Elective 4 (Information System Development and Management)

LABORATORY ACTIVITY #1

IT 415

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EXPECTED OUTCOME

- Gain hands-on experience in planning and designing an information system while applying key concepts from Information Systems Analysis and Design, SDLC, Software Engineering, and Project Management.

- The activity will also foster teamwork, communication, and critical thinking skills.

Group Activity:

Design and Plan a Mini Information System

Objective:

- Students will work in groups to design and plan a mini information system, incorporating concepts of Information Systems Analysis and Design, the Information Systems Development Life Cycle (SDLC), Software Engineering, and Project Management. This activity will help students apply theoretical knowledge to a practical scenario, simulating real-world software development planning.

Products of SDLC Phases

Phase	Products, Outputs, or Deliverables
Planning	Priorities for systems and projects; an architecture for data, networks, and selection hardware, and information systems management are the result of associated systems Detailed steps, or work plan, for project Specification of system scope and planning and high-level system require ments or features Assignment of team members and other resources System justification or business case
Analysis	Description of current system and where problems or opportunities exist, with a general recommendation on how to fix, enhance, or replace cur rent system Explanation of alternative systems and justification for chosen alternative
Design	Functional, detailed specifications of all system elements (data, processes, inputs, and outputs) Technical, detailed specifications of all system elements (programs, files, network, system software, etc.) Acquisition plan for new technology
Implementation	Code, documentation, training procedures, and support capabilities
Maintenance	New versions or releases of software with associated updates to documentation, training, and support

Group Activity:

Design and Plan a Mini Information System

Step 1: Form Groups and Assign Roles

Mechanic:

- **Formation:** Divide the class into groups of 6 students. Each group should decide on roles based on interest and strengths:
  - **Project Manager**: Manages the overall project and ensures deadlines are met.
  - **Systems Analyst:** Leads the analysis of system requirements and prepares the documentation.
  - **Software Engineer/Developer:** Focuses on system design and technical specifications.
  - **Tester/Quality Assurance:** Plans the testing strategy and quality checks.

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Breakdown of Roles:

- (1) **Project Manager**: Create a work breakdown structure (WBS) or simple project timeline using a Gantt chart or task list, assigning deadlines for each SDLC phase.
- (2) **Systems Analyst:** Gather and List Requirements; Create process flowchart
- (2) **Software Engineer/Developer:** Front-End Design (UI design); Create ERD
- (1)**Tester/Quality Assurance:** Create Test Scripts with Specific modules/features/functions and Expected Results

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Step 2: Select a Simple Information System Project

Mechanic:

- **Brainstorming:** Groups brainstorm ideas for a simple information system (e.g., a library management system, an online booking system, or a basic inventory management system).
- **Selection:** The group discusses the feasibility of each idea and selects one project that is manageable within the given time frame.

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Step 3: Applying the SDLC Process

Mechanic:

- **SDLC Outline:** The Project Manager guides the group in outlining how they would navigate through the SDLC phases (Requirement Gathering, System Design, Development, Testing, Deployment).
- **Assigned Roles in Action:** Each assigned role will function based on their role.

PEER REVIEW

Groups exchange designs with another group for constructive feedback.

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Step 4: Prepare and Present the Group Report

Mechanic:

- **Presentations:** Each group presents their project to the class, highlighting key aspects such as system design, SDLC planning, and project management. Each group must present the outputs for each role
- **Q&A Session:** After each presentation, there is a brief Q&A session where classmates can ask questions or offer feedback.