

A.I.S. Class 10: Outline

- Questions regarding Group Projects
- Classroom Assessment
- IT Competencies - AICPA
- Flowcharting
- Learning Objectives for Chapter 7
- Systems Analysis and Design
- Group Work for Chapter 7

Questions regarding Group Projects

?

Classroom Assessment

- The most important thing I have learned in this class so far is . . .
- Of all the topics I have studied in A.I.S. so far, the least clear to me is . . .

Classroom Assessment

■ Most Important

- * The importance of accounting information systems
- * Detailed technology information, including networks
- * Flowcharts
- * The growing importance of (relational) databases
- * Working (effectively) in groups
- * Time management . . . and keeping up
- * Everything
- * Nothing!

Classroom Assessment

■ Least clear

- * SQL
- * Primary & Foreign keys
- * Chapter 6 – Elements of Database Systems
- * Flowcharting
- * Networks and connections
- * DSS and ES
- * What the group project involves
- * + many other less common choices
 - ◆ e.g., what will be on the exams . . .

IT Competencies - AICPA

- A strategic conceptual understanding of information technology focuses on:
 - * The functions of each technology component
 - * The objectives of technology advancements for each technology component
 - * The potential business impact of new technology

IT Competencies - AICPA

“Students do not need to understand the intricacies of each new technology. But, understanding the concepts behind the technology helps students learn to use, evaluate, and control technology more effectively. Without a conceptual understanding, the technology may be misunderstood and thereby employed ineffectively or even inappropriately. More important, a strategic, conceptual understanding of technology encourages accounting students and professionals to concentrate on applying and using technology to achieve business purposes.”

AICPA 1996: Information Technology Competencies in the Accounting Profession

Flowcharting

■ Why learn flowcharts?

- * They are the primary means used by businesses at present to document information systems
- * Professional standards require auditors to document their understanding of accounting systems, and flowcharts are the method of choice for most accounting firms

Flowcharting

- What do we have to learn?
 - * The meaning and use of the symbols
 - ◆ skills assessed throughout the class
 - * Drawing flowcharts
 - ◆ skills assessed as part of group projects
 - * Reading and understanding flowcharts
 - ◆ skills assessed in examinations

Flowcharting

■ PLUS

- * Narrative and flowchart combinations are the means by which the authors communicate to us the typical generation and flow of information in traditional accounting systems
 - ◆ assessed throughout the class, by the projects, in the examinations, and by your future employers

Learning Objectives for Chapter 7

- After studying this chapter you should be able to:
 - ◆ generally describe what causes the motivation for systems development
 - ◆ describe the nature of the systems life cycle
 - ◆ describe the systems development life cycle
 - ◆ describe the steps in the systems development life cycle
 - ◆ explain the tasks involved in systems analysis, systems design, systems implementation, and systems operation and maintenance

Learning Objectives for Chapter 7

- ◆ distinguish between logical, and physical modeling
- ◆ discuss the role of data modeling using ER diagrams and process modeling using data flow diagrams in the database design process
- ◆ describe project management techniques, with specific reference to Pert and Gantt charts
- ◆ discuss alternative to the traditional systems development life cycle such as CASE, RAD, JAD, and prototyping
- ◆ explain the main steps involved in the process of selecting and acquiring an accounting software package

Why develop systems?

- Unfulfilled user requirements regarding facilities, timeliness, user-friendliness etc.
- New technology may permit innovative solutions, greater efficiencies or lower costs
- Competition

Systems Life Cycle

■ Creation

- * SDLC

■ Startup

- * Implementation, error correction

■ Maturity

- * Stable system, routine maintenance

■ Decline

- * Dissatisfaction and changed requirements

Systems Development Life Cycle

- Systems Analysis
- Systems Design
- Systems Development
- Systems Implementation
- Systems Operation and Maintenance

Systems Analysis

- Requirements analysis
 - * Interviews, surveys etc.
- Systems survey
- Feasibility analysis
 - * Economic
 - * Technical
 - * Organizational

Systems Design (Logical)

■ Logical modeling

* Data modeling

- ◆ ER, EER, REA techniques - Chapter 8

* Process modeling

- ◆ Data flow diagrams (DFDs)

■ Model integration

Systems Design (Physical)

- Creating the physical model
 - * Mapping REA models and DFDs to RDBMS
 - * Establishing relations (tables), keys, links, forms, reports etc.
- Documenting the physical model
 - * Modern development tools provide some documentation automatically
- Feasibility analysis

Systems Development

- Creation of data structures
- Detailed programming
- Testing
- User training
- Feasibility analysis

Systems Implementation

- Data conversion
- Systems conversion
 - * Sudden switch conversion
 - * Parallel conversion
 - * Phased-in conversion
- Documentation

Systems Operation and Maintenance

- Operation
- Maintenance
 - * Corrective
 - * Perfective
- Post-implementation review

Project Management

- Many development projects involve large numbers of people working over extended periods of time
- Clearly, system developments require proper project management
- A variety of techniques may be used
 - * PERT
 - * Gantt charts

Alternatives to SDLC

- Note that other authors and classes may offer variants of the traditional SDLC
- There are also proprietary variant methodologies
- Computer Assisted Software Engineering (CASE & ICASE)

User Involvement

- Critical success factor
- Rapid Application Development (RAD)
- Joint Application Development (JAD)
- Prototyping
 - * Elicit user requirements
 - * Build initial prototype
 - * Test and demonstrate to user
 - * Refine prototype until user satisfied
 - * Build working system (re-implement)

Software Package Acquisition

■ Accounting Software Packages

* Low end packages

- ◆ \$100 - \$300
- ◆ Little configuration or customization

* Mid-range packages

- ◆ \$5,000 - \$15,000

* High end packages

- ◆ \$Ms
- ◆ ERP systems
- ◆ Implemented with consultancy support

Selecting Accounting Software Packages

- Requirements analysis and criteria specification
 - * Package features
 - * Support options
 - * Vendor quality
- Information collection
- Evaluation of alternatives and package/vendor selection

Group Work for Chapter 7

- Discussion Questions
- Problem 1