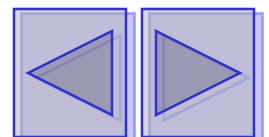




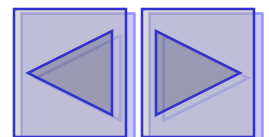
Chapter 2

Managing the Information Systems Project



Managing the Information Systems Project

- **Project management:** is an important process of the development of information systems and a critical skill for a systems analyst.
- The focus of project management is to ensure that system development projects
 - meet customer expectations
 - and are delivered within budget and time constraints.
- Managing activities and resources and tasks needed to complete the information system project.



Managing the Information Systems Project

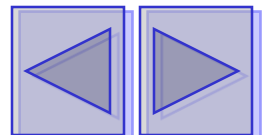
- **Project Manager**

- Is a systems analyst have diverse set of skills

- Management
 - Leadership
 - Technical
 - Conflict management
 - Customer relations

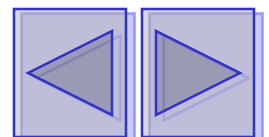
- And is responsible for

- Project initiation
 - Planning
 - Execution
 - Closing down



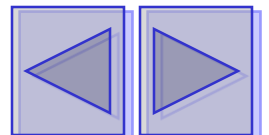
Project Management Process

- Project
 - Planned undertaking of related activities to reach an objective that has a beginning and an end to reach to an objective.
- Four Phases
 - Initiating the project
 - Planning the project
 - Executing the project
 - Closing down the project



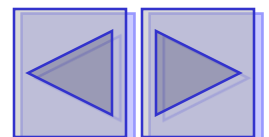
Initiating the Project

1. Establish the project initiation team
2. Establish a relationship with the customer
3. Establish the project initiation plan
4. Establish management procedures
5. Establish the project management environment and workbook
6. Develop the project charter



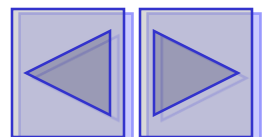
Planning the Project

1. Describe project scope, alternatives and feasibility
 - Understand the project
 - What problem is addressed and What results are to be achieved
 - Measures of success and Completion criteria
2. Divide the project into manageable tasks
 - Work breakdown structure and Gantt chart
3. Estimate resources and create a resource plan.
4. Develop a preliminary schedule
 - ◆ Utilize Gantt Charts and Network Diagrams
5. Develop a communication plan
 - ◆ Outline communication processes among customers, team members and management
 - ◆ Define types of reports and their distribution
 - ◆ Determine frequency of reports



Planning the Project (continued)

6. Determine project standards and procedures
 - ◆ Specify how deliverables are tested and produced
7. Identify and assess risk
 - ◆ Identify sources of risk
 - ◆ Estimate consequences of risk
8. Create a preliminary budget
9. Develop a project scope statement
 - ◆ Describe what the project will deliver
10. Set a baseline project plan
 - ◆ Estimate of project's tasks and resources



Executing the Project

1. Execute baseline project plan

- ◆ Acquire and assign resources
- ◆ Train new team members
- ◆ Keep project on schedule

2. Monitor project progress

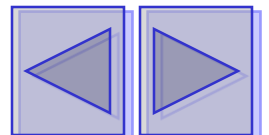
- ◆ Adjust resources, budget and/or activities

3. Manage changes to baseline project plan

- ◆ Slipped completion dates
- ◆ Bungled activity that must be redone
- ◆ Changes in personnel
- ◆ New activities

4. Maintain project workbook

5. Communicate project status



Closing Down the Project

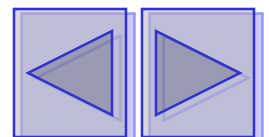
1. Termination

- ◆ Types of termination
 - Natural
 - ◆ Requirements have been met
 - Unnatural
 - ◆ Project stopped
- ◆ Documentation

2. Personnel Appraisal Conduct post-project reviews

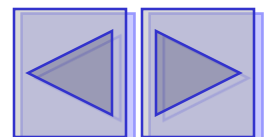
- ◆ Determine strengths and weaknesses of
 - Project deliverables
 - Project management process
 - Development process

3. Close customer contract



Representing and Scheduling Project Plans

- Gantt Charts
 - Useful for depicting simple projects or parts of large projects
 - Show start and completion dates for individual tasks
 - Network Diagrams
 - Show order of activities
 - Comparison of Gantt Charts and Network Diagrams
-
- | | |
|--|---|
| <ul style="list-style-type: none">• Gantt Charts<ul style="list-style-type: none">– Visually shows duration of tasks– Visually shows time overlap between tasks– Visually shows slack time | <ul style="list-style-type: none">• Network Diagrams<ul style="list-style-type: none">– Visually shows dependencies between tasks– Visually shows which tasks can be done in parallel– Shows slack time by data in rectangles |
|--|---|



	Task Name	Duration	Start	Finish	Predecessor
1	Requirements Collection	5 wks	Mon 5/7/12	Fri 6/8/12	
2	Screen Design	6 wks	Mon 6/11/12	Fri 7/20/12	1
3	Report Design	6 wks	Mon 6/11/12	Fri 7/20/12	1
4	Database Design	2 wks	Mon 7/23/12	Fri 8/3/12	2,3
5	User Documentation	5.5 wks	Mon 8/6/12	Wed 9/12/12	4
6	Programming	5 wks	Mon 8/6/12	Fri 9/7/12	4
7	Testing	3 wks	Mon 9/10/12	Fri 9/28/12	6
8	Installation	1 wk	Mon 10/1/12	Fri 10/5/12	7,5

Requirements Collection
 Start: Mon 5/7/12 ID: 1
 Finish: Fri 6/8/12 Dur: 5 wks
 Res:

Report Design
 Start: Mon 6/11/12 ID: 3
 Finish: Fri 7/20/12 Dur: 6 wks
 Res:

Screen Design
 Start: Mon 6/11/12 ID: 2
 Finish: Fri 7/20/12 Dur: 6 wks
 Res:

Database Design
 Start: Mon 7/23/12 ID: 4
 Finish: Fri 8/3/12 Dur: 2 wks
 Res:

Programming
 Start: Mon 8/6/12 ID: 6
 Finish: Fri 9/7/12 Dur: 5 wks
 Res:

User Documentation
 Start: Mon 8/6/12 ID: 5
 Finish: Wed 9/12/12 Dur: 5.5 wks
 Res:

Testing
 Start: Mon 9/10/12 ID: 7
 Finish: Fri 9/28/12 Dur: 3 wks
 Res:

Installation
 Start: Mon 10/1/12 ID: 8
 Finish: Fri 10/5/12 Dur: 1 wk
 Res:



Pine Valley Furniture

- Manufacturing Company
 - Product: Wood Furniture
 - Market: United States
 - Organized into functional areas
 - Manufacturing
 - Sales
 - Three independent computer systems were converted to a database in 1990s.

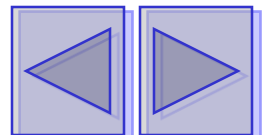
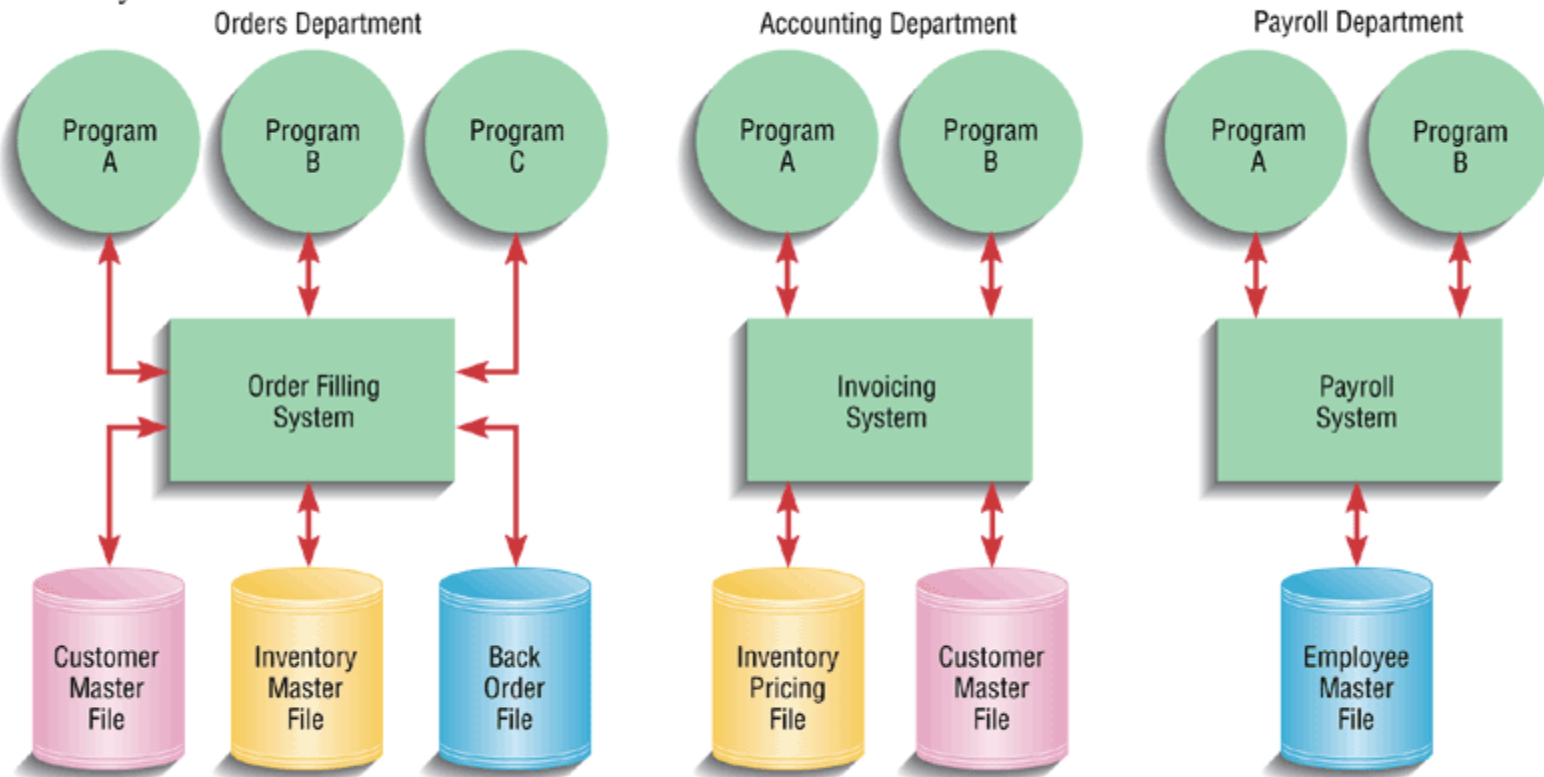
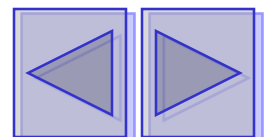


Figure 2.2 Three Computer Applications At Pine Valley Furniture: Order Filling, Invoicing, And Payroll



Source: Hoffer, Prescott, and McFadden, 2002.



Pine Valley Furniture (PVF) Company

Pine Valley Furniture System Service Request

REQUESTED BY Juanita Lopez DATE November 2, 2012

DEPARTMENT Purchasing, Manufacturing Support

LOCATION Headquarters, 1-322

CONTACT Tel: 4-3267 FAX: 4-3270 e-mail: jlopez@pvf.com

TYPE OF REQUEST

☒ New System

☐ System Enhancement

☐ System Error Correction

URGENCY

☐ Immediate—Operations are impaired or opportunity lost

☐ Problems exist, but can be worked around

☒ Business losses can be tolerated until new system installed

PROBLEM STATEMENT

Sales growth at PVF has caused greater volume of work for the manufacturing support unit within Purchasing. Further, more concentration on customer service has reduced manufacturing lead times, which puts more pressure on purchasing activities. In addition, cost-cutting measures force Purchasing to be more aggressive in negotiating terms with vendors, improving delivery times, and lowering our investments in inventory. The current modest systems support for manufacturing purchasing is not responsive to these new business conditions. Data are not available, information cannot be summarized, supplier orders cannot be adequately tracked, and commodity buying is not well supported. PVF is spending too much on raw materials and not being responsive to manufacturing needs.

Pine Valley Furniture (PVF) Company

SERVICE REQUEST

I request a thorough analysis of our current operations with the intent to design and build a completely new information system. This system should handle all purchasing transactions, support display and reporting of critical purchasing data, and assist purchasing agents in commodity buying.

IS LIAISON

Chris Martin (Tel: 4-6204 FAX: 4-6200 e-mail: cmartin@pvf.com)

SPONSOR

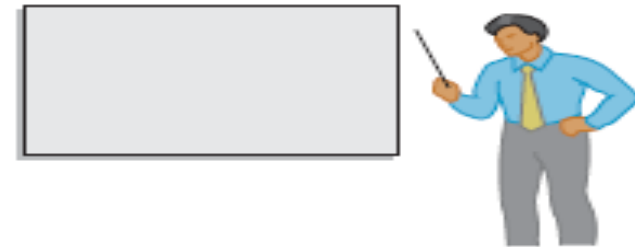
Sal Divario, Director, Purchasing

----- TO BE COMPLETED BY SYSTEMS PRIORITY BOARD

- ☐ Request approved Assigned to _____
- ☐ Recommend revision Start date _____
- ☐ Suggest user development
- ☐ Reject for reason

Pine Valley Furniture (PVF) Company

1. Juanita observed problems with existing purchasing system.
2. Juanita contacted Chris within the IS development group to initiate a System Service Request (SSR).
3. SSR was reviewed and approved by Systems Priority Board.
4. Steering committee was assigned to oversee project.
5. Detailed project plan was developed and executed.



A graphical view of the five steps followed during the project initiation of the purchasing fulfillment system.

Constructing Gantt Chart and Network Diagram for PVF

1. Identify each activity

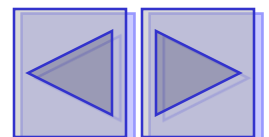
- Requirements collection
- Screen design
- Report design
- Database construction
- User documentation creation
- Software programming
- Installation and testing

2. Determine **time estimates and expected completion times** for each activity. estimates optimistic (o), realistic (r), and pessimistic (p) time for each activity. $ET = \frac{o+4r+p}{6}$

3. Determine the **sequence of the activities** and precedence relationships among all activities by constructing a Gantt chart and Network diagram.

4. Determine the critical path

- Sequence of events that will affect the final project
- delivery date



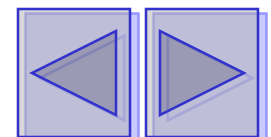
Gantt Chart and Network Diagram for PVF (continued)

Figure 2.20 Estimated Time Calculations for the SPTS Project

ACTIVITY	TIME ESTIMATE (in weeks)			EXPECTED TIME (ET) $\frac{o + 4r + p}{6}$
	<i>o</i>	<i>r</i>	<i>p</i>	
1. Requirements Collection	1	5	9	5
2. Screen Design	5	6	7	6
3. Report Design	3	6	9	6
4. Database Design	1	2	3	2
5. User Documentation	3	6	7	5.5
6. Programming	4	5	6	5
7. Testing	1	3	5	3
8. Installation	1	1	1	1

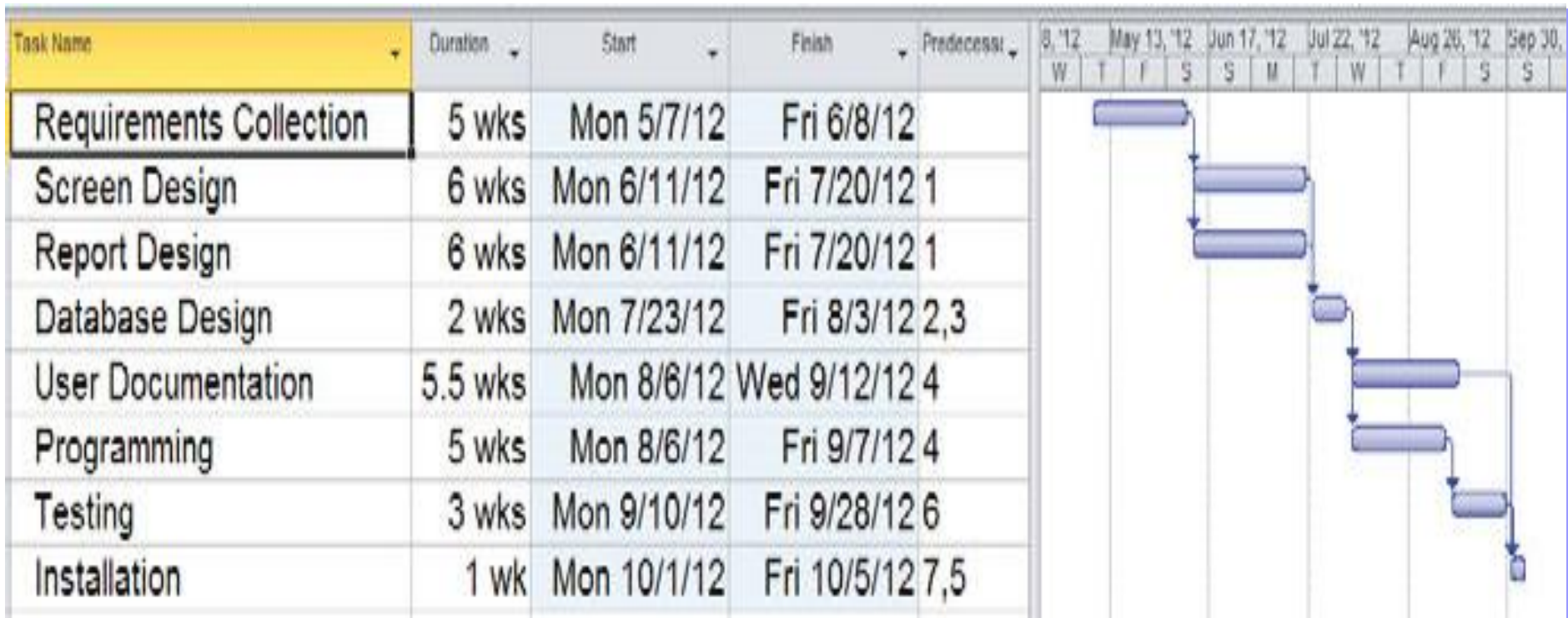
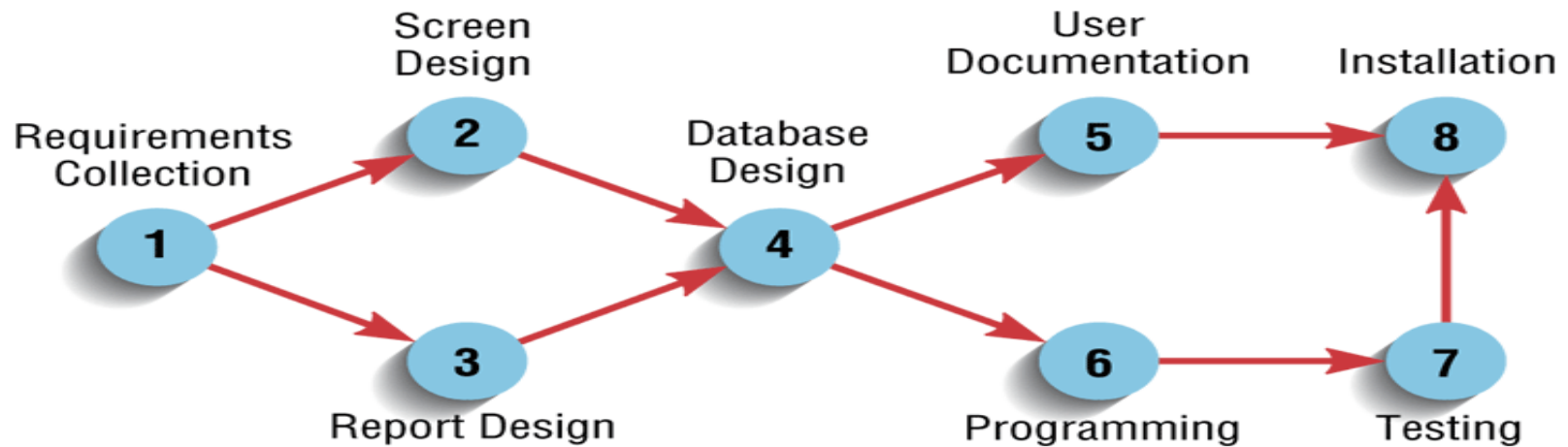
Figure 2.21 Sequence of Activities within the SPTS Project

ACTIVITY	PRECEDING ACTIVITY
1. Requirements Collection	—
2. Screen Design	1
3. Report Design	1
4. Database Design	2,3
5. User Documentation	4
6. Programming	4
7. Testing	6
8. Installation	5,7



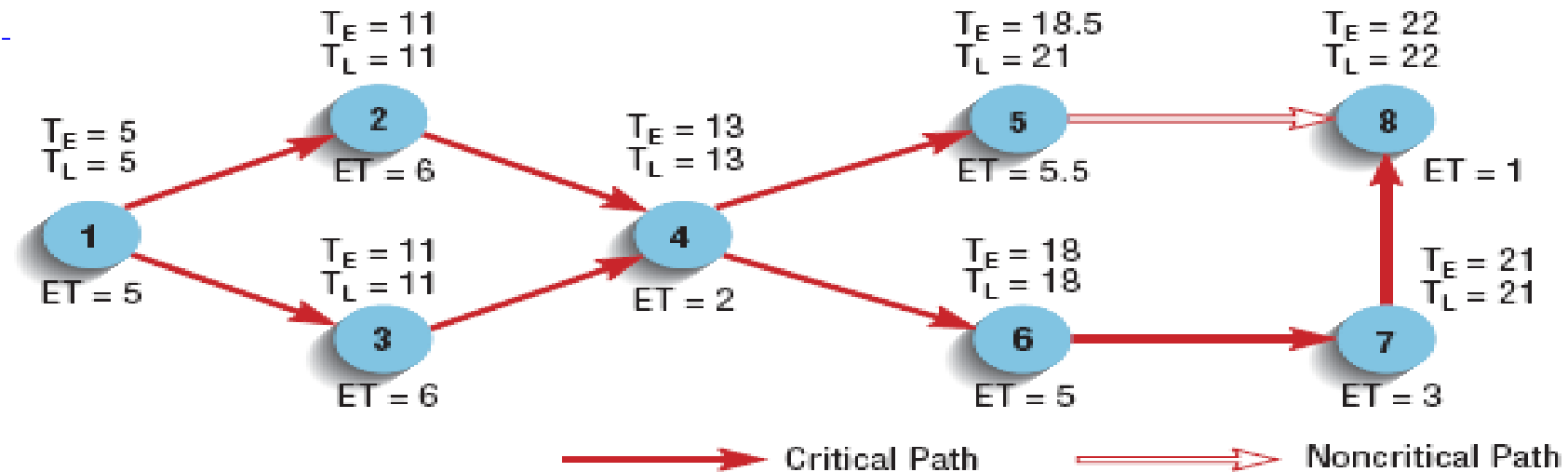
Gantt Chart and Network Diagram for PVF (continued)

Figure 2.23 A Network Diagram That Illustrates the Activities (Circles) and the Sequence (Arrows) of Those Activities



Gantt Chart and Network Diagram for PVF (continued)

TE earliest and TL latest expected completion time for each activity.

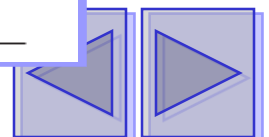


ACTIVITY	T_E	T_L	SLACK $T_L - T_E$	ON CRITICAL PATH
1	5	5	0	✓
2	11	11	0	✓
3	11	11	0	✓
4	13	13	0	✓
5	18.5	21	2.5	
6	18	18	0	✓
7	21	21	0	✓
8	22	22	0	✓

Exercises

1. Define what is meant by Project Manager? List and describe the common skills and activities of a project manager. Which skill do you
2. Describe the activities performed by the project manager during:
project initiation - project planning - project execution - closing
3. Calculate the expected time for the following tasks?

Task	Optimistic Time	Most Likely Time	Pessimistic Time	Expected Time
A	3	7	11	
B	5	9	13	
C	1	2	9	
D	2	3	16	
E	2	4	18	
F	3	4	11	
G	1	4	7	
H	3	4	5	
I	2	4	12	
J	4	7	9	



Exercises

A project has been defined to contain the following list of activities along with their required times for completion.

Activity No.	Activity	Time (weeks)	Immediate Predecessors
1	Collect requirements	3	
2	Analyze processes	2	1
3	Analyze data	2	2
4	Design processes	6	2
5	Design data	3	3
6	Design screens	2	3,4
7	Design reports	4	4,5
8	Program	5	6,7
9	Test and Document	7	7
10	Install	2	8,9

- Draw a Network diagram for the activities.
 - Calculate the earliest expected completion time.
 - Show the critical path.
 - What would happen if activity 6 were revised to take 6 weeks instead of 2 weeks?
- e Construct a Gantt chart for the project defined in

Exercises

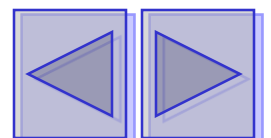
Assume you have a project with seven activities labeled A–G (following). Derive the earliest completion time (or early finish—EF), latest completion time (or late finish—LF), and slack for each of the following tasks (begin at time = 0). Which tasks are on the critical path? Draw a Gantt chart for these tasks.

Task	Preceding Event	Expected Duration	EF	LF	Slack	Critical Path?
A	—	2				
B	A	3				
C	A	4				
D	C	6				
E	B,C	4				
F	D	1				
G	D,E,F	5				

Assume you have a project with ten activities labeled A–J. Derive the earliest completion time (or early finish—EF), latest completion time (or late finish—LF), and slack for each of the following tasks (begin at time = 0). Which tasks are on the critical path? Highlight the critical path on your Network diagram.

Activity	Preceding Event	Expected Duration	EF	LF	Slack	Critical Path?
A	—	4				
B	A	5				
C	A	6				
D	A	7				
E	A,D	6				
F	C,E	5				
G	D,E	4				
H	E	3				
I	F,G	4				
J	H,I	5				

Draw a Gantt chart for the tasks shown .



Report

Search the Web for recent reviews of project management software. Which packages seem to be most popular? What are the relative strengths and weaknesses of each package? What advice would you give to someone intending to buy project management software for his or her PC? Why?

