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| **What is the System Development LifeCycle?** | The System Development LifeCycle is a set of activities used to build an **information system**. An IS is a collection of **hardware, software, data, people, and procedures that work together to produce quality information**. An IS supports **daily, short-term, and long-range activities of users**. |
| **PLANNING PHASE**  Who/what is a Steering Committee? | **STEP 1, PLANNING**, begins when the steering committee receives a **project request**.  A Steering Committee is: **the decision-making body in a company**  Four activities of the PLANNING phase are:  1. **Review project requests**  2. **Prioritize project requests**  3. **Allocate resources**  4. **Form project development team** |
| **ANALYSIS PHASE**  What is a Systems Analyst? **An IT professional who specializes in analyzing, designing and implementing information systems.**  What is a System Proposal? **Presentation of the system analyst’s findings.** | **STEP 2, ANALYSIS,** consists of 2 major activities:   1. Preliminary Investigation, sometimes called the **feasibility study,** is used to determine whether the problem of improvement is **worth pursuing**. The Systems Analyst is responsible for **designing and developing an IS**. During this phase, the Systems Analysts will interview the **user who submitted the project request**. Output of this step is a **feasibility** study. 2. Detailed Analysis, sometimes called **local design**, includes study of the current system, understanding user’s wants, and a written System Proposal. The purpose of the system proposal is to: **To assess the feasibility of each alternative solution and then recommend the most feasible solution for the project.** |
| **ANALYSIS PHASE** (cont.)  How is the current system studied/reviewed? **By identifying user requirements** | 1. ERD – **(Entity-Relationship Diagram) A tool that graphically shows the connections among entities in a system.** 2. Data Flow Diagrams – **A tool that graphically shows the flow of data in a system.** 3. Project Dictionary – **Contains all the documentation and deliverables of a project** 4. UML – **A standard notion for object modeling and development** 5. Use Case Diagrams – **Graphically shows how actors interact with the information system** 6. Class Diagrams – **Graphically shows classes and subclasses in a system** |
| **DESIGN PHASE** | STEP 3, DESIGN, consists of 2 major activities:   1. Acquire HW/SW, if needed    1. RFQ – **(Request for Quotation) Identifies the required products**    2. RFP – **(Request for Proposal) The vender selects the product(s) that meet the specified requirements and then quotes the price(s)**    3. RFI – **(Request for information) A less formal method that uses a standard form to request information about a product or service** 2. Develop details of the new or modified system (Physical Design)    1. Mock up – **A sample of the input or output that contains actual data**    2. Prototype: What is the common problem with a Prototype? **Prototypes have inadequate or no documentation** |
| **IMPLEMENTATION PHASE** | STEP 4, IMPLEMENTATION, purpose is to: **construct, or build, the new modified system and then deliver it to the users**   1. Develop programs via PDLC 2. Install and Test    1. Test data should include – **Valid and invalid data**    2. Unit Test – **verifies that each program or object works by itself**    3. Systems Test – **verifies that all programs in an application work together properly**    4. Integration Test – **verifies that an application works with other applications**    5. Acceptance Test – **performed by end-users checks the new system to ensure that it works with actual data** 3. Train Users 4. Convert to New System    1. Direct Conversion – **The user stops using the old system and begins using the new system on a certain date**    2. Parallel Conversion – **Running the old system alongside the new system for a specified time**    3. Phased Conversion – **Each location converts at a separate time**    4. Pilot Conversion – **so it can be tested, only one location in the company uses the new system** |
| **OPERATION, SUPORT, AND SECURITY PHASE** | STEP 5, OPERATION, SUPPORT, and SECURITY, purpose is to:  3 major steps:   1. Perform Maintenance    1. Corrective Maintenance – **the process of diagnosing and correcting errors in an information system**    2. Adaptive Maintenance – **the process of including new features or capabilities in an information system** 2. Monitor System Performance    1. Perfective Maintenance – **investigating solutions to make the information system more efficient and reliable** 3. Assess System Security    1. CSO – **(Chief Security Officer) responsible for physical security of a company’s property and people and in charge of securing computing resources** |
| **What initiates the SDLC?** | **A project request** |
| **Who participates in the SDLC?** | Users – **anyone for whom the system is being built**  Systems Analyst – **person responsible for designing and developing an information system**  Steering Committee – **a decision-making body in a company** |
| **What is Project Management?** | Project Management is: **the process of planning, scheduling, and then controlling the activities during the system development life cycle.**  The goal of project management is: **deliver an acceptable system to the user in an agreed-upon time frame, while maintaining costs.**  A popular tool used to plan and schedule the time relationships among project activities is a **Gantt chart**.  **What 3 factors shape every project?**  1. **Schedule**  2. **Cost**  3. **Scope** |
| **Project Management terms to know** | 1. **Task – the activity that needs to be accomplished by the project in a defined period of time or by a deadline** 2. **Constraint -**  **limiting factors for your project that can impact quality, delivery, and overall project success** 3. **Critical Path - the minimum time necessary to complete the entire project** 4. **Deliverable – Any tangible item such as a chart, diagram, report, or program file** 5. **Scope – Goal, objectives, and expectations of the project** 6. **Scope Creep – When one activity has led to another that was not originally planned** |