Sri Lanka Institute of Information Technology

Software Engineering (SE2030)

Year 02 Semester 01 – 2025

Group ID – 55 (2025-Y2-S1-MLB-B3G2-05)

Web-based Educational Institute Management System

Group Members –

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Agile Development

1.0 Introduction

Our team is applying Agile principles through the Scrum framework to develop **Learn Mate**, a web-based educational institute management system. This report outlines our structured approach, based on the requirements and personas identified in Lab 01. It includes a comprehensive set of user stories, a prioritized product backlog, a detailed four-sprint plan, and the assignment of roles and responsibilities within our team. This agile methodology will guide our collaborative and iterative development process.

2.0 SCRUM Role Assignments

To effectively manage the project within the Scrum framework, the following roles have been assigned:

- **Product Owner:** Dulakshika A.L.S.H

- **Scrum Master:** Dilhani W. P. K. A

- **Development Team:**
    - Disanayaka D.M.C.N
    - Devinda S. U. V
    - Dahanayake L.K
    - Bandara R. M. G. L

3.0 Personas and User Stories

A minimum of four user stories have been created for each of the six project personas.

3.1 Persona 1 – Director (Management)

1. As a Director, I want to view a real-time dashboard with key metrics so that I can monitor the institute's overall performance.

2. As a Director, I want to generate summary reports on fee collection and student attendance so that I can make data-driven decisions.

3. As a Director, I want to view historical academic data across different terms so that I can identify long-term trends.

4. As a Director, I want to access a high-level overview of teacher activities so that I can ensure the curriculum is being delivered effectively

3.2 Persona 2 – Admin Staff

1. As an Admin, I want to create, update, and deactivate user accounts for all roles so that I can manage system access securely.

2. As an Admin, I want to create and publish class schedules and timetables so that all students and teachers are informed.

3. As an Admin, I want to manage student fee records and track payment statuses so that the institute's finances are up-to-date.

4. As an Admin, I want to broadcast announcements to specific groups or all users so that important information is communicated efficiently.

3.3 Persona 3 – Teacher

1. As a Teacher, I want to mark attendance for my classes directly in the system so that I can maintain accurate records with minimal effort.

2. As a Teacher, I want to enter and manage marks for exams and assignments so that students and parents can view the results promptly.

3. As a Teacher, I want to view my daily schedule and class list so that I can prepare for my lessons.

4. As a Teacher, I want to send messages to the parents of students in my class so that I can communicate about their child's progress.

3.4 Persona 4 – Student

1. As a Student, I want to view my personalized daily timetable so that I know where my classes are.

2. As a Student, I want to access my grades and marks for all subjects so that I can track my academic performance.

3. As a Student, I want to receive notifications for new announcements or grade releases so that I stay updated on important information.

4. As a Student, I want to view my own attendance history so that I can monitor my class participation.

3.5 Persona 5 – Parent

1. As a Parent, I want to view my child's academic results so that I can stay informed about their progress.

2. As a Parent, I want to track my child's attendance records so that I know they are attending school regularly.

3. As a Parent, I want to view fee balances and pay them online so that I can manage payments conveniently.

4. As a Parent, I want to receive important announcements from the school so that I am aware of events, holidays, and deadlines.

3.6 Persona 6 – Student Support Officer

1. As a Student Support Officer, I want to get automatic alerts for students with low attendance so that I can provide timely support.

2. As a Student Support Officer, I want to view a dashboard of students with failing grades so that I can offer academic assistance.

3. As a Student Support Officer, I want to access a student's complete profile (grades and attendance) so that I can have a holistic view before a counseling session.

4. As a Student Support Officer, I want to send private messages to students or parents so that I can coordinate support confidentially.

4.0 Product Backlog Table

This table lists all user stories and their assigned priorities (Must Have, Should Have, Could Have).

Task ID	User Story (Summary)	Persona	Priority
US01	Manage user accounts (CRUD)	Admin Staff	Must Have
US02	Create and publish timetables	Admin Staff	Must Have
US03	Mark student attendance	Teacher	Must Have
US04	Enter and manage marks	Teacher	Must Have
US05	View personalized timetable	Student	Must Have
US06	Access grades and marks	Student	Must Have
US07	View child's academic results	Parent	Should Have
US08	Track child's attendance	Parent	Should Have
US09	Manage fee records	Admin Staff	Should Have
US10	View fee balances and pay online	Parent	Should Have
US11	View real-time dashboard	Director	Should Have
US12	Broadcast announcements	Admin Staff	Should Have
US13	Receive notifications	Student	Should Have

US14	View own attendance history	Student	Should Have
US15	View daily schedule	Teacher	Should Have
US16	Send messages to parents	Teacher	Should Have
US17	Get alerts for low attendance	Student Support Officer	Could Have
US18	Get alerts for failing grades	Student Support Officer	Could Have
US19	Generate summary reports	Director	Could Have
US20	Receive school announcements	Parent	Could Have
US21	Access student's complete profile	Student Support Officer	Could Have
US22	View historical academic data	Director	Could Have
US23	Send private messages	Student Support Officer	Could Have
US24	View teacher activities overview	Director	Could Have

5.0 Sprint Plan

The product backlog has been divided into four sprints, prioritizing the most critical features first.

Sprint 1: Core Foundation & Setup (Must Haves)

- Goal: To establish the core architecture and essential functionalities. The system should support user login and the most critical academic tasks.

- User Stories: US01, US02, US03, US04, US05, US06.

Sprint 2: Expanding User Features & Parent Access (Should Haves)

- Goal: To build upon the core by adding key features for parents and expanding the information available to students and teachers.

- User Stories: US07, US08, US09, US10, US14, US15.

Sprint 3: Communication & Management Tools (Should Haves)

- Goal: To implement the communication framework and provide the Director with essential monitoring tools.

- User Stories: US11, US12, US13, US16, US19, US20.

Sprint 4: Support Features & Advanced Reporting (Could Haves)

- Goal: To complete the feature set by adding functionalities for the Student Support Officer and advanced reporting for the Director.

- User Stories: US17, US18, US21, US22, US23, US24.

6.0 Task Assignments and Ownership

The following table details the specific development tasks and responsibilities for Sprint 1, which focuses on building the core foundation of the application. Tasks for the remaining features (like Fee Management and Notifications) will be assigned in future sprints.

Dulakshika A.L.S.H (Product Owner):

Define Sprint 1 Features: Responsible for clearly explaining the features needed for Sprint 1. This includes writing the detailed rules for how each function should work and answering any questions the development team has about them.

Dilhani W. P. K. A (Scrum Master):

Manage Sprint Quality & Documents: Responsible for managing the sprint plan and tracking the team's progress. She will also oversee quality by making sure the new features are tested properly and will keep the main project documents updated.

Disanayaka D.M.C.N (Developer):

User Management System: Responsible for building the behind-the-scenes functions for creating user accounts, handling secure logins, and making sure each user role sees the correct information.

Devinda S. U. V (Developer):

Academic Records System: Responsible for building the behind-the-scenes part for how teachers will enter and save student attendance and marks.

Dahanayake L.K (Developer):

Main User Screens (Frontend): Responsible for designing and building the screens that users will interact with, such as the login page, the student timetable screen, and the forms for entering grades.

Bandara R. M. G. L (Developer):

Timetable System: Responsible for creating the behind-the-scenes functions for how class schedules are created, stored, and sent to the user screens.