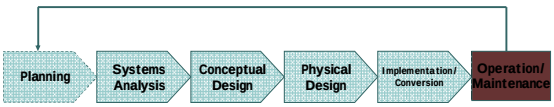
Introduction to Systems Development and Systems Analysis

Chapter 18

Systems Development Life Cycle

Classical Model – 6 phases



Planning Systems Development

- Why is planning an important step in systems development?
  - consistency
  - efficiency
  - cutting edge
  - lower costs
  - adaptability

Project Planning Software

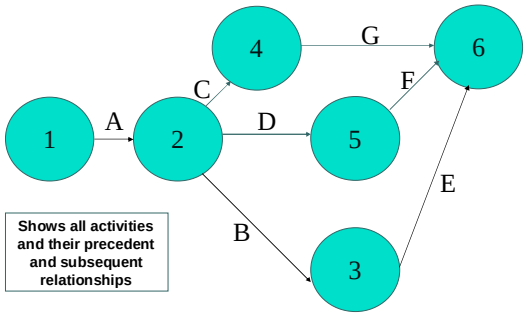
- Suites of tools to manage projects

Project Planning Software

- Two techniques for scheduling and monitoring systems development activities are:
  1. PERT
  2. Gantt chart

PERT Chart

program evaluation and review technique

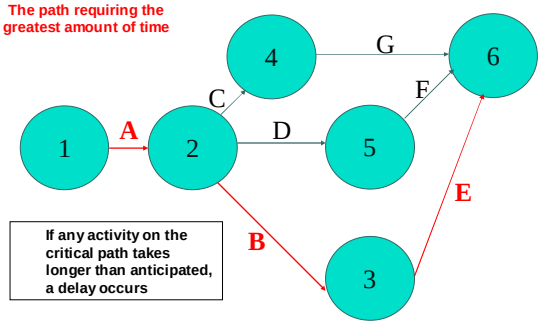


Shows all activities and their precedent and subsequent relationships

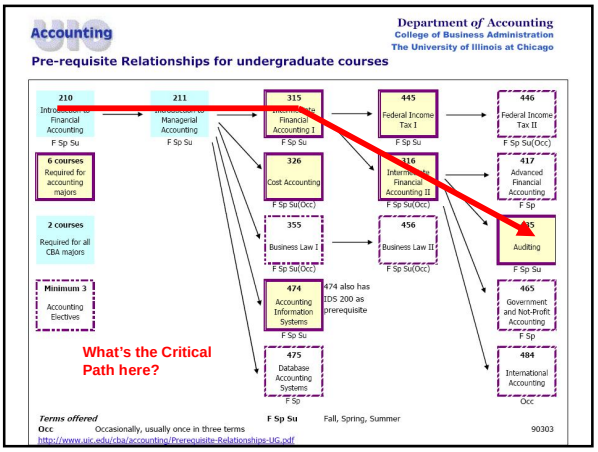
PERT Chart

CRITICAL PATH

The path requiring the greatest amount of time



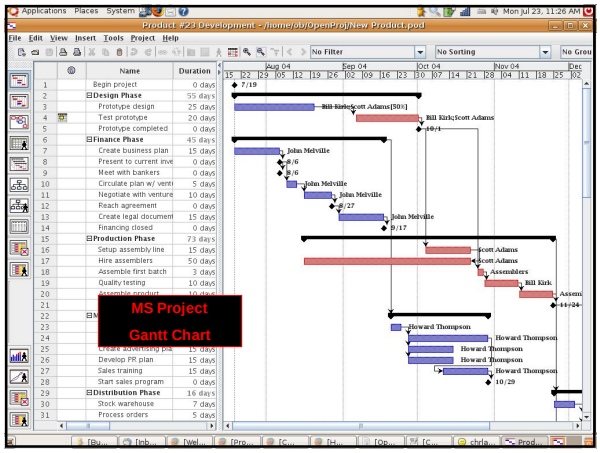
If any activity on the critical path takes longer than anticipated, a delay occurs



Gantt Chart

- **Bar chart with project activities listed on the left-hand side and units of time (days or weeks) across the top**
- **Bars filled in as completed**

Activity	Week Starting						
1							
2							
3							
4							
5							
6							
7							
8							



So if the project is accepted after the Planning Stage, what happens?

The SDLC

Systems Analysis

Do initial investigation
Do system survey
Do feasibility study
Determine information needs and system requirements
Deliver systems requirements

→ Feasibility analysis and decision points

Feasibility Analysis

- A feasibility study (also called a business case) is prepared during systems analysis and updated as necessary during the remaining steps in the SDLC.
- The steering committee uses the study to decide whether to terminate a project, proceed unconditionally, or proceed conditionally.

Feasibility Analysis

- What five important aspects need to be considered during a feasibility study?
  1. Technical feasibility
  2. Operational feasibility
  3. Legal feasibility
  4. Scheduling feasibility
  5. Economic feasibility

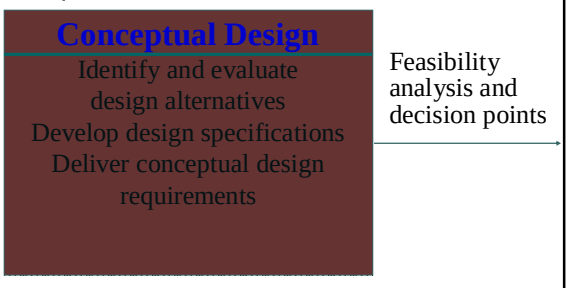
Feasibility Analysis

- Economic feasibility is the most frequently analyzed of the five aspects.
- What is the basic framework for feasibility analysis?
  - capital budgeting model

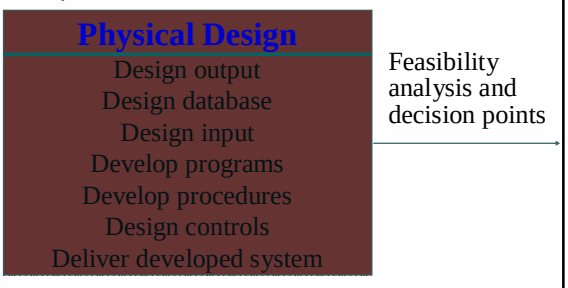
Feasibility Analysis

- What are some capital budgeting techniques?
  - payback period
  - net present value (NPV)
  - internal rate of return (IRR)

The SDLC



The SDLC



The SDLC

Implementation and Conversion

Develop plan
Install hardware and software
Train personnel, test the system
Complete documentation
Convert from old to new system
Fine-tune and review
Deliver operational system

The SDLC

Planning and Systems Analysis

Operation and Maintenance

Operate system
Modify system
Do ongoing maintenance
Deliver improved system

The Players

- Who are the people involved in developing and implementing AIS?
  - management
  - accountants
  - information systems steering committee
  - project development team
  - systems analysts and programmers
  - external players

The Players

- What are top management's roles?
  - providing support and encouragement
  - establishing system goals and objectives
  - determine information requirements

The Players

- What are the steering committee's roles?
  - set policies that govern the AIS
  - ensures top-management participation
  - guidance and control
  - facilitates coordination and integration of IS activities

The Players

- What are the project development team's roles?
  - plan each project
  - monitor project
  - make sure proper consideration is given to the human element
  - each project is run by a PROJECT MANAGER

The Players

- What are accountants' roles?
  - determine their information needs
  - may be members of the project development team
  - play an active role in designing system controls

The Players

- What are the system analyst's and programmer's roles?
  - study existing systems
  - design new systems and prepare specifications
  - write computer programs

Behavioral Aspects of Change

- Individuals involved in systems development are agents of change who are continually confronted by people's reaction and resistance to change.
- The best system will fail without the support of the people it serves.

Behavioral Aspects of Change

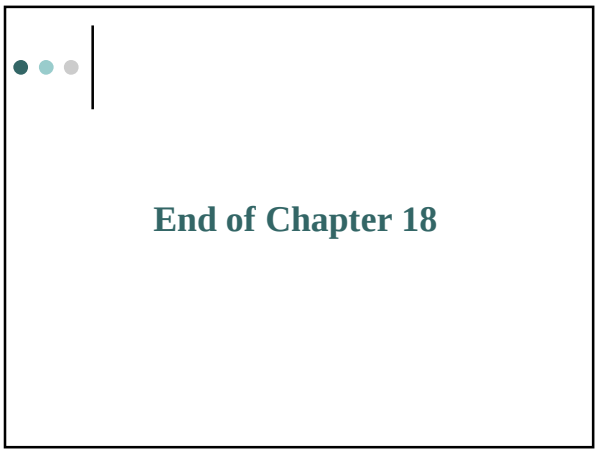
- Why do behavioral problems occur?
  - personal characteristics and background
  - manner in which change is introduced
  - experience with prior changes
  - communication
  - disruptive nature of the change process
  - fear

Behavioral Aspects of Change

- How do people resist AIS changes?
  - aggression
  - projection
  - avoidance

Behavioral Aspects of Change

- How can behavioral problems be improved?
  - meet needs of the users
  - keep communication lines open
  - maintain a safe and open atmosphere
  - obtain management support
  - allay fears
  - provide honest feedback
  - make sure users understand the system
  - control the users' expectations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