**General Items:**

- Lab? Ok?
- Read the extra credits
- Need to come to class
- Have a quiz / no books / use notes -> What is the big idea
- School is almost over
-

**Reading Materials:**

-

**Miscellaneous:**



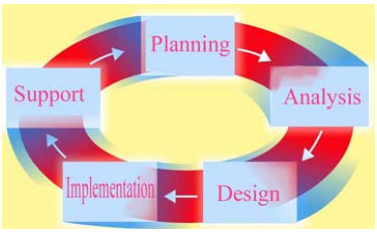


## System development life cycle

- A **system** is a set of components that interact to achieve a common goal
- We constantly deal with different systems
- Examples: Solar systems, decimal systems, digestion system, heating system
- Some times an organization can consist of many different systems
  - Human body organization
  - Business organization
    - Billing system
    - Delivery system
    - Manufacturing system
    - Information system
- **Information system (IS)** is a set of HW, SW, people, data that work together to produce information
- **System development life cycle (SDLC**) is a set of activities developers use to build an IS
  - Also called **software engineering**
- System development life cycle generally has 5 phases:
  - Planning
  - Analysis
  - Design
  - Implementation
  - Support
- There are also guidelines involved in a system development
  - Follow development phases
  - Talk to users
  - Develop standards








## Who-is-who in the system development life cycle

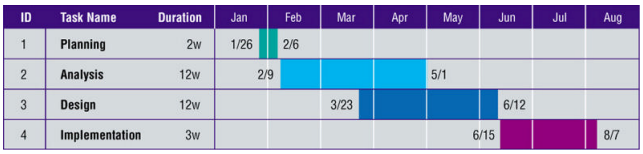
Many different people participate

- Steering committee
  - Decision-making body in a company
  - Decides how to divide resources and different projects
- Project team
  - People that work on a specific project
  - Typically consists of systems analysts and other IT professionals
- Systems analyst
  - Responsible for designing and developing the IS
  - They study user requests and generate technical specifications
- Project management
  - Process of planning, scheduling, and the controlling activities during the project
- Project leader
  - The person managing the budget and schedule of a project
- Project manager
  - A person who performs the planning, scheduling, and other project related activities
  - Uses various tools



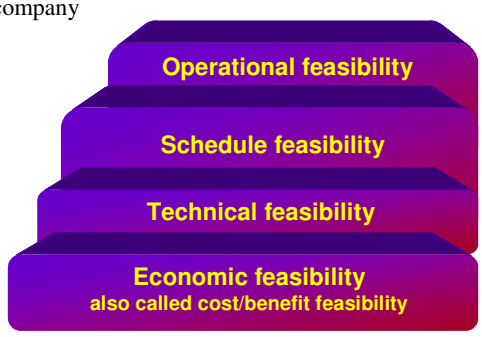


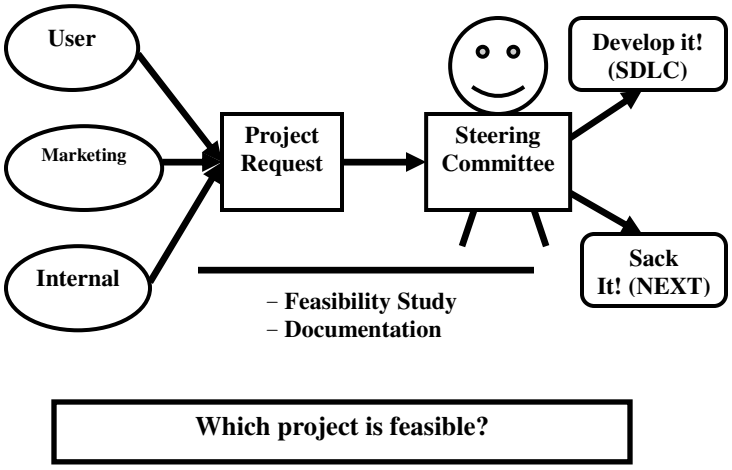
- Gantt Chart: A software too to plan and schedule (MC-Project)



| ID | Task Name | Duration | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Planning | 2w | 1/26 | 2/6 | | | | | | |
| 2 | Analysis | 12w | 2/9 | | | | 5/1 | | | |
| 3 | Design | 12w | | | 3/23 | | | 6/12 | | |
| 4 | Implementation | 3w | | | | | 6/15 | | | 8/7 |

- A project must be considered **feasible** in order to be acceptable:
  - **Feasibility:** Measure of how suitable system development will be to company






## Planning Phase

Start when the steering committee receives a **project request**

- Review and approve the project
- Prioritize the project request
- Resource allocation
- Form a project team





## Analysis Phase

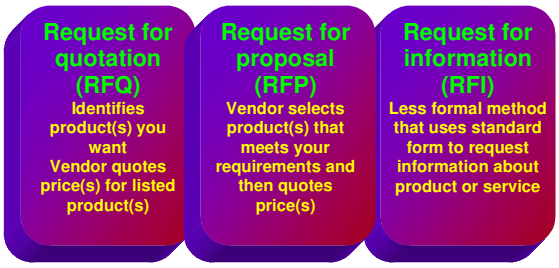
- Preliminary investigation
  - Also called **feasibility study**
  - Is it worth pursuing?
- Perform detail analysis
  - Also called **logic design**
  - Consists of three major activities (don't care about implementation aspects)
    - How the current system works
    - What the users want
    - Recommend a solution
  - Project dictionary
    - Documentation and deliverables of project
    - Helps keep track of huge amount of details in system
  - System proposal
    - Assesses feasibility of each alternative solution
    - At conclusion of analysis phase, system proposal presented to steering committee for approval
      - Horizontal market software: meets the needs of many different companies
      - Vertical market software: for a particular business or industry





## Design Phase

- Consists of two major activities
  - Acquire hardware and software
    - Identify all hardware and software requirements of new or modified system
  - Develop all details of new or modified information system
- There are three basic documents used to summarize technical specifications
-



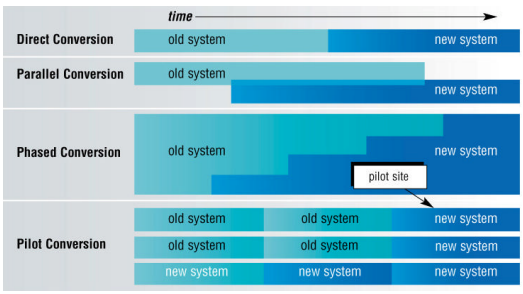

- Generate a prototype
  - Working model of proposed system





## Implementation Phase

- Purpose is to construct, or build, new or modified system and then deliver it to users
  - Develop programs
    - Program development life cycle (PDLC):
      - Programmers write programs as per specifications
      - They follow an organized set of activities PDLC
  - Install and test new systems
    - Testing: System, Integration, acceptance test
  - Train users
  - Convert to the new system
    - Conversion strategies (changing from old to new system)
      - Direct Conversion (get rid of it!)
      - Parallel Conversion (running the two systems together)
      - Pilot Conversion (one location at a time)

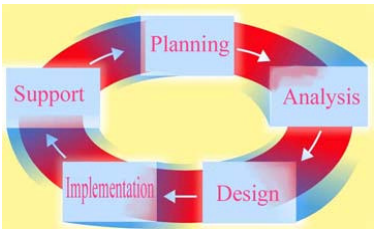



## Support Phase

- Provides ongoing assistance after system is implemented (such as?)

**Summary:**

- What is the system development life cycle?
- What initiates the system development life cycle?
- SDLC phases:
  - Planning phase
  - Analysis phase
  - Design phase
  - Implementation phase
  - Support phase








Proposal 1 – *Ultimate Laptop*

- Design a laptop that can be used as a cell phone, fax machine, TV, Radio, Notepad, Sensor (attended the class or not), CD player, DVD, Internet connection, support long distance phone, with a small headphone to notify any incoming email, voice message, text message, etc.

Issues:

Battery, size, Mobile laptop in the car? How can it be used as a phone?

Proposal 2 – *Virtual Dressing Room*

A web program that you give your picture to and you can see how you look with the dress you want to buy