

MIS

(Management Information System)

Department of Industrial Engineering
Sharif University of Technology

Session # 2



Session schedule

- *Contents*
 - *Structured analysis and design*
 - *Information system development*
 - *Systems Analysis and Design*



Structured analysis and design

- *Structured analysis*
 - *Study the current business environment*
 - *Model the old logical system*
 - *Model the new logical system*
 - *Model the new physical environment*
 - *Evaluate alternatives*
 - *Select the best design*
 - *Create the structured specification*

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Structured analysis and design

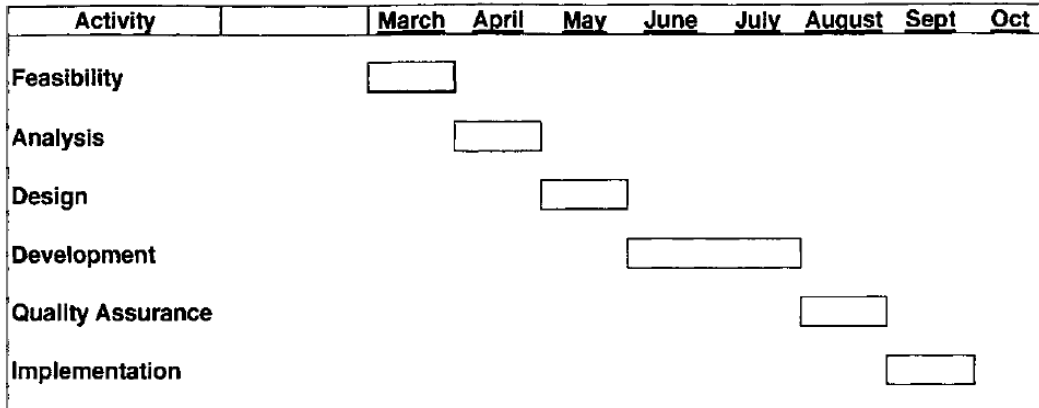
- *Structured design*
 - *Construct a structure chart*
 - *Examine the coupling (interdependency) relationships*
 - *Examine module cohesion*
 - *Refine the structure chart*
 - *Perform transform analysis*
 - *Perform transaction analysis*
 - *Create module specifications*
 - *Package the physical modules*

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Information system development

- Information system development project
 - Complex ??

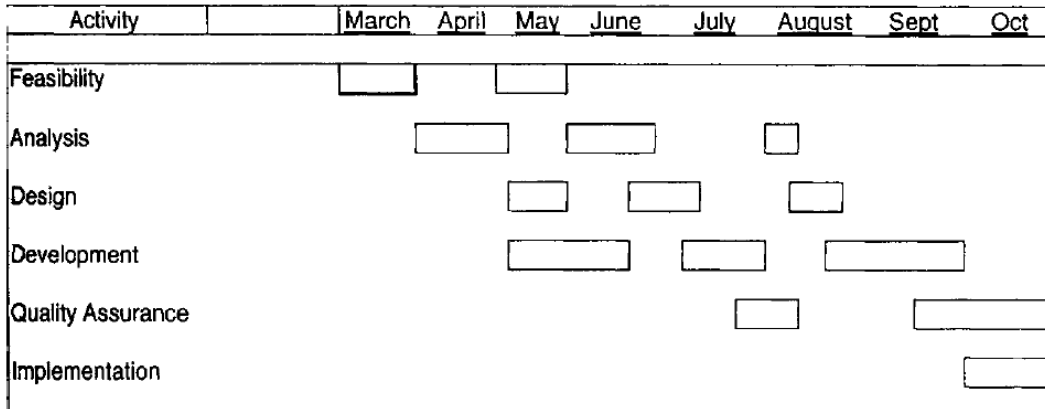


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Information system development

- Information system development project
 - Realistic behavior



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Information system development

- *Information system development project*
 - *Managerial perspective*

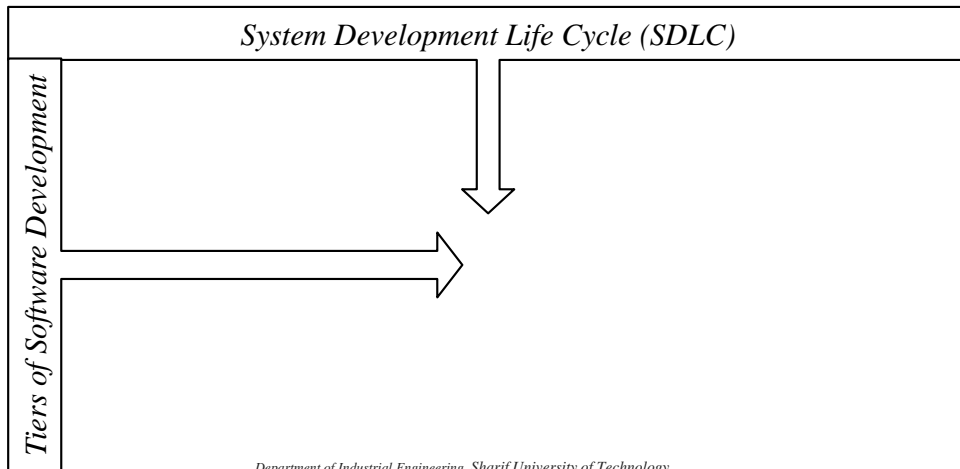
Management dictates how much time we have and shows no flexibility about running behind schedule

Information system development

- *Information system development project*
 - *The problem of managerial perspective fits into one of three scenarios:*
 - *Management is ignorant of the analysis and construction of systems and simply has no idea how much time is required to complete the project.*
 - *Management has little confidence in Development.*
 - *Unfortunately, bad management does exist.*

Information system development

- Information system development project



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Information system development

- Information system development project

- Tiers of Software Development

- User Interface
 - Tools
 - Productivity Through Automation
 - Object Orientation
 - Client/Server
 - Internet/Intranet

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Information system development

- *Tiers of Software Development*
 - *User Interface*
 - *Systems cannot be effectively designed without an appropriate user interface.*
 - *The user-interface tier is often overlooked: Many software projects today move too quickly into development without the effort having been spent to determine what is really needed from the user community.*

Information system development

- *Tiers of Software Development*
 - *Tools*
 - *Software systems require that analysts have the appropriate tools to do their job.*
 - *Even more significant challenge is understanding which of the many available tools to use at any given point.*
 - *Software development tools are often designed for specialized use rather than for general application, and using the wrong tool can potentially cause significant damage.*
 - *The sequence of use for each specialized tool is also critical to success.*

Information system development

- *Tiers of Software Development*
 - *Productivity Through Automation*
 - *Having the appropriate tools and knowing how and when to use them is only part of the formula for success. Analysts must also be productive*
 - *Productivity can be accomplished only through the use of automation.*
 - *Automation is implemented using integrated computer aided software engineering (CASE) products*

Information system development

- *Tiers of Software Development*
 - *Object Orientation*
 - *Successful projects employ the concepts of object orientation (OO).*
 - *OO is the foundation of the reusable components that can be incorporated into other applications later.*

Information system development

▪ Tiers of Software Development

▪ Client/Server

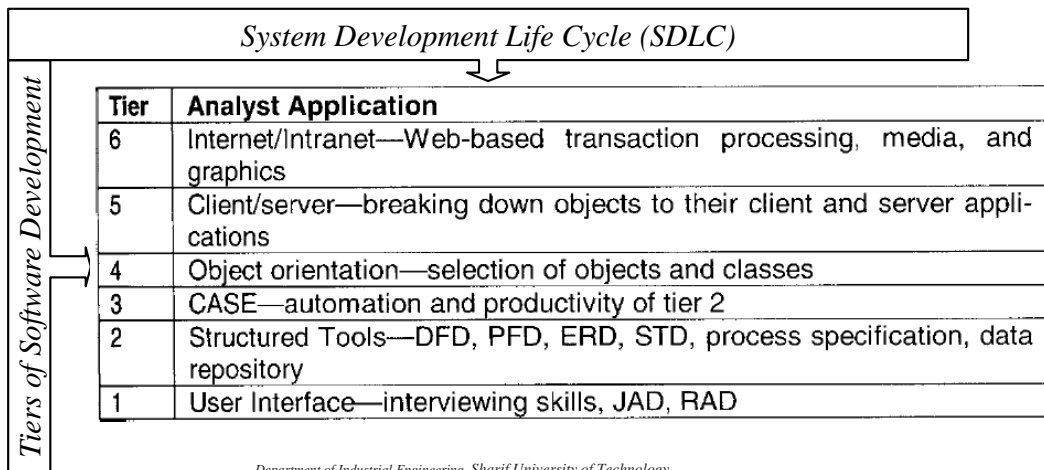
- Client/server software processing, in its true implementation, involves the interaction of objects and defining the way in which they will communicate with each other.

▪ Internet/Intranet

- The advent of Web-based technology, sometimes known as Internet/Intranet processing, has led the industry to the use of a new breed of software applications.
- e-commerce will exert the strongest shaping influence on the analyst's profession—a profession destined to become tomorrow's integrators of systems development.

Information system development

▪ Information system development project



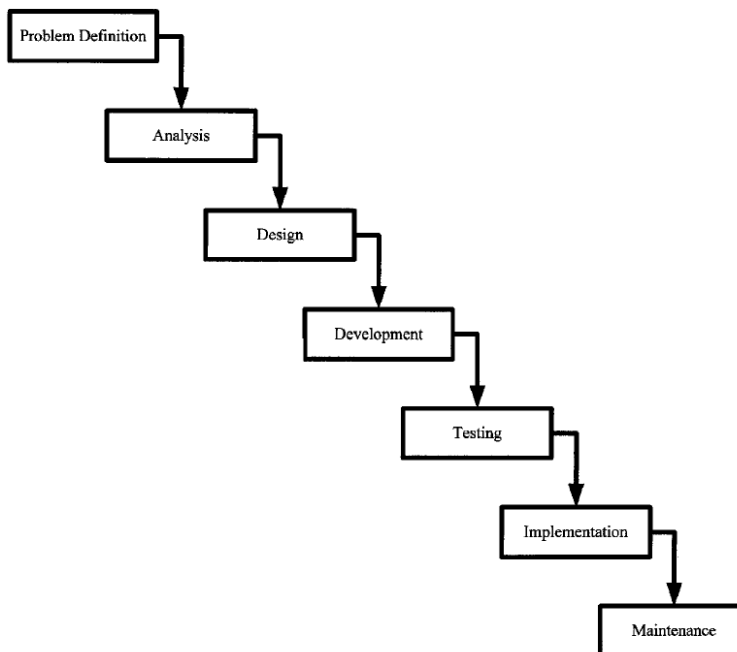
Information system development

- **System Development Life Cycle (SDLC)**
 - *The basis for most systems analysis and design methodologies is the system development life cycle or SDLC.*
 - *It is sometimes called the waterfall method because the model visually suggests work cascading from step to step like a series of waterfalls.*
 - *In reality, there is considerable feedback between the various steps or phases.*

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▪ SDLC



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System Development Life Cycle (SDLC)

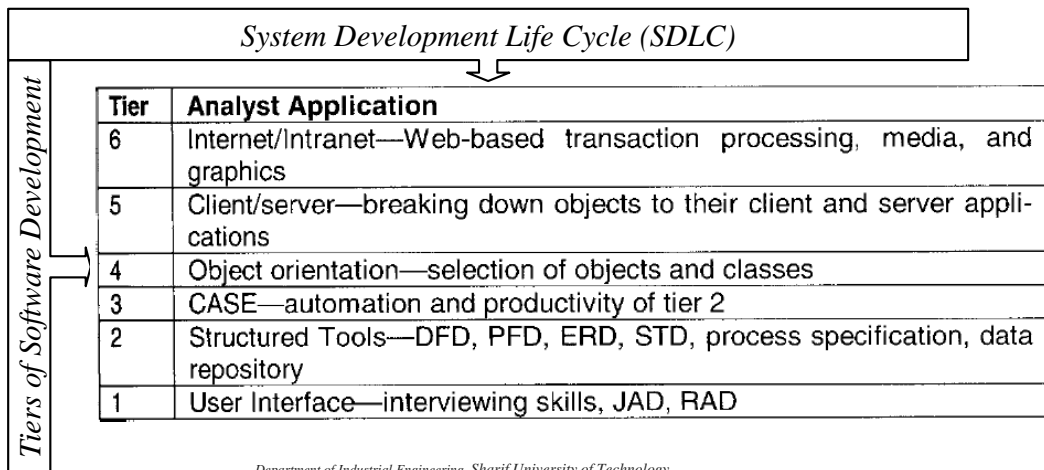
- **Problem definition**
 - The intent is to identify the problem, determine its cause, and outline a strategy for solving it.
- **Analysis**
 - The objective of analysis is to determine exactly what must be done to solve the problem (logical elements).
- **Design**
 - The objective of design is to determine how the problem will be solved (shift from logical to the physical).
- **Development (creation)**
 - The system is created during development.
- **Test**
 - Once the system is developed, it is tested to ensure that it does what it was designed to do.
- **Implementation**
 - After the system passes its final test, it is implemented and released to the user.
- **Maintenance**
 - The objective of maintenance is to keep the system functioning at an acceptable level

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Information system development

- **Information system development project**



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