



Project Milestone 3

Student Productivity Platform and Manage

Prepared By:

Hadia Yasir (NUM-BSCS-2024-23)
Muhammad Bilal (NUM-BSCS-2024-47)
Waseem Ullah (NUM-BSCS-2024-78)

Submitted To:

Department of Computer Science
Namal University Mianwali

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1 Introduction

This Design Report outlines the technical architecture and detailed system design for the Student Productivity Platform. Following the requirements established in the SRS, this document serves as a blueprint for the implementation phase. It covers the structural modeling (Class, Component) and behavioral modeling (Sequence, Activity) of the core modules: Dashboard/LMS, Task/Gamification, and Collaboration/Wellness.

2 Design Assumptions and Constraints

2.1 Design Assumptions

- **API Reliability:** It is assumed that the University's LMS provides a consistent RESTful API interface with high availability.
- **Data Mapping:** We assume a compatible mapping between LMS assignment categories and internal task structures.

2.2 Design Constraints

- **Privacy:** Personal wellness and stress logs must be encrypted to ensure strict data protection.
- **Performance:** The system must sync and display LMS data on the dashboard within 2 seconds of the user request.

3 Key Design Decisions

- **Polling Strategy:** A 15-minute polling interval was selected to balance data freshness with mobile device battery optimization.
- **Modular Design:** Each module (LMS, Tasks, Wellness) is architected to be independent to facilitate parallel development and maintenance.

4 System Design Diagrams

4.1 Member A – Dashboard & LMS Integration

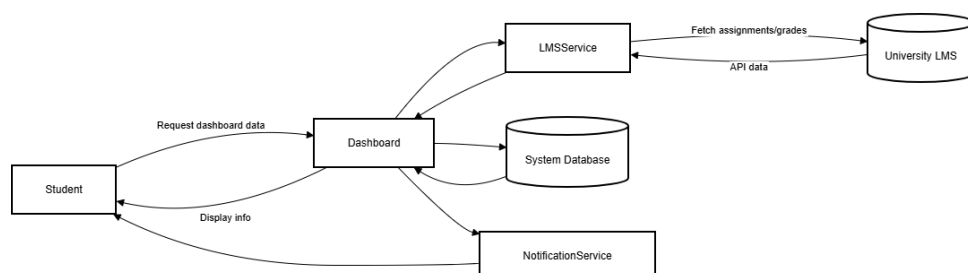


Figure 1: DFD Level 1 – Dashboard and LMS Integration

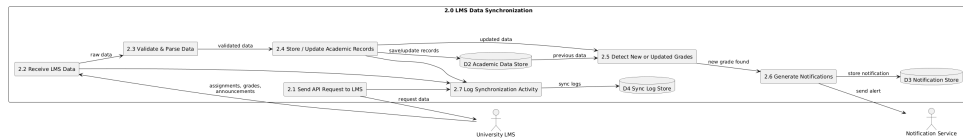


Figure 2: DFD Level 2 – Dashboard and LMS Integration

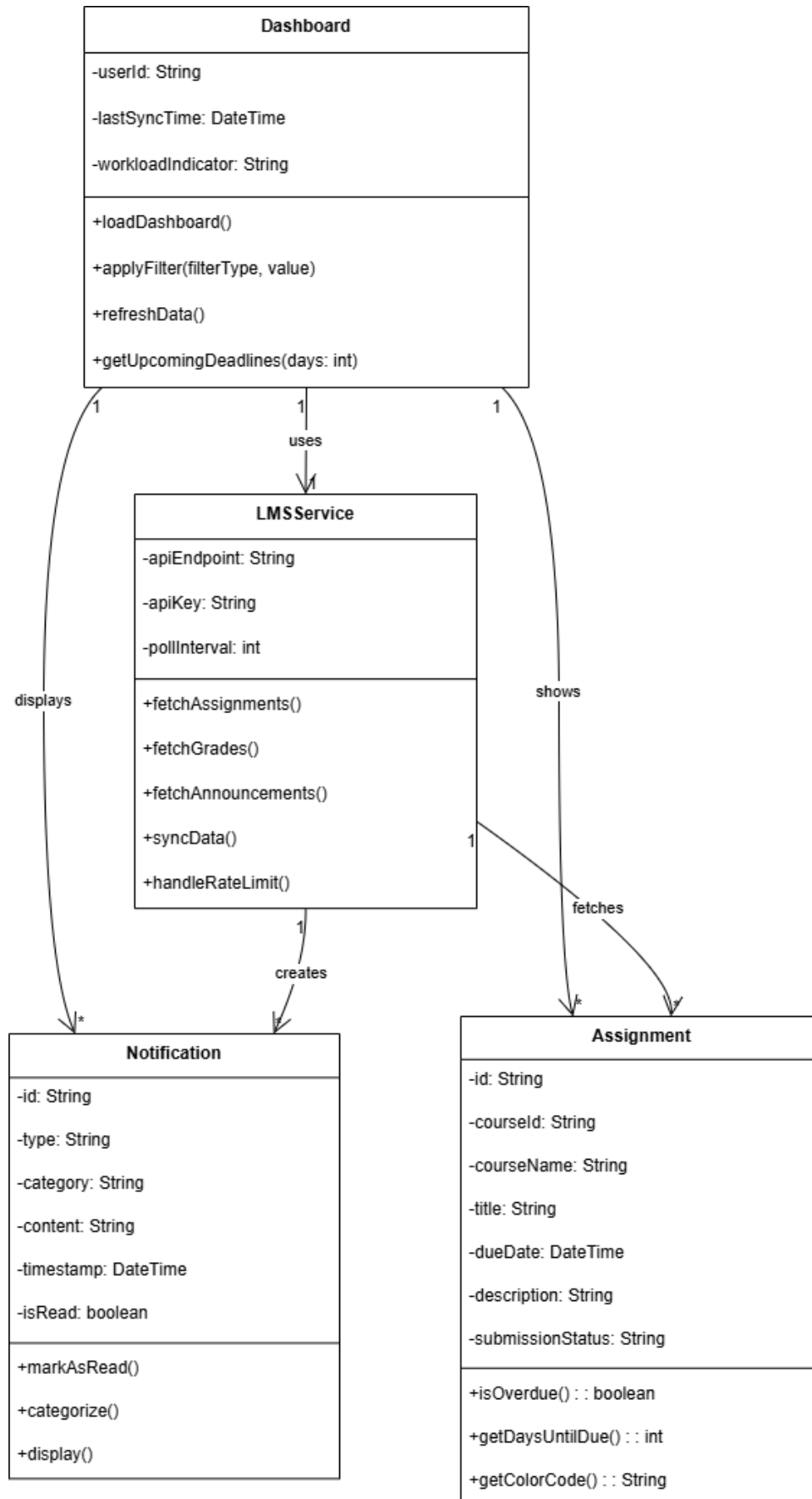


Figure 3: Class Diagram – Dashboard Module

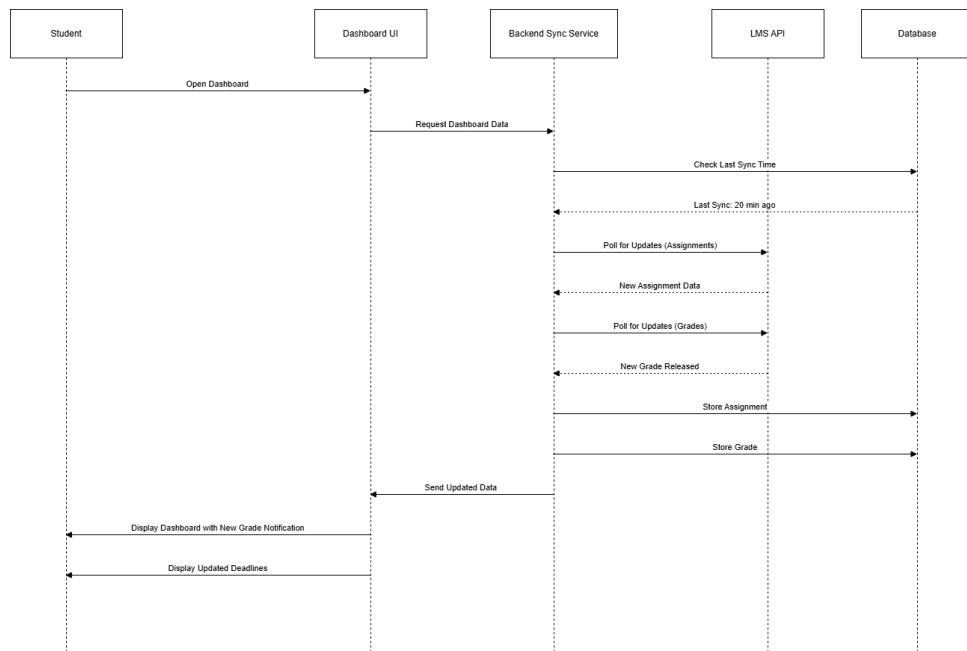


Figure 4: Sequence Diagram – LMS Synchronization

Activity Diagram - Dashboard Load and Filtering Workflow

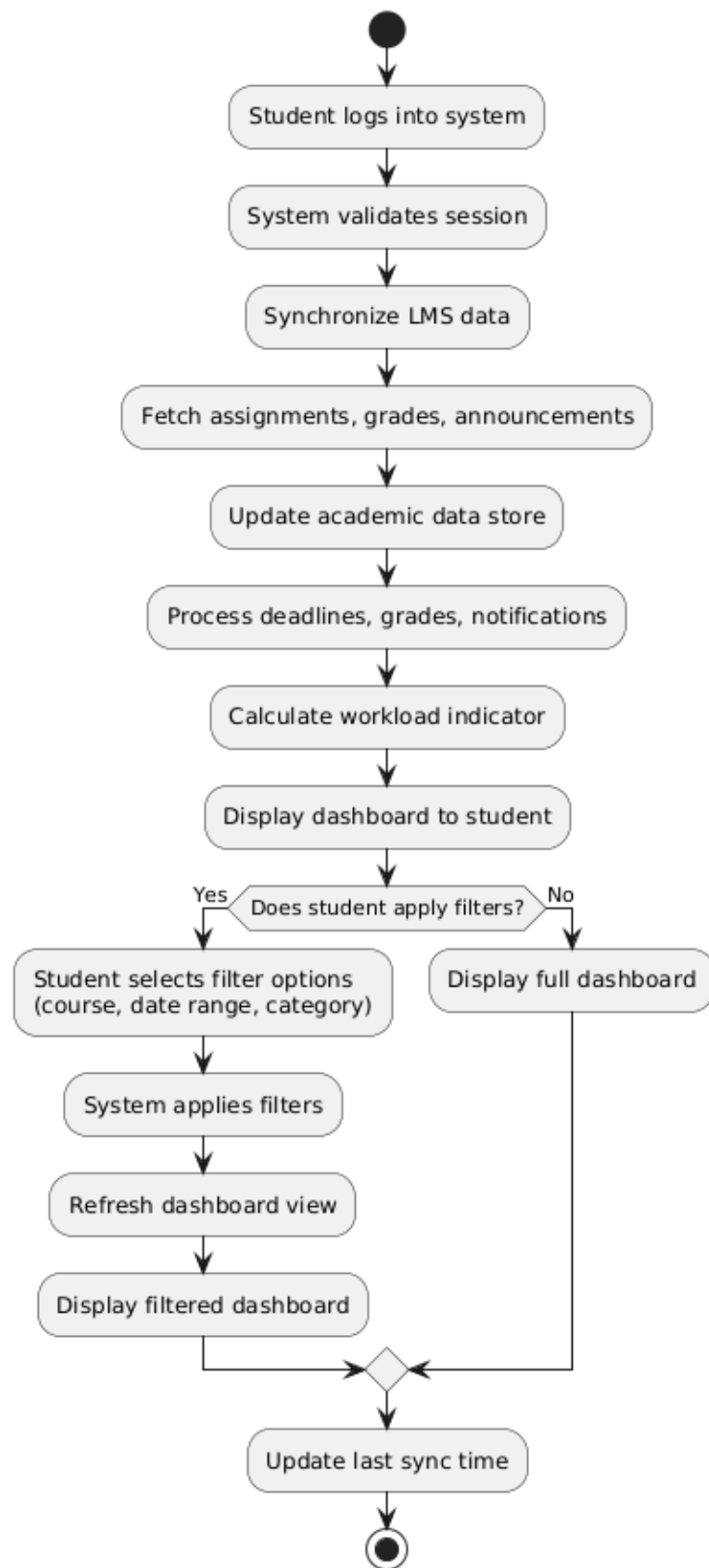


Figure 5: Activity Diagram – Dashboard Workflow

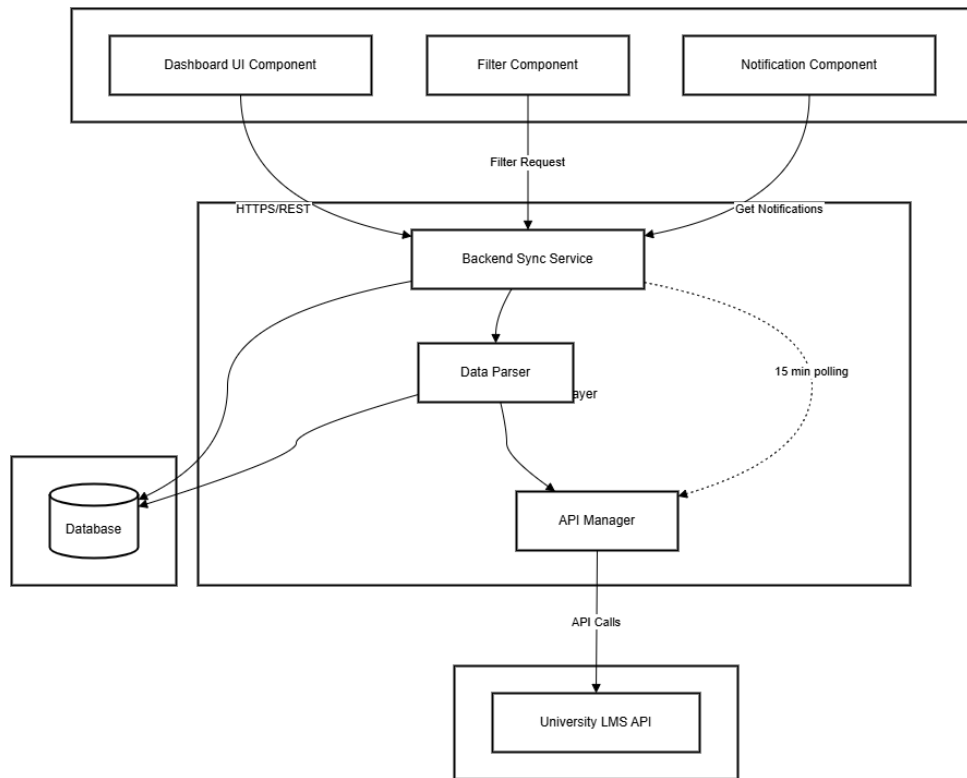


Figure 6: Component Diagram – Dashboard Architecture

4.2 Member B – Task Management & Gamification (Dummy Placeholders)

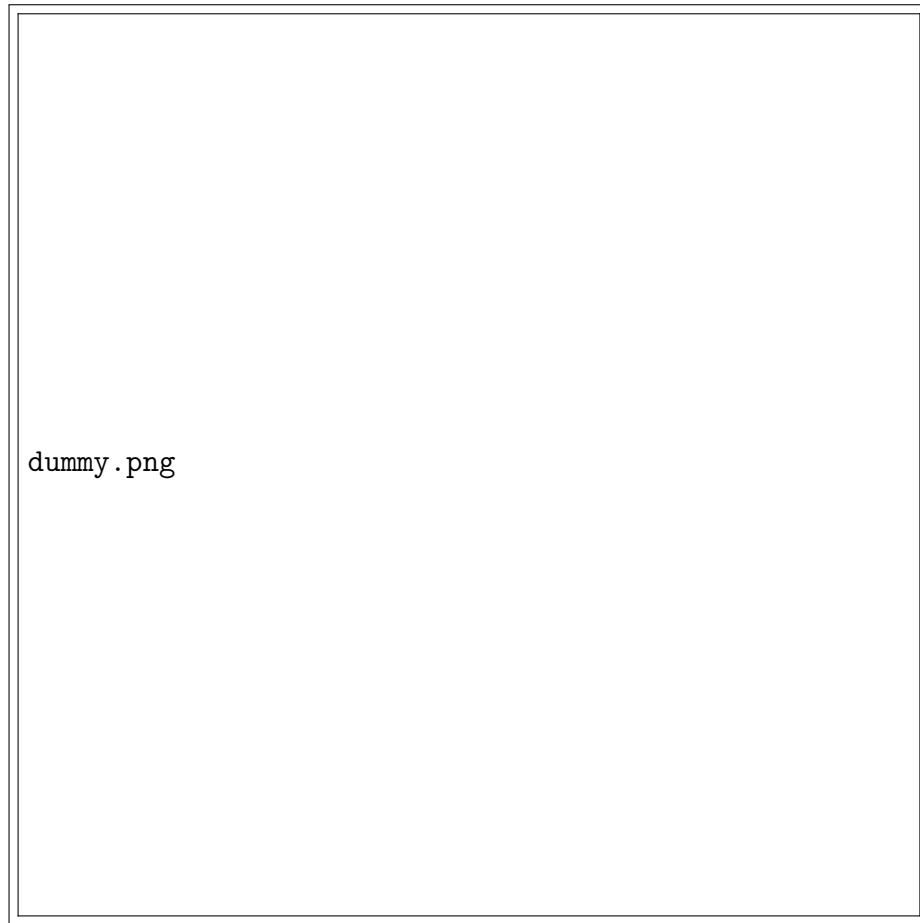


Figure 7: DFD Level 2 – Task Management (To be added)

4.3 Member C – Collaboration & Wellness (Dummy Placeholders)

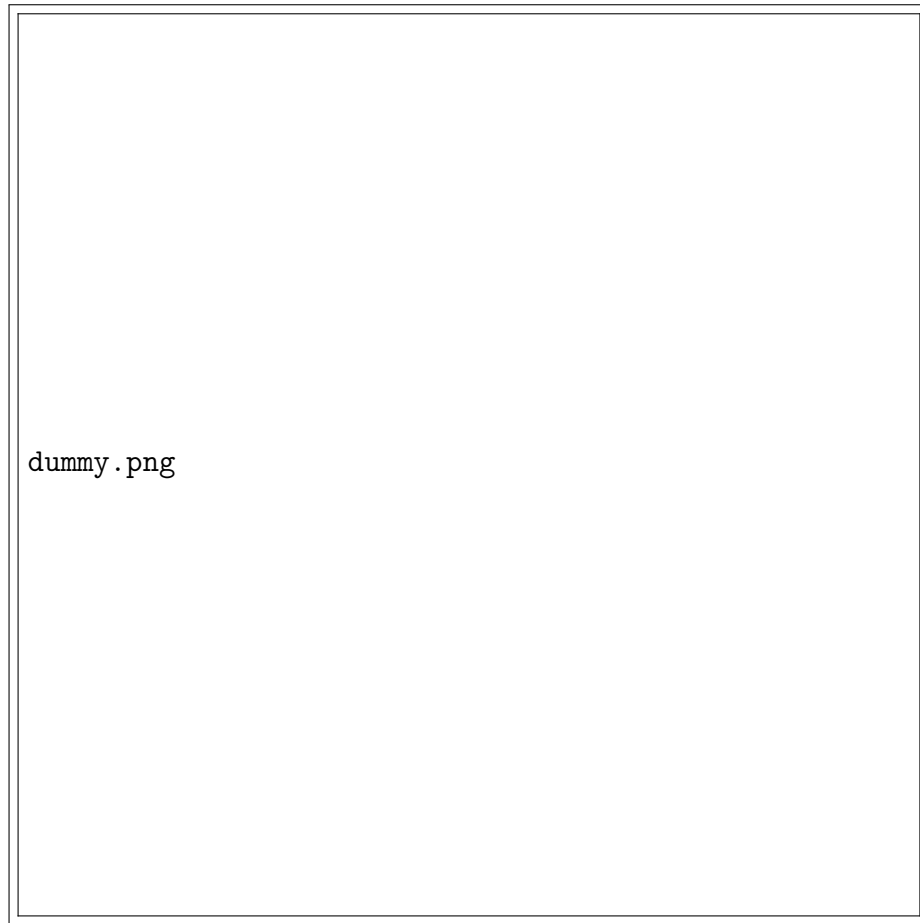


Figure 8: Activity Diagram – Collaboration Module (To be added)

5 Requirements–Design Traceability Table

Req. ID	Module	Design Artifact(s)	Owner
FR-1.x	Dashboard	Use Case, DFD L2, Prototype	Member A
FR-2.x	Task/Gamification	Sequence Diagram, Class Diagram	Member B
FR-3.x	Wellness/Collab	Activity Diagram, UI Prototypes	Member C







Table 1: Design Traceability Summary

6 Dashboard & LMS Integration Module Design

6.1 Overview

The Dashboard & LMS Integration module is the core component of the Student Productivity Platform...

7 Project Repository and External Links

Project Deliverables	
 GitHub	github.com/bilal-512/StudyHub
 Repository:	
 Web	Interactive Prototype
 Prototype:	
 Project	UML Diagrams & Assets Folder
 Drive:	