Two Day Residential Training Programme on “Introduction to Management Information System”

Information System Development-its Overview with reference to Government

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What is System Development?

- **System development** is a set of activities used to build an information system.
- A **system** is a set of components that interact to achieve a common goal.
- An **information system (IS)** is a collection of hardware, software, data, people, and procedures that work together to produce quality information.
- System development activities are grouped into **phases**, collectively called the **system development life cycle (SDLC)**.
What is System Development? Contd.

System Development

1. Planning
   - Review project requests
   - Prioritize project requests
   - Allocate resources
   - Form project development team

2. Analysis
   - Conduct preliminary investigation
   - Perform detailed analysis activities:
     - Study current system
     - Determine user requirements
     - Recommend solution

3. Design
   - Acquire hardware and software, if necessary
   - Develop details of system

4. Implementation
   - Develop programs, if necessary
   - Install and test new system
   - Train users
   - Convert to new system

5. Operation, Support, and Security
   - Perform maintenance activities
   - Monitor system performance
   - Assess system security

Ongoing Activities
   - Project management
   - Feasibility assessment
   - Documentation
   - Data/information gathering
What is System Development? Contd.

Group activities or tasks into phases

Involve users

Define standards
What is System Development? Contd.

- Installs and maintains networks/installs and monitors communications equipment and software.
- Interacts with the information system or uses the information it generates; assists with defining requirements of new or modified system and contributes to its design.
- Designs and develops enterprise-wide applications for data mining.
- Administrates and controls an organization’s resources; works with system administrator and with application development teams.
- Assists systems analysts and programmers in developing or modifying applications that use the organization’s database.
- Decision-making body of an organization.
- Converts the system design into the appropriate programming language, such as C++, C#, F#, Java, Perl, PHP, and Visual Basic; tests finished programs.
- Installs and maintains operating system software; provides technical support to the programmer’s staff.
- Maintains an organization’s Web site; creates or helps users create Web pages; develops Web applications.
- Responsible for security of an organization’s data and information.
- Network administrators/data communications analysts
- Steering committee members
- Application and system programmers
- Vendors
- Webmaster and Web developers
- Systems analyst
- Data warehousing specialists
- Managers
- Other systems analysts
- Security specialists
- Database administrators and database analysts
- Users
What is System Development? Contd.

- **Project management** is the process of planning, scheduling, and then controlling the activities during system development.
- To plan and schedule a project efficiently, the project leader identifies:

  - Project scope
  - Required activities
  - Time estimates for each activity
  - Cost estimates for each activity
  - Order of activities
  - Activities that can take place at the same time
What is System Development? Contd.

Operational feasibility
Schedule feasibility
Technical feasibility
Economic feasibility
What is System Development? Contd.

• During system development, members of the project team gather data and information using several techniques
Who Initiates a System Development Project?

- A user may request a new or modified system
- Organizations may want to improve hardware, software, or other technology
- Situations beyond an organization’s control might require a change
- Management might mandate a change
- A user may request a new or modified information system using a request for system services or a project request
Planning Phase

• The **planning phase** for a project begins when the steering committee receives a project request

• Four major activities are performed:
  
  • Review and approve the project requests
  • Prioritize the project requests
  • Allocate resources
  • Form a project development team
Analysis Phase

• The analysis phase consists of two major activities:

  • Conduct a preliminary investigation
    • Determines and defines the exact nature of the problem or improvement
    • Interview the user who submitted the request

  • Perform detailed analysis
    • Study how the current system works
    • Determine the users’ wants, needs, and requirements
    • Recommend a solution
Design Phase

• Computer-aided software engineering (CASE) tools are designed to support one or more activities of system development
• CASE tools sometimes contain the following tools:
Design Phase

• Many people should review the detailed design specifications
• An inspection is a formal review of any system development deliverable
  – A team examines the deliverables to identify errors
Implementation Phase

• The purpose of the implementation phase is to construct the new or modified system and then deliver it
  
  • Develop programs
  • Install and test the new system
  • Train users
  • Convert to the new system
Implementation Phase

• The program development life cycle follows these steps:
  • 1
    • Analyze the requirements
  • 2
    • Design the solution
  • 3
    • Validate the design
  • 4
    • Implement the design
  • 5
    • Test the solution
  • 6
    • Document the solution
Implementation Phase

• **Training** involves showing users exactly how they will use the new hardware and software in the system
  – One-on-one sessions
  – Classroom-style lectures
  – Web-based training
The purpose of the operation, support, and security phase is to provide ongoing assistance for an information system and its users after the system is implemented.

- Perform maintenance activities
- Monitor system performance
- Assess system security
Summary

System development phases

Guidelines for system development

Activities that occur during system development

Activities performed during each system development phase
Examples of Management Information System
Vignan’s University
Examples of Management Information System
Govt. of Andhra Pradesh
Examples of Management Information System
Govt.of Jharkhand
Examples of Management Information System
Govt.of Haryana
Examples of Management Information System
Govt.of Haryana
Examples of Management Information System
Govt. of Rajasthan
Examples of Management Information System
Govt.of India

World’s Biggest Hackathon

MIS for coordination of various departments in GoI

- When two government departments work in silo, the result is start of duplication and redundancy of work leading to red-tapism and frustrations. Almost 18-24 ministries have their own siloing initiatives being undertaken today and one of the most important tasks of MSME is to create Coordination among all such initiatives.
- Keeping the above in mind, enumerate methods that can be enabled on digital India mission to create an MIS between the various ministries/departments of Government of India.
- Design and suggest a Digital solution to achieve the above objective.

Sample data required: No
Example of the Forest Department MIS

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