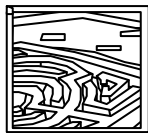


Systems Design, Implementation,
Maintenance, and Review
Security, Privacy, and Ethics

Chapters 13 & 14

Systems Design



Systems Design

- “How will the information system do what it must do to obtain a solution to a problem?”



Logical Design

- Describes what the system must do
- “Functional requirements”

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 4



Physical Design

- Describes the technology and other components needed to complete the logical design

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 5



Hardware backup

- Disaster recovery plans
- Hot site
- Cold site

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 6



Software & Database Backup

- Selective backups
- Incremental backups
- Image log

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 7

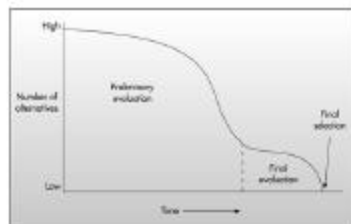
FIGURE 13.3

A Typical Table of Contents for
a Request for Proposal



FIGURE 13.4

The Stages in Preliminary and
Final Evaluations.
Note that the number of possible
alternatives decreases as the firm
gets down to making a final
decision.





Evaluation Techniques

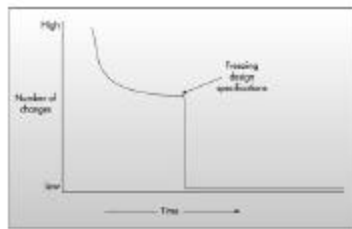
- Group consensus
- Benchmark tests
- Cost/benefit analysis
- Point evaluation

Chapter 13

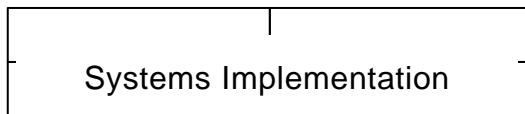
Principles of Information Systems,
Fifth Edition

Slide 10

FIGURE 13.6
Feeding Design Specifications



Avoid “scope creep”





Systems Implementation

- Includes hardware acquisition, user preparation, hiring and training of personnel, site and data preparation, installation, testing, start-up, and user acceptance.

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 13



Make or Buy Software?

- Externally developed software
 - Lower cost
 - Lower risk
 - Ease of installation
- Internally developed software
 - Why?

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 14



System Testing

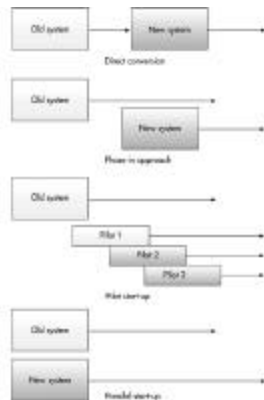
- ◆ Unit testing
- ◆ System testing
- ◆ Volume testing
- ◆ Integration testing
- ◆ Acceptance testing

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 15

FIGURE 13.15
Startup Approaches



Systems Maintenance



Systems Maintenance

- Checking, changing, and enhancing the system to make it more useful in achieving user and organizational goals.



Reasons for Maintenance

- Changes in business processes
- Requests from stakeholders, users, or managers
- Errors in the program
- Technical & hardware problems
- Corporate mergers & acquisitions
- Government regulations
- Changes in the operating system or hardware

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 19



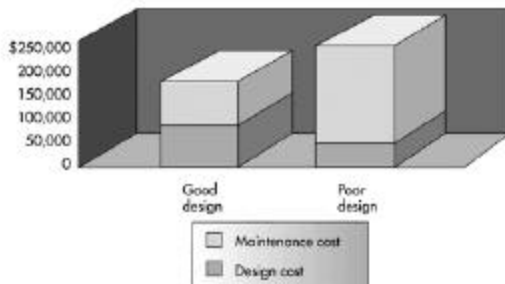
Types of maintenance

- Slipstream upgrade
- Patch
- Release
- Version

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 20



Systems Review



Systems Review

- Final step in SDLC
- Compares results with objectives
- Problems & opportunities trigger new SDLC process
- May be event-driven
 - Significant vs. Continuous
- and/or time-driven

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 23



Factors to Consider During Systems Review

- | | |
|----------------------|-----------------|
| • Mission | • Training |
| • Goals | • Costs |
| • Hardware/ software | • Complexity |
| • Database | • Reliability |
| • Telecommunications | • Efficiency |
| • IS personnel | • Response time |
| • Control | • Documentation |

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 24

Computer Waste & Mistakes



Computer Waste

- ◆ Discard technology
- ◆ Unused systems
- ◆ Personal use of corporate time & technology

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 26

Computer Crime





Computers as Tools to Commit Crime

- Social engineering
- Dumpster diving
- Password sniffing
- Help on the Web

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 28



Computers as Objects of Crime

- Illegal access and use
 - Hackers vs. crackers
 - Script bunnies

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 29



Data Alteration & Destruction

- Virus
 - Application virus
 - System virus
 - Macro virus
- Worm
- Logic bomb
- Virus hoaxes

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 30



Computers as Objects of Crime

- Information and equipment theft
- Software & Internet piracy
- Computer-related scams

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 31

The Work Environment





Health Concerns

- Repetitive stress injury (RSI)
- Carpal tunnel syndrome (CTS)
- Ergonomics

Chapter 13

Principles of Information Systems,
Fifth Edition

Slide 33
