

## **FINAL YEAR PROJECT PROGRESS REPORT**

**NAME:** ERASMUS E OBETH

**REGISTRATION NUMBER:** U17CO1017

**PROJECT TITLE:** DEVELOPMENT OF A LEARNING MANAGEMENT SYSTEM (LMS) WITH INTEGRATED 3D MODEL INTERACTION

### **PROBLEM STATEMENT:**

In modern educational environments, learners, especially in STEM (Science, Technology, Engineering and Mathematics) fields, struggle to comprehend complex concepts due to limitations in traditional instructional materials such as textbooks and 2D visuals which often fail to convey certain information effectively, hindering comprehension and retention. Existing learning management systems (LMS) fail to utilize 3D models to enhance learning experiences. This project seeks to bridge this gap by creating an LMS platform that incorporates 3D models to improve comprehension, engagement, and retention among learners.

### **AIM AND OBJECTIVES:**

To develop a prototype LMS with 3D model integration to enhance comprehension of complex concepts especially in STEM (Science, Technology Engineering and Mathematics) fields, making learning more engaging and effective.

- a) To design system architecture (flow charts, diagrams), UI/UX, database, API endpoints and technology stack and process to use for the LMS.
- b) To develop a prototype of the LMS and integrate 3D models into the platform.
- c) To test and evaluate software for requirements, and usability.

### **PROGRESS :**

- a) To design system architecture, UI/UX, database, API endpoints and technology stack and process to use for the LMS.
  - i. Researched and Reviewed LMS and 3D models integration fundamental concepts.

- ii. Analyzed user requirements to derive system requirements and specifications for my design.
  - iii. Designed system architecture ((flow charts, diagrams), UI/UX, database ER diagram solution, API endpoints and technology stack to use based on requirements and specifications document.
  - iv. Finished user interaction flow preliminary for user manual.
  - v. Submitted chapter one and two for corrections and approval .
  - vi. Chapter three in progress.
- b) To develop a prototype of the LMS and integrate 3D models into the platform.
- i. Setup development environment and technologies
  - ii. Active and in Progress
- c) To test and evaluate software for requirements, and usability
- i. Made changes to UI/UX based on user survey feedback.

**EXPECTED DELIVERABLES:**

- a) Functional LMS with Integrated 3D model interaction ready for deployment on server.
- b) Requirement Specification Document (RSD)
- c) System Design Document including UI/UX, Database Schema, API, system architecture (diagrams).
- d) Documentation: user manual, source code and reference, and project documentation

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ENGR. RISIKAT F. ADEBIYI  
(PROJECT SUPERVISOR)

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