paper** task, drag it to the Gantt bar for **Wait For Instructor Approval**, then release the mouse button. This step specifies that the start of the second subtask for the Prepare Term Paper task is dependent on the completion of the first, and moves the start date of the second subtask forward three weeks.
21. Click and hold the Gantt bar for the **Wait For Instructor Approval** task, drag it to the Gantt bar for **Research And Write Term Paper**, then release the mouse button. This step specifies that the start of the third subtask for the Prepare Term Paper task is dependent on the completion of the second.

Note: Many project management software applications are able to display the Gantt chart by day, week, month or quarter. However, GanttProject displays its Gantt chart only by day.

22. Drag the Gantt chart to the left to view the three subtasks of the Prepare Term Paper task. Notice that the thick black line that represents the Prepare Term Paper top-level task encompasses the three subtasks and reflects the increased duration of the task group (five weeks).
23. Click and hold the Gantt bar for the **Study For Midterm Exam** task, drag it to the Gantt bar for the **Study For Quiz #2** task, then release the mouse button. This step

NOTE:
In most project management software applications, users can set an option to skip weekend and holiday dates when creating the project schedule.

specifies that the start of the fourth task is dependent on the completion of the second, and moves the start date of the fourth task forward four weeks.

24. Click and hold the Gantt bar for the **Study For Quiz #2** task, drag it to the Gantt bar for **Study For Final Exam**, then release the mouse button. This step specifies that the start of the fifth task is dependent on the completion of the fourth, and moves the start date of the fifth task forward six weeks.

25. Scroll through the Gantt chart to view the entire project from beginning to end. The project should reflect the scheduled milestones for the class:

- Quiz #1 is given at the end of the second week.
- The midterm exam is given at the end of the fourth week.
- Quiz #2 is given at the end of the sixth week.
- The final exam is given at the end of the eighth week.
- The term paper task encompasses weeks 3 through 7, and consists of the following subtasks:
 - Submit a proposal to the instructor by the end of the third week.
 - Final approval from the instructor is due by the end of the fourth week.
 - The term paper is due by the end of the seventh week.

26. Exit **GanttProject** without saving the project schedule.

You now know how to use a project management software application to create a project schedule and display it using a Gantt chart.

NOTE:

The completed GanttProject file for this lab is included with the supplemental files in the Lab Files\Lesson10\Final folder.

OBJECTIVE

1.15.12: Project documentation

Documenting Projects

After the planning stage, you should be able to identify the tasks that are most important and the tasks that can be delayed without affecting the completion of other tasks or the overall project. Being aware of critical tasks will help you make adjustments to ensure that the project is completed on time.

Paper trail

During the executing and controlling phases of a project, you should document project tasks to provide a paper trail, or record, of the team members who worked on tasks, and the dates they started and completed them. Team members should sign and date the document to confirm that they completed the tasks. By documenting the project as it advances, you can track its progress by determining whether tasks are starting and finishing on time, and whether tasks are being completed within the budget. By tracking these factors while the project is still in progress, you can solve problems as they occur and make necessary adjustments. Documenting a project promotes team member accountability and enables stakeholders to monitor various stages of the project.

OBJECTIVE

1.15.17: Evaluating risks and escalating concerns

Issues log

You should also keep an issues log in which you document problems that need to be escalated to managers or executives outside the project team for resolution. Issues often arise during the course of a project that require authoritative decisions in order for the

team to complete tasks and keep the project on track. You can use the issues log as backup documentation to support any time, resource or cost changes that may accrue due to circumstances beyond the project team's control.

OBJECTIVE
1.15.16: Meetings

Planning and Scheduling Meetings

Also during the executing and controlling phases of a project, you need to meet with team members regularly to discuss progress, and to respond to project issues and unanticipated developments. Any variations from the project plan should also be identified and addressed. Proactively anticipating and responding to potential project deviations will help you avoid a crisis later.

Meeting with team members provides opportunities to present new ideas for improving workflow, to solve problems, to inform team members of project status and to make decisions. Figure 10-11 shows a project manager running a weekly team meeting to discuss the company's new business plan, and how it will affect their project.



Figure 10-11: Project manager holding weekly meeting

OBJECTIVE
1.15.17: Evaluating risks and escalating concerns

You should also periodically meet with stakeholders and management to keep them apprised of project progress and to handle issues they bring up that may affect the scope of the project. You may want to schedule meetings with stakeholders and management around project milestones. You can also prepare a project status report to review specific highlights or achievements, stages of task completion, cost status of the project and so forth. This is also a good time to solicit information from management that you need in order to respond to problems.

Meetings and scope creep

Scheduled meetings are also an excellent way to manage scope creep. A few minor scope increases may not significantly affect the project. However, major or frequent requests that were not part of the original Statement Of Work can derail the project if they are not properly managed. Regular meetings to review and discuss requests will help to manage change requests and eliminate those that are not crucial to the success of the project.

Browsers in the Business World

You already know that millions of people use browsers at work daily to find information, conduct transactions, send e-mail and transfer files. You also know that thousands of businesses have Web sites. However, many companies use browsers for functions within the company, such as maintaining intranets and extranets, and conducting training and conferences.

OBJECTIVE
1.5.8: Intranet,
extranet, Internet

Internet, intranets and extranets

What are the differences among the Internet, an intranet and an extranet? Intranets and extranets can be considered subsets of the Internet. They use Internet technology and protocols, but are smaller networks that allow corporations and organizations to exclude the general Internet public.

Intranets

intranet
An internal network based on TCP/IP protocols, accessible only to users within a company.

An **intranet** is an internal, or in-house, Web site and network used only by employees within a company. Employees use Web browsers to access files and documents. Security features (such as user names and passwords) prevent the Internet public from accessing a company intranet, but allow employees who use the intranet to access the Internet. An intranet could be described as a mini-Internet within a company.

NOTE:
An intranet is commonly defined as a private network that implements Internet technologies.

Intranets are popular because they provide a standard method for accessing resources, regardless of the operating systems used. For example, an intranet allows OS X, Windows and UNIX/Linux systems to access the same data because all these operating systems can use TCP/IP. They can access the same resources as if they were on the Internet. Intranets can save a company from buying extra computers to standardize all the operating systems because employees can continue to use their existing computers. This consideration is important because different types of computers are required for specific tasks.

Extranets

extranet
A network that connects enterprise intranets to the global Internet. Designed to provide access to selected external users.

An **extranet** is an internal network designed to provide access to selected external users, and is not available to the Internet public. Extranets are an efficient way for business partners to share and exchange information. Customer support tasks can also be performed using an extranet. For example, if customers need to access a sales report generated by your company, they will first access the Internet, then enter in their browsers the URL of your company's extranet Web server. Once they access the Web server, they must log on to the Web server with user names and passwords. When they are logged on, customers have access to your company's extranet, which appears as a normal Web site and provides all the same services. The only difference is that the extranet provides security to exclude the Internet public. Customers can then download the sales report instead of calling your office and asking someone to fax or mail the report to them.

NOTE:
This site does not use encrypted authentication.

The CIW Login page shown in Figure 10-12 is an example of an extranet. CIW candidates and certificant can log on from this page. Once a user's identity has been authenticated, he or she has access to a Web site containing support materials.

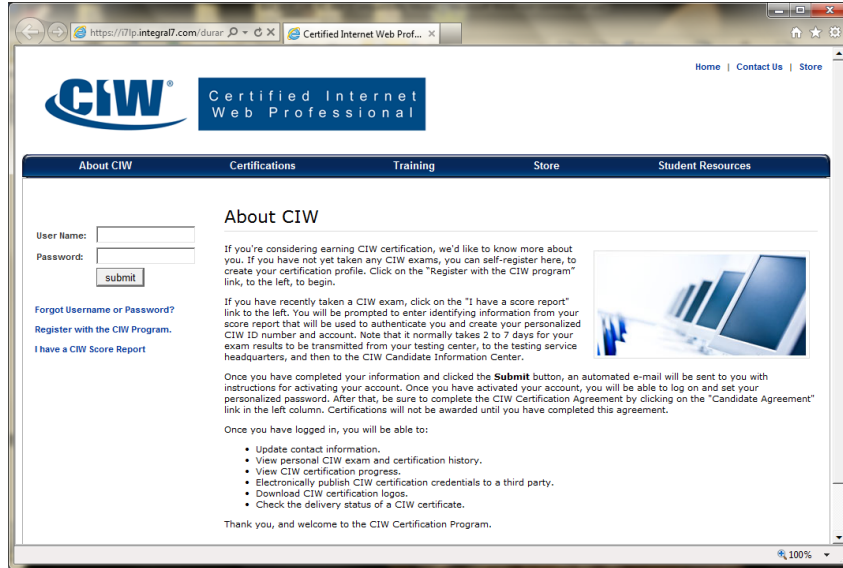


Figure 10-12: CIW login page — extranet

NOTE:
 What can you determine about the site by looking at the login page?
 The site requires a user name and password, but does not use a secure protocol (HTTPS).

OBJECTIVE
 1.5.12: Business uses of Web clients

Webinars and Web conferences

Companies can also use browsers for conducting Webinars and Web conferences. Webinars and Web conferences reduce travel expenses because they enable employees or customers to attend training sessions remotely, without having to travel to the location where the training is being conducted.

Webinar
 An interactive Web-based seminar or training session.

A **Webinar** (short for Web-based seminar) is training — usually a PowerPoint presentation and/or lecture — that is delivered over the Web. Webinars and Web conferences are essentially synonymous. A Webinar is a type of Web conference that is typically one-way, from speaker to participants with limited audience participation. Web conferences are usually interactive, enabling participants to communicate with the presenter and with each other via online chat. Similar to the Webinar and the Web conference is the Webcast (short for Web-based broadcast), which will be discussed in the next section.

OBJECTIVE
 1.7.7: Internet conferencing

Figure 10-13 shows the presentation and interactive elements of a Webinar session.

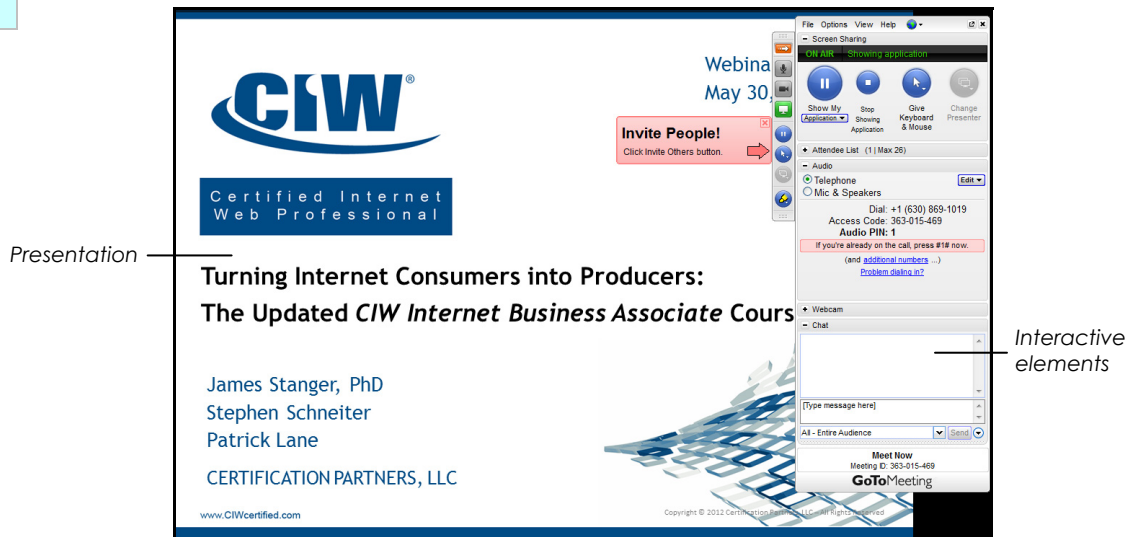


Figure 10-13: Webinar session

NOTE:

If your company has the necessary equipment (microphones, speakers, etc.), you may not need to use the phone in order to attend a Webinar.

To attend a Webinar or Web conference, you need access to the Internet. Depending upon the setup in your company, you may need to phone in to a conference call to hear the presentation. You may also need to install an application that will allow you to interact during the presentation. Many packages allow for online chat with fellow participants and the presenter, and have incorporated the use of VoIP audio technology, in which voice communication is carried over the IP network.

Some organizations' firewalls may prevent a Web conference or Webinar from taking place, or you may have Internet connectivity but no working speakers. In either case, you can still participate in the Web conference or Webinar by using a telephone conferencing application to teleconference in to the speaker or other participants.



CIW Online Resources – Movie Clips

Visit CIW Online at <http://education.Certification-Partners.com/CIW> to watch a movie clip about this topic.

Lesson 10: Conducting a Web Conference

OBJECTIVE

1.17.1: Webcast elements

Preparing to host a Web conference

You will generally need to prepare the following when hosting a Webinar:

- **Slide shows** — Using an application such as Microsoft PowerPoint, OpenOffice Impress or Google Presentation, you will generally create a series of slides that help you convey the central message of your presentation. The slide show should be brief and not too wordy, and it should act as an effective set of notes for both the presenter and the audience. Often, the last slide or two will include an invitation to allow individuals to participate in an open question-and-answer session, and perhaps contact information for your organization, along with a thank-you to attendees.
- **Polls** — This technique allows you to ask questions of the audience. Essential questions to ask during a Web conference include confirming that the audience can hear you. You can also ask questions of the audience to help re-focus attention. Ask polling questions throughout the Webinar to confirm that you are providing information the audience perceives as relevant.
- **File sharing** — Some providers make it possible for you to enable participants to download files, including the PowerPoint presentation itself.

As you create an instance of a Web conference, consider the following:

- **Administrative login account** — An administrator is responsible for scheduling the event, as well as monitoring registered users and providing URL information for people to register for the conference.
- **Scheduling** — Scheduling will involve determining optimal times for the audience. Many Web conference audiences stem over multiple time zones, especially if you want to address a global audience. Multiple presentation times may therefore be necessary. Also, you should schedule a seminar length. When scheduling a Web conference, specify 20 percent more time than the actual time you think you will need.
- **Registration** — Generally, participants must register in advance for a specific Webinar or Web conference, and are assigned a user name and password. Participants enter the Webinar's home page URL in the browser, log on to the conference, dial the phone number and wait for the presentation to begin. The administrator will be responsible for tracking and reporting guests who register over time.

- **Host preparation** — You should have all of your presentation software and notes ready the day before the conference. Log in at least 20 minutes beforehand to ensure that you can recover from any last-minute problems.
- **Time considerations** — You should always open the conference roughly five minutes before the scheduled start time. Doing so makes everyone feel comfortable that they are at the right place, at the right time. You may also want to provide a quick "splash screen" informing people about the conference topic and the time it will begin.
- **Recordings** — Most Web conferences and Webinars are recorded for future use. The administrator will be responsible for providing the recorded material for editing (if necessary) and posting on a streaming media server or Web site.

Web conferencing providers

Common providers for Webinar tools and services include the following:

- Webex (www.webex.com)
- MeetingPlace (<https://at.meetingplace.net>)
- Adobe Acrobat Connect Pro (www.adobe.com/products/adobeconnect.html)
- GoToMeeting (www.gotomeeting.com)
- Yugma (www.yugma.com)
- Join.me (<https://join.me>)

Most providers require you to purchase their services after a free trial period.

In the following lab, you will conduct a Webinar. Suppose you have been asked to present your company's new product offering to a group of preferred clients located in various geographic locations. You can use a free Web conferencing service such as Join.me to share your desktop, show slides, collaborate and chat over the Internet.



Lab 10-5: Conducting a Web conference

In this lab, you will use the Join.me Web conferencing service to conduct a Web conference.

Note: You will need to work in pairs for this lab. Student1 will access the Join.me service and host a meeting. Student2 will join the meeting hosted by Student1.

1. **All Students:** Open your **browser**, then go to **<https://join.me>**. The Join.me home page will appear.
2. **Student1:** Click the **Start Meeting** link. If prompted to do so, save the join.me.exe file to your Downloads folder. Take the steps necessary to run the join.me.exe application.
3. **Student1:** When the installation is complete, the Join.me interface will appear at the top of your screen, which should resemble Figure 10-14. Your screen now appears to everyone who joins the meeting. In a business setting, ensure that nothing inappropriate appears on your Desktop, because your invitees will see it.

NOTE:

Each Student1 should make a note of the nine-digit number because he or she will need to supply this information to Student2 in Step 5.

Note: Make a note of the nine-digit number located at the top of the Join.me interface; you will need to provide this number to Student2 in Step 5 when Student2 joins your meeting.



Figure 10-14: Join.me host interface

4. **Student2:** Click the **Join Meeting** button. You will be prompted to enter the nine-digit number in the Enter Code field, as shown in Figure 10-15.

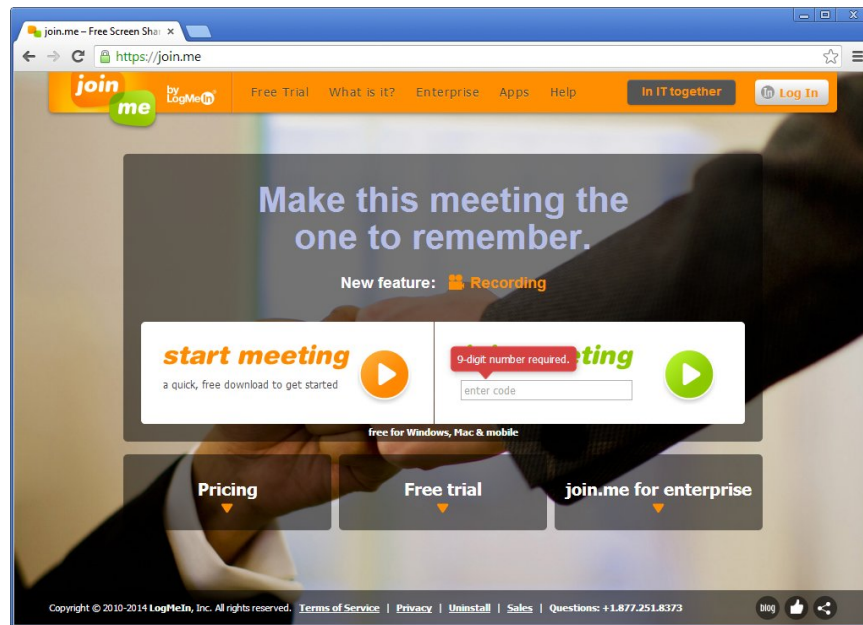


Figure 10-15: Join Meeting — enter code prompt

5. **Student2:** Enter the **nine-digit number** (obtain the number from Student1) and press **ENTER**. Student1's Desktop should appear in your browser window.
6. **Student1:** Open documents or Web pages. Student2 should be able to view them.
7. **Student1:** Experiment with Join.me by clicking the Chat button, for example, and engaging in a chat session with Student2. When finished experimenting, click the **Meeting Tools** button (the icon with the three periods at the right end of the Join.me interface) and select **Exit This Meeting**. Click **Exit** to confirm that you want to end the meeting.
8. **Student2:** When Student1 ends the meeting, a message box will appear informing you that your host has ended the meeting.
9. **Student2:** Click the **Close** button in the Join.me interface, and then click **Exit** to exit Join.me.
10. **Student1:** Click the **Close** button in the Join.me interface to exit Join.me.

11. If time permits: Switch roles with your partner and repeat the lab.

12. All Students: Close your **browser**.

OBJECTIVE

1.17.1: Webcast elements

Webcast

An audio and/or video Web event that is distributed over the Internet.

Webcasts

A **Webcast** is an audio and/or video media file that is distributed over the Internet. A Webcast may either be distributed live or on demand. The term "Webcasting" refers to conducting a broadcast over the Internet. A Webcast uses streaming media technology to take a single Web event and distribute it to many participants simultaneously.

For example, a university may offer an online course in which the instructor Webcasts a pre-recorded or live lecture, or an organization may Webcast a presentation in lieu of a Web conference or conference call.

Webcasting differs from Webinars and Web conferencing, which are designed to allow all participants to interact with one another. Webcasts generally refer to non-interactive Web events. Once a Webcast has finished transmitting, it can be archived and viewed at any time. To receive a Webcast, participants need access to the Internet and the appropriate multimedia application to view the Webcast.

OBJECTIVE

1.17.2: Webcasts vs. in-person meetings

Webcast vs. in-person meetings

In contrast to meetings that take place in person, a Webcast offers the advantage of being available for re-transmission any time after the original event has taken place.

Disadvantages of Webcasts include potential pitfalls with the technology, which may interrupt the meeting or event. The lack of interactivity between people that would take place in face-to-face meetings is also a disadvantage.

At times you will find it necessary to have face-to-face visits, rather than Web conferences or phone calls. However, consider that a "blended" approach is useful. For example, use a Webcast or voice conference to prepare individuals for a face-to-face meeting. Doing so will ensure that your in-person meeting is as productive as possible. You can also use Web conferences to follow up after in-person meetings.



CIW Online Resources – Online Exercise

Visit CIW Online at <http://education.Certification-Partners.com/CIW> to complete an interactive exercise that will reinforce what you have learned about this topic.

Exercise 10-3: Browsers in the business world

Voice conferencing

Voice conferencing has been a traditional way to connect groups of individuals. Web conferences and Webcasts have become increasingly popular alternatives to phone conferences. However, in some situations, voice conferencing is sufficient and a Webcast or Web conference is not necessary. Examples of voice conferencing services include the following:

- Services provided by the same company that provides telephone services to your organization
- UltraConference (<http://ultraconference.net>)

- Infinite Conferencing
(www.infiniteconferencing.com/services/phone_conferencing.php)

Examples of free telephone conferencing applications include the following:

- FreeConference (www.freeconference.com)
- FreeConferenceCall.com (www.freeconferencecall.com)

Reviewing Projects

OBJECTIVE

1.15.11: Formal project review

NOTE:

The project review is often ignored in the closing phase because most projects exceed their initial time, budget and scope constraints, and time is not allotted for the team members to conduct the project review. However, without a project review, mistakes can be repeated in future projects, and valuable lessons may not be learned.

OBJECTIVE

1.15.13: Separation of duties

1.15.15: Quality management and assurance

During the closing phase of every project, the project manager should perform a formal project review with the project team. The project review provides an opportunity for the following:

- **Testing the product** — The customer has the opportunity to evaluate and test the deliverable, and formalize acceptance of it. If the product does not meet expectations, the customer can reject the product and request modifications before granting final approval. If the product is approved, it can be implemented.
- **Evaluating performances** — You can review team members' performances, and determine the individuals and departments that contributed most to the project's success. If the project exceeded its initial constraints or yielded an unacceptable end product, team members can determine the mix of resources that would have yielded a high-quality product within time and budget constraints.
- **Documenting lessons learned** — Team members can document the processes that worked well, as well as modifications to improve processes that did not work as well as expected. Team members should identify aspects of the project that contributed to time, cost or scope overruns. Documenting the lessons learned can help team members (and others) improve their performances or resolve similar issues in future projects.

Quality Assurance

As a project manager, you are not only concerned with the components of the project triangle. You must also consider the quality of the product. If the product does not meet the customer's quality standards, it will not be accepted, and the project will probably be considered a failure.

You can employ several techniques to manage and assure the quality of the product, including the following:

- **Separation of duties (also called segregation of duties)** — Project teamwork can help ensure quality by providing independent verification that project tasks were completed correctly. One team member can check the work of another, and vice versa. If one team member misses a crucial step, the other will probably notice it and complete the task properly. This type of teamwork helps ensure the quality of the product.
- **Adherence to ISO 9000 standards** — ISO 9000 standards (introduced in the next section) are an international benchmark for systemizing processes to help organizations create products and services that meet the quality standards set by customers and government regulations.
- **Implementation of the Six Sigma methodology** — a management strategy that seeks to identify and eliminate the causes of defects and errors in manufacturing and business processes in an effort to reach near perfection. Implementing a Six Sigma

strategy means that organizations are engaging in disciplined, measurable processes which will help ensure that they deliver high-quality products.

ISO 9000 standards

As you learned earlier in this course, the International Organization for Standardization (ISO) is a grouping of national standards bodies from countries around that world that develops technical specifications for intellectual, scientific, technological and economic activities worldwide.

ISO offers a family of management system standards called ISO 9000. ISO 9000 details the steps recommended to produce high-quality products and services using a quality-management system that maximizes time, money and resources. By complying with ISO 9000 standards, organizations are implementing a best-practices approach to managing projects and processes to ensure high-quality deliverables.

ISO 9000 tasks and duties include:

- Providing and recording in writing a standard set of procedures for verifying valid processes in a business.
- Ensuring that records are properly made and stored.
- Verifying that stated processes are actually being followed.
- Identifying ways in which existing processes can be refined and improved.

You can learn more about ISO 9000 standards by visiting the following page:

www.iso.org/iso/iso_catalogue/management_standards/iso_9000_iso_14000/iso_9000_essentials.htm

Six Sigma methodology

NOTE:

A product defect is considered to be anything outside the customer specifications for that product.

The Six Sigma methodology was introduced by Bill Smith of Motorola, Inc., in 1986. It was originally developed to improve manufacturing processes in an effort to eliminate product defects. The results of these processes are measured quantitatively to gauge how the processes are performing. The term "six sigma" refers to the statistical representation of the bell curve in which there are six standard deviations (represented by the Greek letter sigma) on either side of the mean (average) to describe an entire population. Reaching the "sixth sigma" level in a manufacturing process means that no more than 3.4 defects per million products are encountered. A process that reaches the "sixth sigma" is considered to be 99.9997 percent efficient.

Six Sigma principles include the following:

- Achieving stable and predictable process results is very important to business success.
- Manufacturing and business processes can be measured, analyzed, improved and controlled.
- The ability to consistently improve processes requires management leadership and support.

Six Sigma consists of two sub-methodologies:

- **DMAIC** — the Define-Measure-Analyze-Improve-Control methodology is used to improve existing processes.

- **DMADV** — the Define-Measure-Analyze-Design-Verify methodology is used to create new products or processes.

You can learn more about Six Sigma at www.isixsigma.com/.

Business Implications of IT Projects

Many IT projects have a direct effect on a company's bottom line. The risk and business value of each project must be considered relative to each other to determine the projects that should be authorized and the projects that should not. This section will discuss the effects of organizational rules and policies on IT projects; IT rights and responsibilities; the effects of IT projects on employee productivity; and the ways that business concerns determine which IT projects to pursue and which IT functions will receive the endorsement of upper management.

Organizational rules and policies

OBJECTIVE
1.15.7: IT issues in organizational policies

IT project initiation and implementation are bound by the rules and policies that govern an organization. IT professionals must consider the ways that the rules and policies will affect their ability to fulfill customer requests, particularly when the customer is an individual or department within the organization.

For example, suppose that you are managing the installation of new server equipment and a new e-mail client. The IT administrators are ready to install the new machines. You should consult all affected departments to ensure your project follows the company's rules and policies before implementation (Figure 10-16).



Figure 10-16: Consult affected departments before project implementation

Organizational rules and policies that you may have to consider include the following:

- **Change request forms** — You can initiate a project only when formally requested to do so by a requestor who must submit a form, such as a change request form. This form details the specific problem or need, and requests IT time and resources to resolve it. You can use the form as the basis for your needs analysis and SOW to determine the project goals and objectives.

NOTE:

It is common for IT personnel to work additional night and weekend hours to accommodate the computing needs of the rest of the organization.

- **Employee overtime** — During the changeover of server equipment, the existing equipment must be disengaged, resulting in server downtime. If equipment downtime is significant, will employees need to work overtime to remain on schedule with their own tasks? If the company is reluctant to grant overtime for non-IT personnel, you may have to schedule the installations at off-peak times, such as evenings or weekends.
- **Employee training** — If your organization has a sales or customer service staff, will business be affected if phones are not covered? You may have to stagger software installations or e-mail client training so that not all employees are away from their phones at one time.
- **Project documentation** — Company policy may dictate that all project managers document their activities to provide a formal tracking process. IT project documentation can be used to confirm which employee requested the service or product, the tasks and objectives that were agreed upon, the project start and end dates, the testing or acceptance criteria, and final project sign-off. For example, if the project involved updating the company Web site, documentation can be used to identify specific Web page changes, the person who made them and the reasons they were made. Such a tracking process ensures accountability so that Web site changes are not made without proper authorization. Documentation provides a vehicle for problem resolution if the changes require further modification.

NOTE:

It is wise to document all projects thoroughly, regardless of whether company policy dictates it.

IT rights and responsibilities

OBJECTIVE

1.15.7: IT issues in organizational policies

IT professionals have certain rights, and they also have responsibilities to the organization. For example, IT professionals must have access to the tools needed to perform their jobs, such as the hardware, software and security access required to perform tasks. They also have the right to receive clear, detailed objectives and instructions so that they can provide the appropriate services and products to their customers.

IT professionals have the responsibility to provide services and products in a timely, cost-effective, secure manner that satisfies customer needs without compromising the integrity or security of the data or processes with which they work. They also have the responsibility to plan service and product installations, and to conduct training in a manner that minimizes workflow interruption and hardware or network downtime.

Effects of IT projects on productivity

OBJECTIVE

1.15.9: Implications of technical changes

IT projects often impact an organization's bottom line because these projects affect the systems upon which employees rely to perform their job duties. Employees and stakeholders will respond to IT professionals based on the way IT projects are conducted and managed. As an IT project manager, you must always strive to minimize workflow interruptions in order to avoid negatively affecting an organization.

When IT projects affect systems that employees use, you should:

- Inform employees about the systems that will be affected, and the date and duration that the systems will be inaccessible.
- Provide alternative ways to complete tasks when systems are offline.
- Perform the IT tasks during off-peak hours to minimize distractions.
- Provide training and support so that users assimilate the new systems as quickly as possible.

- Provide support to answer questions and solve problems while employees learn the new systems.

When IT projects are managed properly:

- Employee productivity loss is minimized, which minimizes the negative impact to the company's bottom line.
- Employee transitions from old to new systems occur more swiftly and smoothly.
- Fewer problems occur, which will result in less IT support time.
- Good will is fostered among departments because users will view IT as a service organization that is responsive and sensitive to their wants and needs.

When IT projects are mismanaged:

- Employees may become frustrated and angry because their ability to work is unnecessarily hindered.
- Employee productivity and perhaps morale may be adversely affected because of an inordinate amount of system downtime.
- Project tasks may take longer to complete, which may waste company resources and money.
- Animosity among departments may occur because users will view IT as a department that hinders their ability to get their jobs done.

Following are some examples of how some specific IT projects affect employee productivity.

Upgrading a firewall

How does installing a firewall affect employee productivity? Suppose that IT is upgrading the firewall to no longer allow certain types of file attachments (for example, .doc, .bat or .exe files) to pass through the e-mail server. If employees routinely exchange these types of files via e-mail, productivity may be diminished because employees must find alternative methods of transmitting this information.

Employees may have to use a VPN or FTP server to transfer files, which may involve training. If productivity is adversely affected, the organization's bottom line may be adversely affected, particularly in a large company in which hundreds or thousands of employees can be affected at once.

Restricting Internet access

As part of the firewall upgrade, certain Web sites that employees may have routinely accessed are now rendered inaccessible. What are the implications to employee productivity? If the Web sites contained information instrumental to their job functions, employees may lose productivity until they find comparable information from another easily accessible source.

As an IT professional, you must weigh the increase in firewall security against the deterrent to employee productivity, and make decisions accordingly.

Changing user names and passwords

Another common IT function is to periodically change user names and passwords for network access as an extra security precaution. If employees are unaware of or unprepared for the change, they may become frustrated and confused when they try to log on to the network and are denied access.

As an IT professional, you must notify employees in advance of the change, specify the date on which the new user names and passwords will take effect, and give employees instructions regarding the new user names and passwords. Sending reminders and giving employees instructions in advance will increase their comfort level with the change.

Changing e-mail protocols

How does changing e-mail protocols affect employee productivity? Suppose that IT is switching the company e-mail protocol from POP3 to IMAP4. Upgrading the protocol software will involve user downtime while IT installs and tests the software on the e-mail server. Users may experience unanticipated problems or conversion incompatibilities. IT must reconfigure the firewall, and then provide training and support in order for employees to use the new e-mail protocol. As stated in the other examples, a proactive approach by IT can minimize productivity loss.

OBJECTIVE
1.15.10: Return On Investment (ROI)

Return On Investment (ROI)
Profit earned as a result of a project relative to the value of resources required to complete it.

Return On Investment (ROI) and IT projects

Return On Investment (ROI) in the context of IT projects refers to the profit earned as a result of a project relative to the value of the resources required to complete the project. Before starting a project, an IT project manager must determine the benefits of spending the money to create the product or service. As a project manager, you will be held responsible for the project's ROI and be required to justify the project's benefits relative to its costs. You must be able to determine the risk and business value of each project to justify which projects to pursue and which projects to eliminate.

For example, IT may receive a request to replace one software suite with another throughout the company. As the IT project manager, you must determine whether the costs of switching suites (including ramifications such as installation time, end-user training and so forth) can be justified relative to the benefits afforded by the new software. If the cost of upgrading is high and no measurable increase in productivity or sales will result from it, the ROI considerations would probably lead you to reject the request.

By contrast, IT may receive a request to add information to the company Web site that research has indicated may dramatically increase sales. If you determine that it would take a Web developer less than a week to update the Web site and test the new links, the potential ROI may be well worth the investment.

Proving ROI

An ROI concern exists for technical IT functions relative to the company's bottom line. The IT department can decide to undertake various projects, from changing e-mail clients to installing a firewall to creating a company intranet. Before any of these projects gains upper-management approval, however, the IT department will probably have to convince management that the end products or services will produce a positive ROI; that is, that the money spent will be more than offset by the savings or productivity gains resulting from the new products or services.

For example, the Web team may request updated Web development software, which they claim will enable them to enhance the company Web site design for greater visual impact and functionality. Upper management will need answers to the following questions before approving the purchase:

- Will the new software yield a significantly improved Web site?
- Will the upgraded Web site attract more customers?

OBJECTIVE
1.15.14: Information systems and business concerns

- Will the upgraded Web site translate into greater sales?
- Will the investment in the software upgrade increase the bottom line?

Unless the Web team can provide evidence that the new software will produce a positive ROI, upper management probably will not approve the purchase.

Project Management Institute (PMI)

Many resources exist to help expand your knowledge of project management concepts and principles. A key resource is the Project Management Institute (PMI), which is a non-profit membership organization that publishes standards and offers education in the project management profession. PMI sets ethical and professional project management standards, and offers the Project Management Professional (PMP) certification program.

Project Management Body of Knowledge

The Project Management Body of Knowledge (PMBOK) identifies nine topic areas that define project management. Each topic area provides a set of principles and techniques to help you manage projects, and is explained in a book published by PMI titled *A Guide to the Project Management Body of Knowledge*. The nine topic areas are as follows:

- **Project Integration Management** — ensuring that all project elements are properly coordinated by developing and executing the project plan
- **Project Scope Management** — defining the tasks and resources needed to meet project objectives, and identifying the budget constraints
- **Project Time Management** — defining task durations and developing the project schedule to ensure that a project is completed by the deadline
- **Project Cost Management** — controlling expenses to ensure that a project is completed within the approved budget
- **Project Quality Management** — incorporating appropriate quality assurance and product testing techniques to ensure that project deliverables satisfy project goals and meet customer needs
- **Project Human Resource Management** — assessing and coordinating resource allocations to assign appropriate individuals to project tasks to maximize the efficiency of the project team
- **Project Communications Management** — communicating project status and distributing information to team members and stakeholders in a timely manner in order to address issues as they arise and manage deviations from the project plan
- **Project Risk Management** — analyzing and identifying project risks relative to ROI to determine which projects should proceed and which should be terminated
- **Project Procurement Management** — obtaining the necessary resources to meet project goals

To learn more about the Project Management Institute and to purchase copies of *A Guide to the Project Management Body of Knowledge*, visit PMI online at www.pmi.org.

program management

The process of managing multiple interdependent projects to improve the performance of an organization.

Program Management Concepts

Program management is the process of managing multiple interdependent projects in order to improve an organization's performance. The overall program is designed to deliver benefits that will improve the organization. Simply put, projects deliver outputs; programs create benefits.

Program managers do not manage individual projects; that is the project manager's responsibility. Program managers manage high-level objectives that the individual projects are collectively designed to meet. Program management consists of:

- **Benefits management** — the management of all activities that are used to define, create, maximize and sustain the benefits created by a program. Benefits can include maximizing revenue, maximizing efficiency, minimizing cost, eliminating waste and so forth.
- **Stakeholder management** — the management of competing stakeholder needs, objectives, priorities, resource allocations and demands. Appropriate levels of communication are critical to acknowledge and address stakeholder issues and concerns.
- **Program governance** — the enforcement of the rules and procedures that govern organizational behavior. This promotes effective decision-making and risk identification and management.

Program management life cycle

Just as a project has its phases, the program management life cycle refers to the collection of phases that make up a program. A program phase defines the activities and events that occur from the beginning of a program through to its conclusion.

The five phases of the program management life cycle are:

- **Pre-program setup** — This phase defines the program mandate and creates support for it across the organization. The program mandate details the benefits that the program seeks to realize and how those benefits will help the organization reach its strategic vision.
- **Program setup** — This phase defines how the program will accomplish the mandate defined in the pre-program setup phase. During this phase, the program manager must conduct feasibility studies, identify potential risks, make procurement decisions, and make time and cost estimates for the overall program. The program manager must also define the individual projects needed to reach the program objectives.
- **Program management and technical infrastructure** — This phase establishes the organizational rules and procedures that all program participants need to follow to promote uniformity and efficiency. The program manager can employ tools such as Enterprise Resource Planning (ERP) software, project management software, time and expense reporting software, and other tools to keep track of program components.
- **Program benefits** — This phase initiates and completes the projects contained in the program. The project deliverables contribute to the overall goal of the program. This phase may contain a great number of individual projects, requiring that the program manager exhibit appropriate leadership to coordinate the effort of all the projects.

- **Program close** — This phase occurs after all interdependent projects are completed and their deliverables delivered. The program manager needs to close the program in an orderly fashion by disbanding program participants, documenting lessons learned, and gathering and archiving all relevant records, communications and supporting details for future use by the organization.



CIW Online Resources – Course Mastery

Visit CIW Online at <http://education.Certification-Partners.com/CIW> to take the Course Mastery review of this lesson or lesson segment.

IBA Lesson 10 - Part B

Case Study

We Need an Intranet!

Mary Kate is a project manager in the IT department for a university. She has been asked to manage a project to create a faculty intranet. The university has multiple campuses in various locations, and professors and other faculty need to be able to easily post questions, schedules and other documents to share in a secure environment.

Mary Kate performed the following steps to begin the intranet project.

- **She performed a needs analysis.** Mary Kate interviewed the university faculty to determine their needs for an intranet and the uses they foresee for it. She discovered that several of the professors were working on a research project and wanted to use the intranet to facilitate group discussions, as well as to host periodic Webinars for professors at other universities.
- **She chose the project team.** Mary Kate enlisted members of the IT department for the project, including someone to install firewalls so users have more secure access to the Internet, and someone to set up the site to host Webinars.
- **She determined the project constraints.** Mary Kate determined when the intranet needed to be live. She considered how long she would have the services of the various team members, how long team members could work on this project before being assigned to other tasks, and when the first Webinar was scheduled. Once she gathered all of this information, she was able to determine the project scope and constraints.
- **She created the project schedule.** Mary Kate worked with the project team to outline the tasks and task relationships required to complete the project. She assigned resources to specific tasks so that each person was aware of his or her role in the overall project plan.
- **She scheduled weekly meetings for the duration of the project.** Mary Kate included the CIO, project team members, faculty members and all other stakeholders in the meetings.
- **She created a project status report and an issues log.** Mary Kate used these documents in each meeting to apprise stakeholders of the project's progress and to introduce any problems or issues that had arisen since the last meeting.

Once Mary Kate had performed all these tasks, she was ready to begin the executing phase of the project.

* * *

As a class, discuss this scenario and answer the following questions.

- Which steps already performed by Mary Kate are part of the initiating phase for this project? Which steps are part of the planning phase?
- Has Mary Kate overlooked any steps in the first two phases of this project? What other tasks might she need to perform?
- What tasks might Mary Kate perform in the executing phase? In the controlling phase? In the closing phase?
- How might scope creep occur in this project? How could it be managed?

Lesson Summary



Application project

Several free project management software applications are available for download from the Web. Use any of the search engines that have been introduced in this course to search for free project management software that can be downloaded (use search keywords such as "project management software," "Gantt chart software" and so forth). Download an application to your Desktop.

Pair up with a partner or friend and create a Statement Of Work (SOW) for a simple IT project, such as the installation of software upgrades and services on the computers within a particular department. List specific tasks that must occur during the various stages of the project in order to meet your project objectives. Be sure to include at least one task for each of the five project management phases.

Use project management software to enter the tasks, task durations and milestones to create a Gantt chart of the project schedule.



Skills review

In this lesson, you learned about the fundamentals of project management, project management skills, and the five project management phases that constitute the project life cycle: initiating, planning, executing, controlling and closing a project. You also learned that the project triangle — time, money and scope — affects every project and impacts the quality of the project deliverables.

You learned about the benefits of project management software and used a freeware application to create a project schedule and develop a Gantt chart of tasks, task durations and task dependencies. You learned the value of documenting and reviewing projects, planning and scheduling meetings, and applying quality assurance techniques and standards. You learned about the impact of IT decisions on organizations and vice versa, such as the impact organizational rules and policies have on IT projects, IT rights and responsibilities, the impact of IT projects on employee productivity, and the ROI implications of IT decisions.

You learned about the Project Management Institute (PMI), which is a key resource for project management concepts and principles. Finally, you learned about program management, how it differs from project management, and how the program management life cycle phases contribute to the success of a program.

Now that you have completed this lesson, you should be able to:

- ✓ 1.5.8: Distinguish among the following from a business standpoint: intranet, extranet, Internet.
- ✓ 1.5.12: Identify business uses of the Web and Web clients, including Webinars and Web conferencing.
- ✓ 1.7.7: Use Internet conferencing software.
- ✓ 1.17.1: List elements of a successful Webcast (e.g., slide shows, polls, call-in features).
- ✓ 1.17.2: Identify benefits and drawbacks of Webcasts versus in-person meetings.
- ✓ 1.15.1: Identify components of the project triangle.

- ✓ 1.15.2: Identify components of a needs analysis, including receiving, evaluating and processing input; determining customer needs.
- ✓ 1.15.3: Define project scope and scope creep.
- ✓ 1.15.4: Use project management software and charts (e.g., Gantt charts) to determine a project timeline.
- ✓ 1.15.5: Identify a cross-functional team and its relevance to an IT-based project.
- ✓ 1.15.6: Explain common models for information flow and reporting between IT and upper management, as well as IT and other areas of the organization, including identifying project approval steps, SWOT analysis, data modeling vs. business ontology.
- ✓ 1.15.7: Relate IT-based concerns to organizational policies and rules, and identify rights and responsibilities of IT workers.
- ✓ 1.15.8: Identify the value of a Statement Of Work (SOW) order.
- ✓ 1.15.9: Analyze social and practical implications of technical decisions, and identify ways that technical changes affect a business's bottom line.
- ✓ 1.15.10: Use the concept of Return On Investment (ROI) to justify IT-based expenses in relation to a budget.
- ✓ 1.15.11: Define and perform a formal project review, including acceptance tests, determining success and implications of activities.
- ✓ 1.15.12: Identify the importance of documenting a project.
- ✓ 1.15.13: Explain how the concept of separation of duties can help ensure quality management.
- ✓ 1.15.14: Map technical information systems functions, concerns and capabilities to business concerns.
- ✓ 1.15.15: Identify the importance of quality management and assurance, including ISO 9000 standards.
- ✓ 1.15.16: Plan and schedule meetings.
- ✓ 1.15.17: Identify times when it is necessary to evaluate risks and escalate concerns.
- ✓ 1.15.18: Explain how to divide projects into discrete phases, with key milestones.



CIW Practice Exams

Visit CIW Online at <http://education.Certification-Partners.com/CIW> to take the Practice Exams assessment covering the objectives in this lesson.

IBA Objective 1.05 Review

IBA Objective 1.07 Review

IBA Objective 1.15 Review

IBA Objective 1.17 Review

Note that some objectives may be only partially covered in this lesson.

Lesson 10 Review

1. Define project management.

2. What is the term for a unit of work that must be accomplished during the course of a project?

3. What is the term for a person or group that has an interest in the outcome of a project and can affect its results?

4. How does the customer participate in the closing phase of a project?

5. Name some responsibilities that an IT professional has when working on a project that affects other departments in an organization.
