Systems Analysis and Design

Chapter 13
Competencies (Page 1 of 2)

- Describe the six phases of the systems life cycle.
- Identify information needs and formulate possible solutions.
- Analyze existing information systems and evaluate the feasibility of alternative systems.
Competencies (Page 2 of 2)

- Identify, acquire, and test new system software and hardware.
- Switch from an existing information system to a new one with minimal risk.
- Perform system audits and periodic evaluations.
- Describe prototyping and rapid applications development.
Most people in an organization are involved with an information system of some kind.

For the organization to create and use the system requires thought and effort.

In this chapter, you learn about a six step process for performing systems analysis and design.
Six-phase problem-solving procedure for examining and improving an information system
Phase 1: Preliminary Investigation

- The preliminary investigation determines the need for a new information system
Phase 2: Systems Analysis

- Data is collected about the present system and then analyzed to determine the new requirements
Analyzing the Data in Phase 2

- Checklists
- Top-down analysis method
- Grid charts
- Decision tables
- System flowcharts
- Data flow diagrams
- Automated design tools
  - Computer-aided software engineering tools (CASE)
Phase 3: Systems Design

- Define the alternatives, select the best system, and write a systems design report
- Evaluate systems according to economic feasibility, technical feasibility, and operational feasibility
Phase 4: Systems Development

- In the development phase, you acquire the software and hardware, and test the new system
Also known as conversion
Converting from the old system to the new one
Training people to use the new system
Types of conversion approaches include:
- Direct
- Parallel
- Pilot
- Phased
Phase 6: Systems Maintenance

- Systems maintenance is a very important, ongoing activity that includes a systems audit and a periodic evaluation.
Alternatives to the systems life cycle may be used if the system is not feasible

- Prototyping is building a model
- Rapid applications development (RAD)
A systems analyst plans and designs new systems, following the systems life cycle.

Requires a Bachelor’s degree in Computer Science or Information Systems and technical experience.

Can expect to earn an annual salary of $54,500 to $87,500.
A Look to the Future

- The Challenge of Keeping Pace
  - To stay competitive with today’s fast business pace, new technologies must be incorporated
  - Increased use of RAD and prototyping
  - Increased use of outside consulting
Open-Ended Questions (Page 1 of 2)

- What is a system? What are the six phases of the systems life cycle? Why do corporations undergo this process?

- What are the tools used in the analysis phase? What is top-down analysis? How is it used?
Describe each type of system conversion. Which is the most commonly used?

What is system maintenance? When does it occur?

Explain prototyping and RAD. When might they be used by corporations?