Winter
2026

Software Requirements Specification

Github : https://github.com/Seulgilet/PRJ566NBB_2261_Group6

SmartMatch – Student Team Project Matching Platform

Seulgi Lee

Moe Thet Paing

Yahya Osman

Executive Summary

Background

Description

Company Value Add

End-User Value Add

Scope

What is Included

What is Not Included

Justification

Table of Contents

Section 1

1.1 Document Authors

- Seulgi Lee
- Moe Thet Paing
- Yahya Osman

1.2 Document Revision History

WEEK	DATE	Revisions
1	Jan 25, 2026	• Section 1 • Section 2.1
2		•
3		•
4		•
5		•
6		•
7		•
8		•
9		•
11		•
12		•
13		•
14		•

1.3 Document Purpose

The purpose of this Software Requirements Specification (SRS) document is to formally define and document the functional and non-functional requirements of the ***SmartMatch*** *– Student Team Project Matching Platform*. This document serves as the primary reference for all stakeholders by clearly specifying what the system is expected to accomplish, the boundaries of the system, and the conditions

under which it must operate.This SRS establishes a common understanding between the project team, faculty, and other stakeholders regarding system objectives, scope, and constraints before the commencement of system design and implementation activities. By capturing requirements in a structured and standardized format, the document aims to minimize ambiguity, reduce the risk of misinterpretation, and prevent scope creep throughout the project lifecycle.

1.4 Audience

This Software Requirements Specification is intended for a diverse audience involved in or affected by the SmartMatch project.

The primary audience includes:

- **Project Team Members**, who will use this document to guide analysis, design, development, and testing activities in alignment with defined requirements.
- **Faculty and Course Evaluators**, who will review the document to assess academic rigor, requirement completeness, and adherence to professional software engineering standards.
- **Project Stakeholders and Client Representatives**, who will validate that the documented requirements accurately reflect the intended problem domain and proposed solution.

A secondary audience may include future developers or maintainers who require an understanding of system requirements and rationale to support system enhancement or maintenance. The document is written to balance technical clarity with accessibility, ensuring it remains understandable to both technical and non-technical readers.

1.5 Group Agreement

Team:

Project Planning and Management Group #6

Project Title

SmartMatch - Student Team Project Matching Platform

Project Time Frame:

Approximately 6 month time frame

Winter 2026 - Summer 2026

Team Members:

Seulgi Lee

Yahya Osma

Moe Thet Pain

Team Leadership:

Project Manager: Seulgi Lee

Mainly responsible for project coordination, timeline management, final tests and project refinement.

Team Functions/Roles:

Seulgi Lee : Project Manager/ frontend development /Quality Assurance

Yahya Osman : Documentation/ Frontend development/ Business case Development/ Team coordination

Moe Thet Paing: Backend Development/ UI/UX Development

Team Meetings

Meeting #1: In person, Mondays 13:30

Meeting #2: Online, Thursdays 11:40

Team Problems

Some potential problems the team might face:

1. Schedule conflicts
2. Workload balance
3. Technical issues
4. Communication issues

Team Commitment

The undersigned members agree to work together on the project until the end of the PRJ666 next Semester. They recognize that as a team and individually they are equally responsible for the quality of all deliverables.

Name	Date	Signature

Seulgi Lee	25/01/2026	Seulgi Lee
Yahya Osman	25/01/2026	Yahya Osman
Moe Thet Pain	25/01/2026	Moe Thet Pain

Section 2

2.1 Project Proposal

2.1.1 Project Background

Market Overview

- Many programs (computer science, engineering, business) rely on **graded group work** as a core assessment method.
- Research indicates that **well-structured team** learning can improve educational outcomes compared to individual learning.
- Growth of **hybrid and online learning** environments has increased reliance on digital coordination and collaboration tools.

The global Learning Management System (**LMS**) market is valued in the **tens of billions of USD** and is projected to grow steadily through the next decade.Institutions continue investing in digital learning infrastructure that supports course delivery and student management.

Current Team Formation Methods

- Student self-selection
- Manual instructor assignment
- Random assignment via Learning Management Systems (LMS)

Traditional student grouping methods frequently struggle to balance efficiency with equity: self-selection often fosters bias, manual assignment fails to scale for large cohorts, and **random assignment** ignores essential variables like **skill sets and schedules.** This gap is further widened

by current LMS platforms, which provide basic automation but lack the sophisticated, multi-criteria optimization and transparent logic necessary to create truly balanced and effective teams.

Competitor Landscape

Overview	Capabilities	Limitations
Learning Management Systems (LMS)	● Provide group creation and management tools ● Support manual or random student assignment ● Integrated into existing academic workflows	● Do not optimize team composition using multiple student attributes ● Limited support for skill-based or role-based matching
Cross-Domain Grouping and Matching Systems	● Use constraint-based matching with availability and preferences ● Demonstrate scalability of multi-criteria assignment approaches	● Not designed for academic assessment contexts ● Do not address grading fairness or educational learning outcomes ● Lack support for student-specific roles or project skills
Post-Formation Team Management Tools	● Support peer evaluation and team performance monitoring ● Enable instructor intervention after teams are formed	● Do not address issues arising from poor initial team formation ● Focus on corrective measures rather than prevention

Market Gap

- Existing solutions focus on **administrative convenience**, not **team quality optimization**.
- There is no lightweight system that:
    1. Uses structured student profile data
    2. Applies multi-factor matching (skills, availability, role preference)
    3. Provides explainable team formation outcomes

2.1.2 Problem Statement

The problem of	In many universities and colleges, team projects are an essential part of coursework. However, when forming teams, institutions still rely on random assignment or student self-selection methods, **resulting in groups being formed without any meaningful information about group members**. In these cases, students are assigned to teams without knowing their teammates' skills, availability, work styles, or expectations, which creates uncertainty at the start of projects and makes effective collaboration difficult from the beginning.
Affects	This problem affects **students, professors, and educational institutions** alike. Students frequently encounter **unfair workload distribution**, lack of leadership, **scheduling conflicts**, and interpersonal issues. Professors and institutions must invest additional time and effort in managing team conflicts, addressing complaints, and ensuring fair evaluation.
The impact of which is	As a result, **teams are unable to work effectively from the beginning of the project**. Collaboration becomes inefficient, time and effort are wasted, learning outcomes diminish, and the operational burden on institutions increases.
A successful solution would be	An ideal solution should provide a team formation process that considers **individual characteristics and circumstances, such as students' skills, availability, work styles, and role preferences**, along with a transparent team formation process, promotion of balanced participation, and reduction of early-stage project conflicts. Through this approach, it should improve

	students' learning experience and enable institutions to manage team-based courses more effectively.

2.1.3 Product Vision

For (target customer)	For educational institutions such as universities and colleges
Who	Face challenges caused by random or informal team formation methods, including team conflicts, unbalanced workload distribution, reduced learning outcomes, and increased administrative effort related to managing team-based projects
The SmartMatch	SmartMatch is a B2B web-based team matching platform designed to support the structured formation of student teams for academic, course-based team projects by using student-provided data rather than random or manual assignment methods
That	Considers individual skills, availability, role preferences, and collaboration styles to form balanced teams, provides transparency in the team formation process, reduces conflicts at the early stages of projects, and improves student participation and overall learning experience,
Unlike	Unlike manual, random, or instructor-driven team assignment methods, or basic group creation features commonly found in learning management systems
Our product	SmartMatch offers clear matching criteria and understandable team composition outcomes, enabling institutions to manage team-based courses through consistent, data-driven team formation processes, fair workload distribution based on student attributes, and reduced administrative time spent on manual team assignment and conflict management.

2.2 Stakeholders and Users

Internal:

- **Role name/Persona** - Description.
- ……..

External:

- **Role name/Persona** - Description.

- ……..

2.3 Project Scope

2.4 System Rosks

2.5 Operating Environment

2.6 Functional Requirements

2.7 Nonfunctional Requirements

2.8 UI/UX Interface Mock-ups

Section 3

3.1 Data Flow Diagrams

3.2 Iser Stories and related Use Case Scenarios

3.3 Activity Diagrams

3.4 Business Rules

Business Rule #	Description	Activity Diagram	Related UCS	UI Mock-up
BR1		AD1	UC1	UI 2.7.2
BR2		AD2	UC2	UI 2.7.3
BR3		AD3	UC3	UI 2.7.4
BR4		AD3	UC3	UI 2.7.4
BR5		AD5	UC4	UI 2.7.6
BR6		AD6	UC5	UI 2.7.6
BR7		AD7	UC6	UI 2.7.7
BR8		AD8	UC7	UI 2.7.8
BR9		AD8	UC7	UI 2.7.8
BR10		AD8	UC7	UI 2.7.8
BR11		AD8	UC7	UI 2.7.8
BR12		AD8	UC7	UI 2.7.8
BR13		AD9	UC8	UI 2.7.9
BR14		AD9	UC8	UI 2.7.9
BR15		AD9	UC8	UI 2.7.9
BR16		AD9	UC8	UI 2.7.9
BR17		AD10	AD9	UI 2.7.9
BR18		AD10	AD9	UI 2.7.9
BR19		AD10	AD9	UI 2.7.9
BR20		AD11	UC10	UI 2.7.10
BR21		AD11	UC10	UI 2.7.11
BR22		AD11	UC10	UI 2.7.11
BR23		AD12	UC11	UI 2.7.10
BR24		AD13	UC12	UI 2.7.12

Section 4 – Domain Class

Section 5 – Database

Section 6 – Project Management

6.1 Work Breakdown Structure

6.2 Milestones & Acceptance Criteria

Section 7 – Product Backlog & Implementation Schedule

Section 8 – Client/Faculty Sign-off