# Project Design Phase-II

Data Flow Diagram & User Stories

Date: 19 July 2025

Team ID: LTVIP2025TMID33417

Project Name

**Personalized Learning: Generative AI and LMS Integration**

Maximum Marks

4 Marks

Data Flow Diagrams (DFD)

A Data Flow Diagram (DFD) represents how learners interact with the Personalized Learning System, how content is generated, recommendations are provided, and assessments are recorded within the LMS.

DFD Level 0

[User] --> (Upload Learning Preferences) --> [Personalized Learning System]

[User] --> (Ask Query / Request Content) --> [Generative AI Engine] --> (Deliver Personalized Content) --> [User]

[Personalized Learning System] --> (Log Data) --> [LMS Database]

[User] --> (Take Assessment) --> [Assessment Module] --> (Store Results) --> [LMS Database]

[Admin] --> (Monitor Analytics & Adjust AI Model) --> [System Dashboard]

User Stories

User Type Functional Requirement (Epic) User Story Number User Story / Task Acceptance Criteria Priority Release

Learner Personalized Learning Path USN-1 As a learner, I can set my learning goals and preferences. System saves preferences and updates the learning path. **High Sprint-1**

Learner Content Generation USN-2 As a learner, I want the AI to generate custom learning materials. System generates personalized notes, summaries, or quizzes. **High Sprint-1**

Learner Interactive Learning USN-3 As a learner, I want to ask the AI follow-up questions during study sessions. AI responds contextually to learner's queries.

**High Sprint**-2

Instructor Course Management USN-4 As an instructor, I can upload course content for AI adaptation. Course content is uploaded and acknowledged by the system.

**Medium Sprint-2**

Learner Assessment and Feedback USN-5 As a learner, I can take adaptive quizzes and receive instant feedback. System provides personalized assessments and feedback based on performance.

**High Sprint-3**

Instructor Performance Tracking USN-6 As an instructor, I can view learner progress and analytics. Dashboard shows learner performance, engagement, and content usage.

**Medium Sprint-3**

Admin AI Model Retraining USN-7 As an admin, I can update and retrain the AI with new data and feedback. AI model retrains and performance metrics update.

**Low Sprint-4**

Learner LMS Integration USN-8 As a learner, I want my learning progress to be saved automatically in the LMS. LMS records all progress, content access, and assessment results. High Sprint-4