UNIVERSITY OF INFORMATION & TECHNOLOGY

FACULTY OF COMPUTER SCIENCE

SYSTEM REQUIREMENT SPECIFICATION (SRS)

Topic: National Football League Management

Class code: SE104.N24.CLC

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Contents

1. Introduction

1.1. Purpose

This SRS describes the software functional and non-functional requirements for release 1.0 of the National Football League Management (NFLM). This document is intended to be used by the members of the project team who will implement and verify the correct functioning of the system. Unless otherwise stated, all requirements specified here are high priority and committed for release 1.0.

1.2. Document Conventions

No special typographical conventions are used in this SRS.

1.3. Project Scope

The National Football League Management consists of the following major functions:

- Support manager to create a team profile
- Scheduling matches for the tournament
- Recording match result
- Support user to lookup for player
- Support manager to create a tournament report
- Manager can add or edit regulations

1.4. References
- SRS template by Jacksonville State University
- SMS-SRS by team from previous course

2. Overall Description

The product described in this document is a software for national football league management.

2.1. Product Perspective
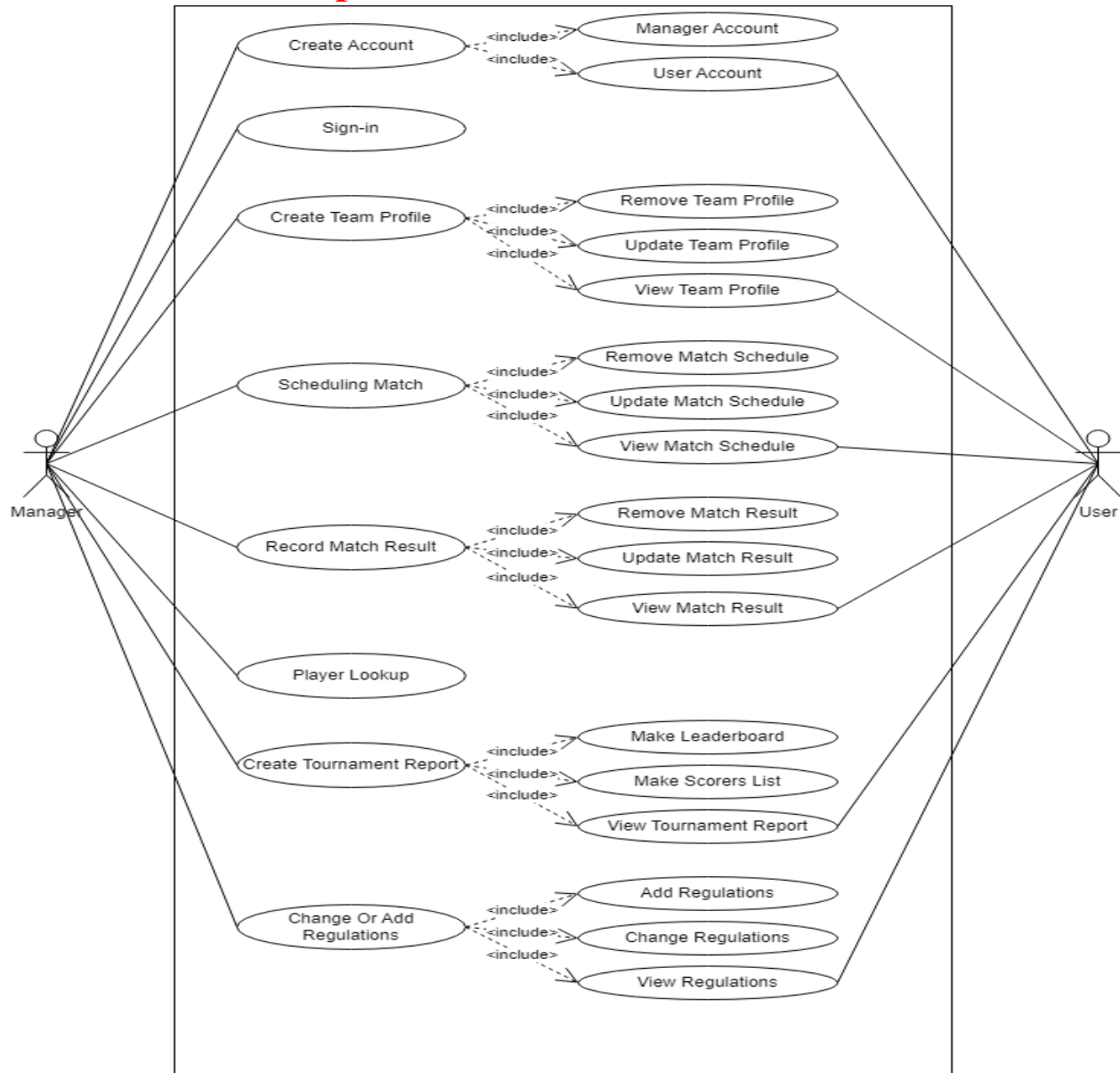
Figure 1. NFLM Use-Case Diagram

The National Football League Management system is a system that support manager to manage the tournament more effectively. The context diagram in figure 1 illustrates the external entities and system interfaces for release 1.0. The system is expected to evolve over several releases.

2.2. User Classes and Characteristics

Manager   The Manager is a tournament employee who assist team to create there profile and making report everytime the tournament is over, record match result,…

User   User can view all the tournament information like match result, match schedule, team profile and player profile,…

2.3. Operating Environment

OE-1:   The NFLM shall operate correctly with any operating system from Windows, MacOS, Linux that supported Python

OE-2:   The NFLM shall permit user access from the cooperate Intranet, from a VPN Internet connection

2.4. Design and Implementation Constraints

CO-1:   The system's design, code, and maintenance documentation shall conform to the NFLM SDD

CO-2:   The system shall use the Microsoft SQL database management system, Python 3.10

2.5. Assumptions and Dependencies (*)

3. System Features

3.1. Create User Account

3.1.1. Description
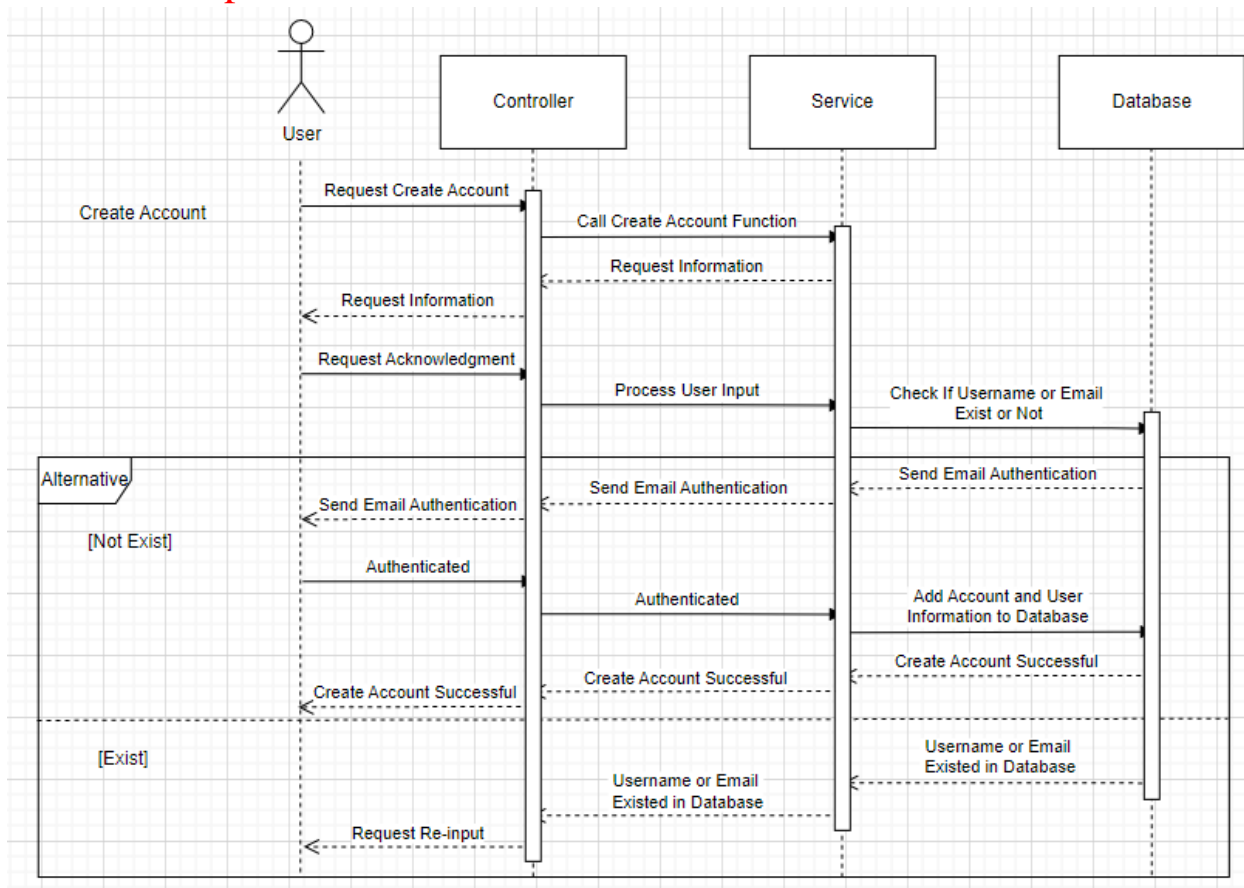
Figure 2. Create Account Sequence Diagram

User need to create an account to grant access to NFLM system. If the User is an Manager, he will grant a account from system with **Priority=High**, else he will create an account on his own with his personal information and receive mail authentication from system

3.1.2. Functional Requirements

Request for create account

Introduction

 •The NFLM asks for User's username, password and email to create an account for User.

Inputs

•User's username

•User's password

•User's email

•User's personal information (optional)

Processing

•The NFLM checks for the combination from the data in the Database and add User's account to database.

3.2. Sign-in
3.2.1. Description
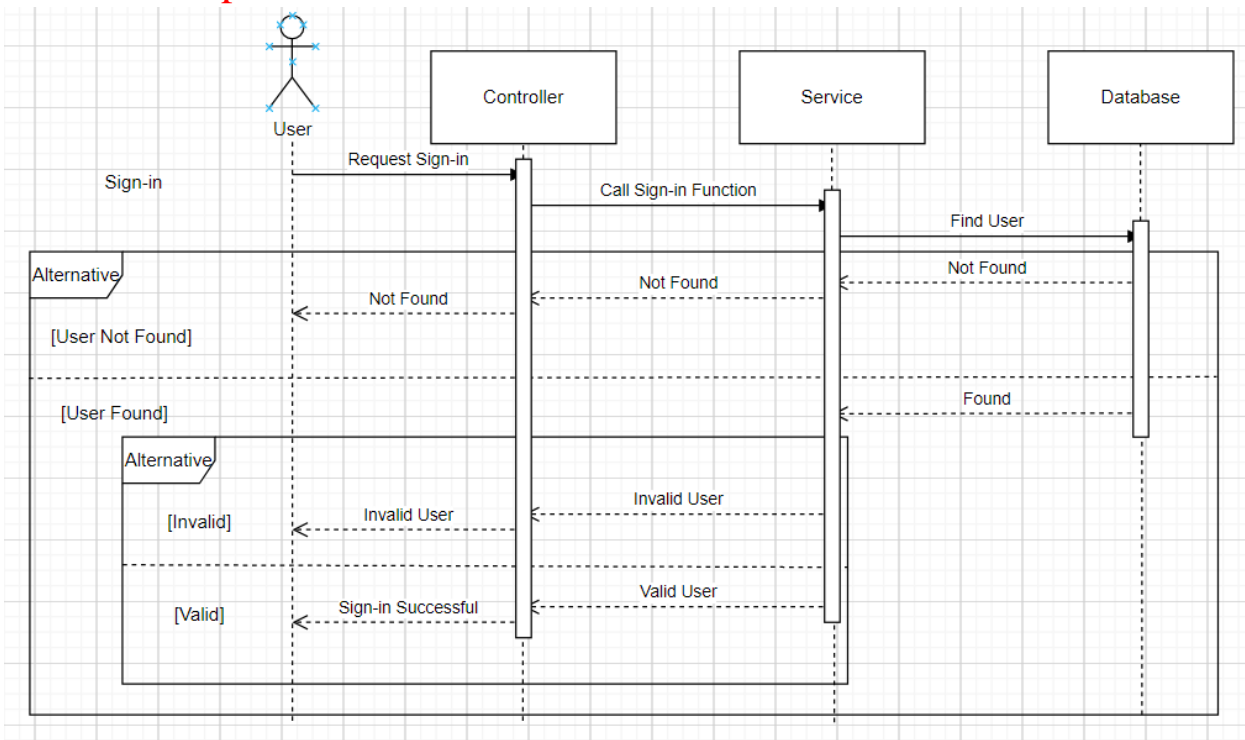
Figure 3. Log-in Sequence Diagram

Any User who has an account can have access to the NFLM system. If the User is a Casual User, he can view information about league, team, match schedule and player. If the User is an Manager, he can make reports and manage related data. **Priority = High.**

3.2.2. Functional Requirements
Request for signing in

Introduction

•The NFLM asks for User's username and password and asks for its verification via the Database.

Inputs

•User's username

•User's password

Processing

•The NFLM checks for the combination from the data in the Database.

3.3. Create Team Profile
3.3.1. Description
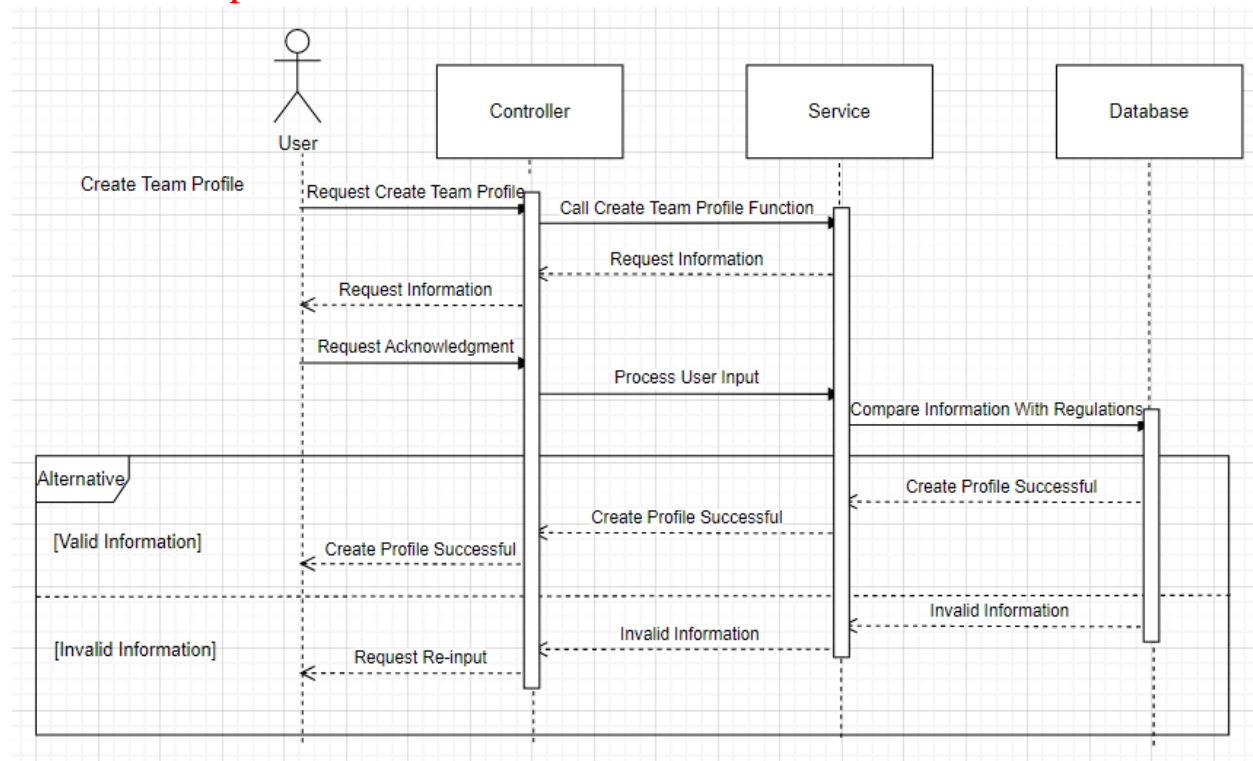
Figure 4. Create Team Profile Sequence Diagram

Any User can view team profile. If the User is a Manager, he can create team profile with team information provided.

3.3.2. Functional Requirements

Request for create team profile

Introduction

•The NFLM asks for Team's information and asks for its verification via the Database.

Inputs

•Team's player information

•Team's name

•Team's club

Processing

•The NFLM checks for the combination from the data in the Database.

3.4. Scheduling Match

3.4.1. Description
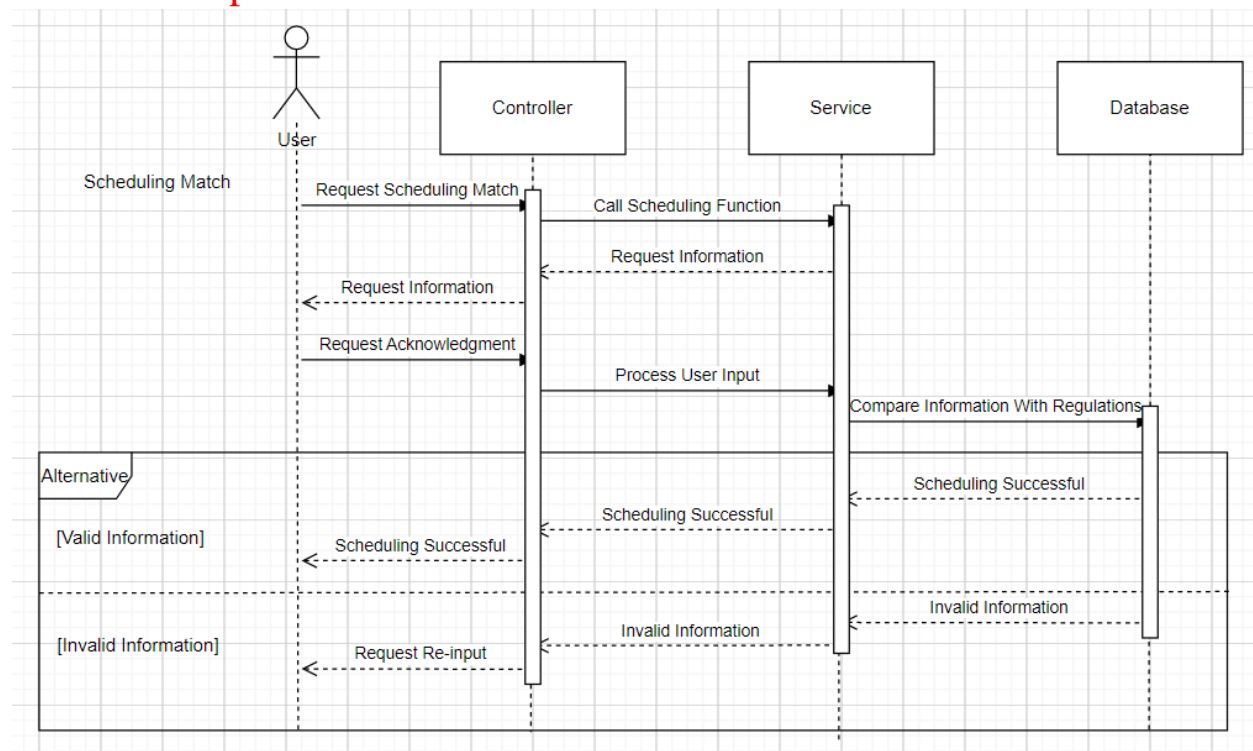
Figure 5. Scheduling Match Sequence Diagram

Any User can view match schedule. If the User is a Manager, he can scheduling match with the information provided.

3.4.2. Functional Requirements
Request for scheduling match

Introduction

 •The NFLM asks for Match's information and asks for its verification via the Database.

 Inputs

•Round of match

•Team 1

•Team 2

•Time

•Stadium

Processing

•The NFLM checks for the combination from the data in the Database.

3.5. Record Match Result

3.5.1. Description
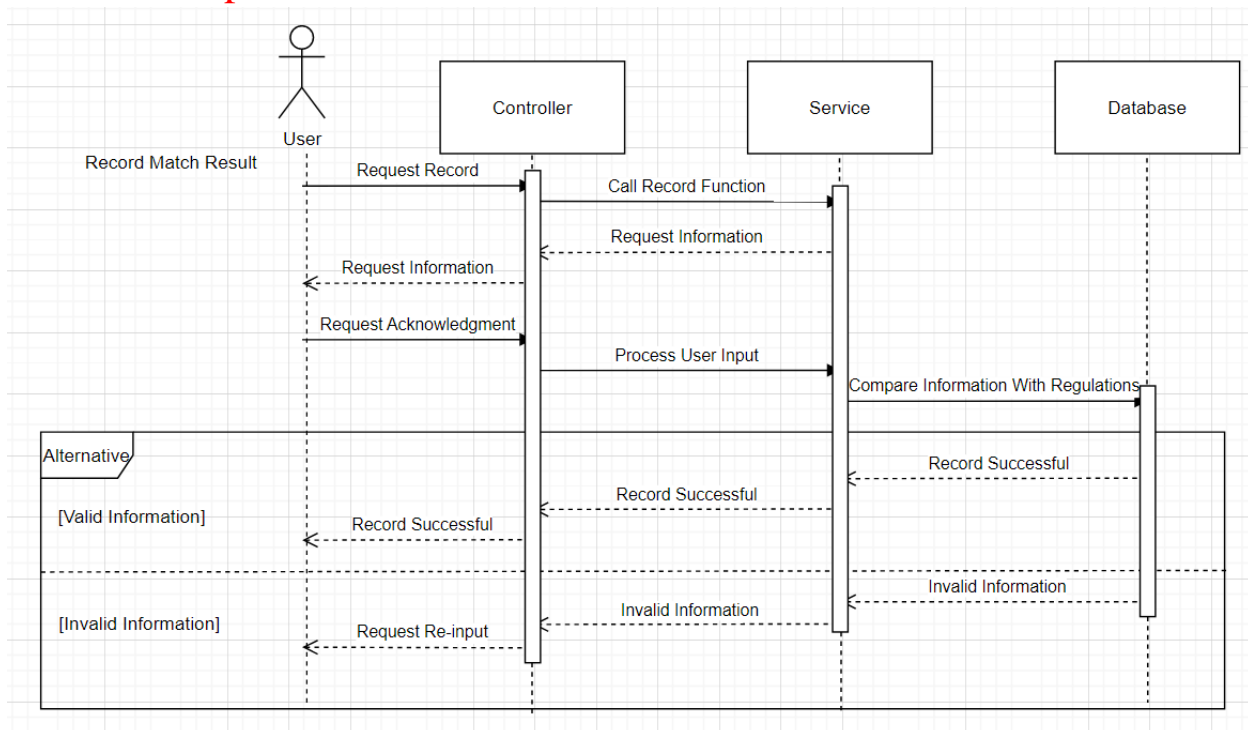
Figure 6. Record Match Result Sequence Diagram

Any User can view match result. If the User is a Manager, he can record match result with the information provided.

3.5.2. Functional Requirements

Request for scheduling match

Introduction

•The NFLM asks for Match Result's information and asks for its verification via the Database.

Inputs

•Team 1

•Team 2

•Time

•Stadium

•Score

•Scorers

Processing

•The NFLM checks for the combination from the data in the Database.

3.6. Player Lookup

3.6.1. Description
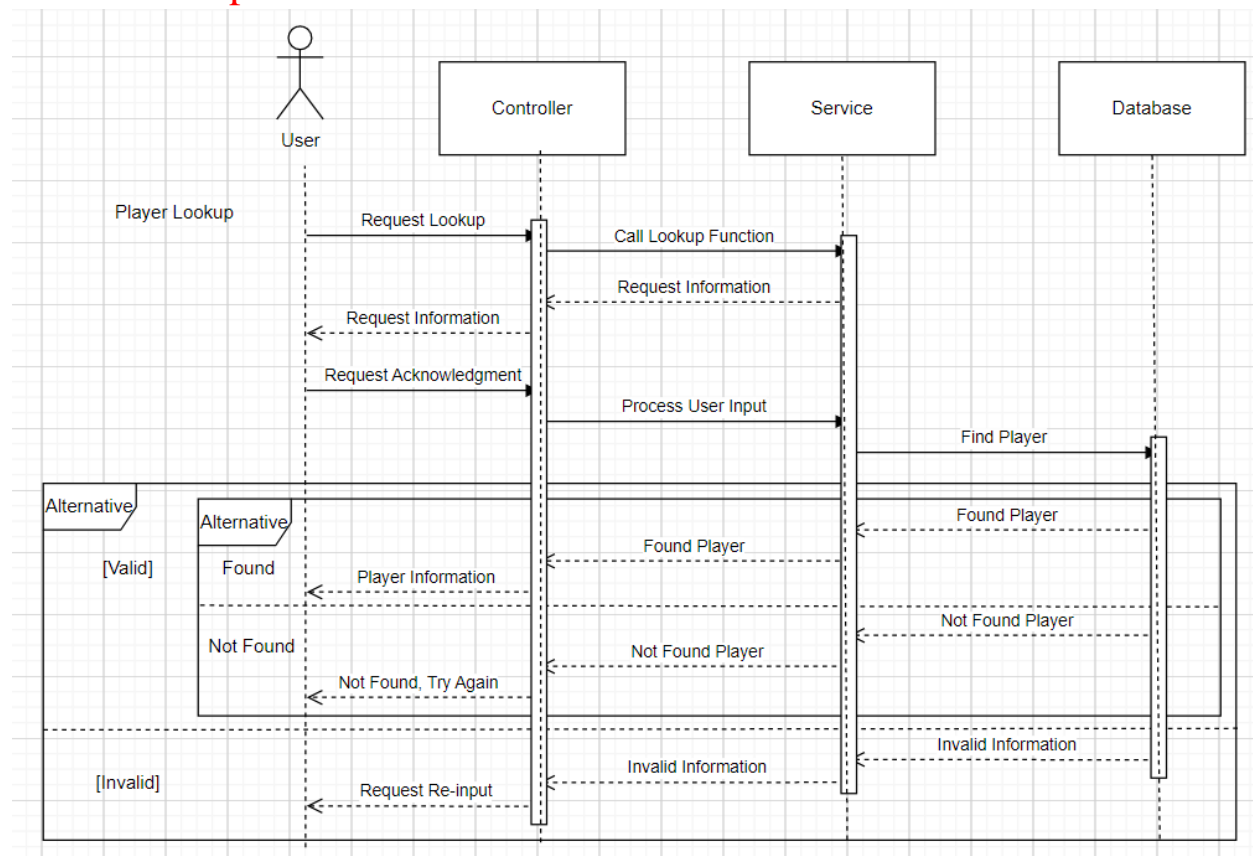
Figure 7. Player Lookup Sequence Diagram

Any User can lookup for players.

3.6.2. Functional Requirements
Request for player lookup

Introduction

•The NFLM asks for Player's information and lookup for player in database.

Inputs

•Player's name

•Player's team

Processing

•The NFLM lookup player from the data in the Database.

3.7. Create Tournament Report
3.7.1. Description
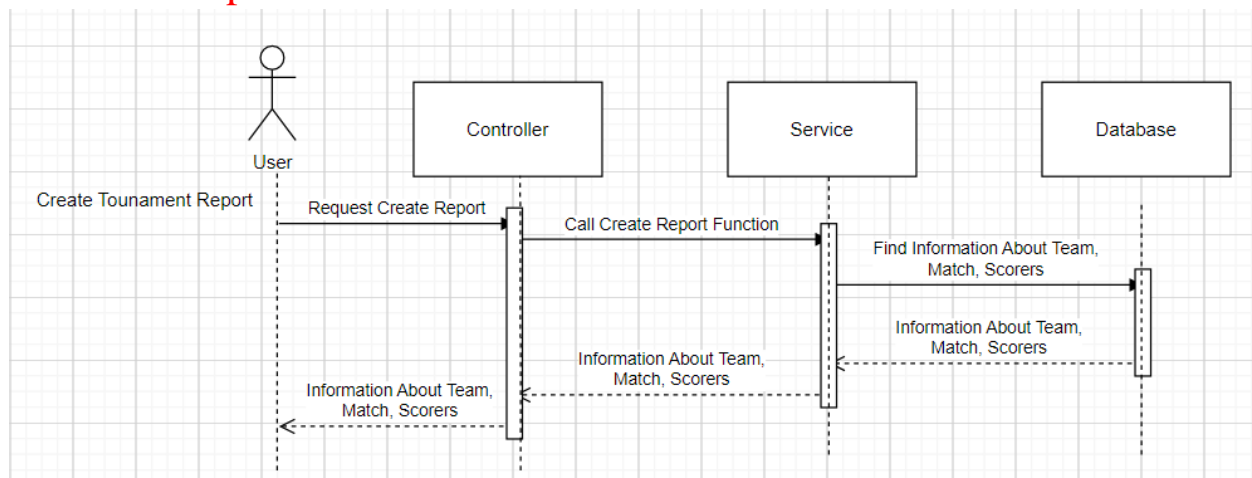
Figure 8. Create Tournament Report Sequence Diagram

Any User can view tournament report. If the User is a Manager, he can create tournament report with the information provided.

3.7.2. Functional Requirements
Request for create tournament report

Introduction

•The NFLM create leaderboard and scorers list.

Processing

•The NFLM lookup for teams and scorers from the data in the Database and create leaderboard and scorers list.

3.8. Change or Add Regulations

3.8.1. Description
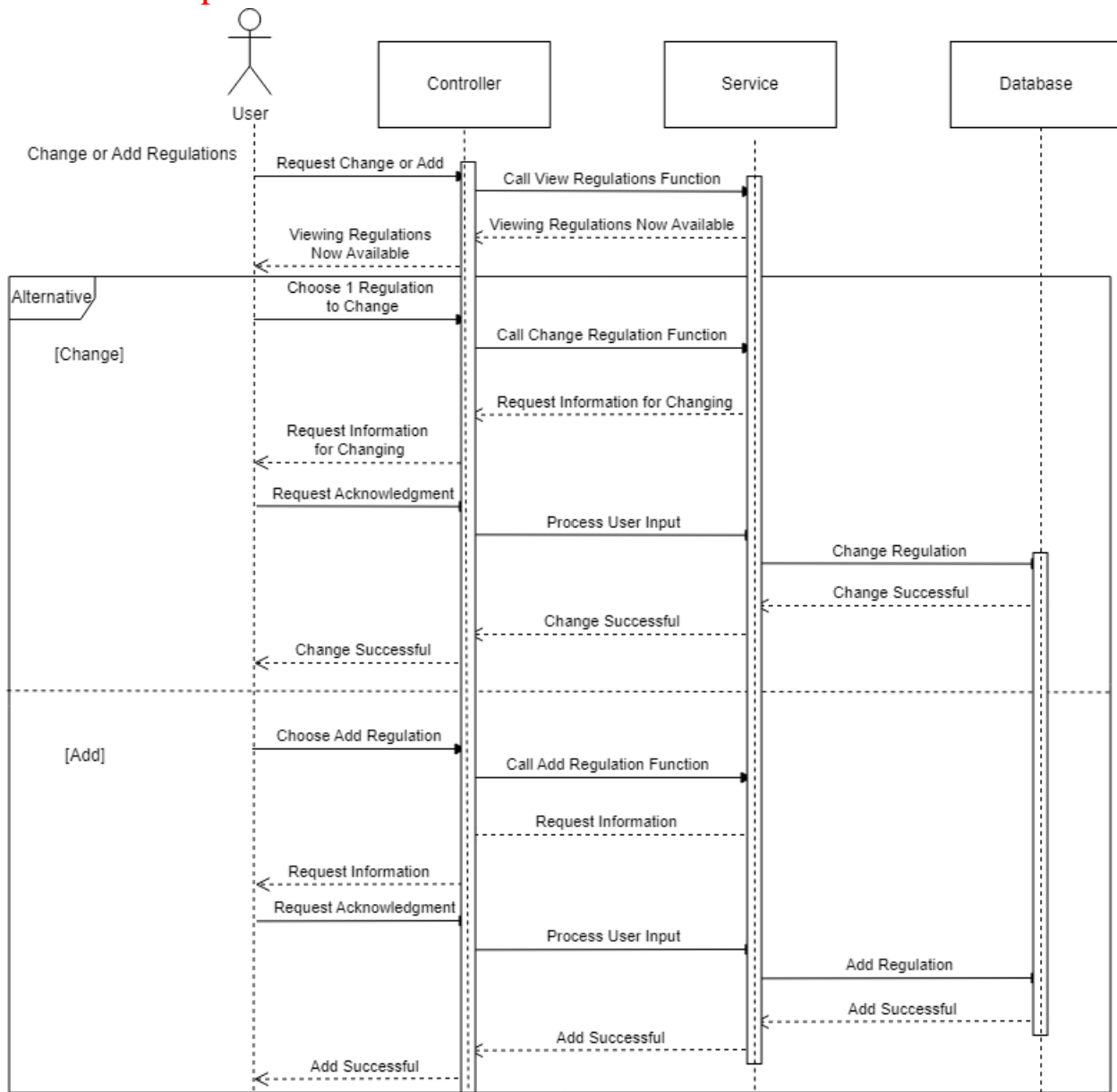
Figure 9. Change or Add Regulation Sequence Diagram

Any User can view tournament regulations. If the User is a Manager, he can add or change tournament regulations with the information provided.

3.8.2. Functional Requirements

Request for change or add regulations

Introduction

•The NFLM asks for Regulation's information.

Inputs

•Regulation's information

Processing

•The NFLM change or add regulation to the Database.

4. Data Requirements

4.1. Logical Data Model
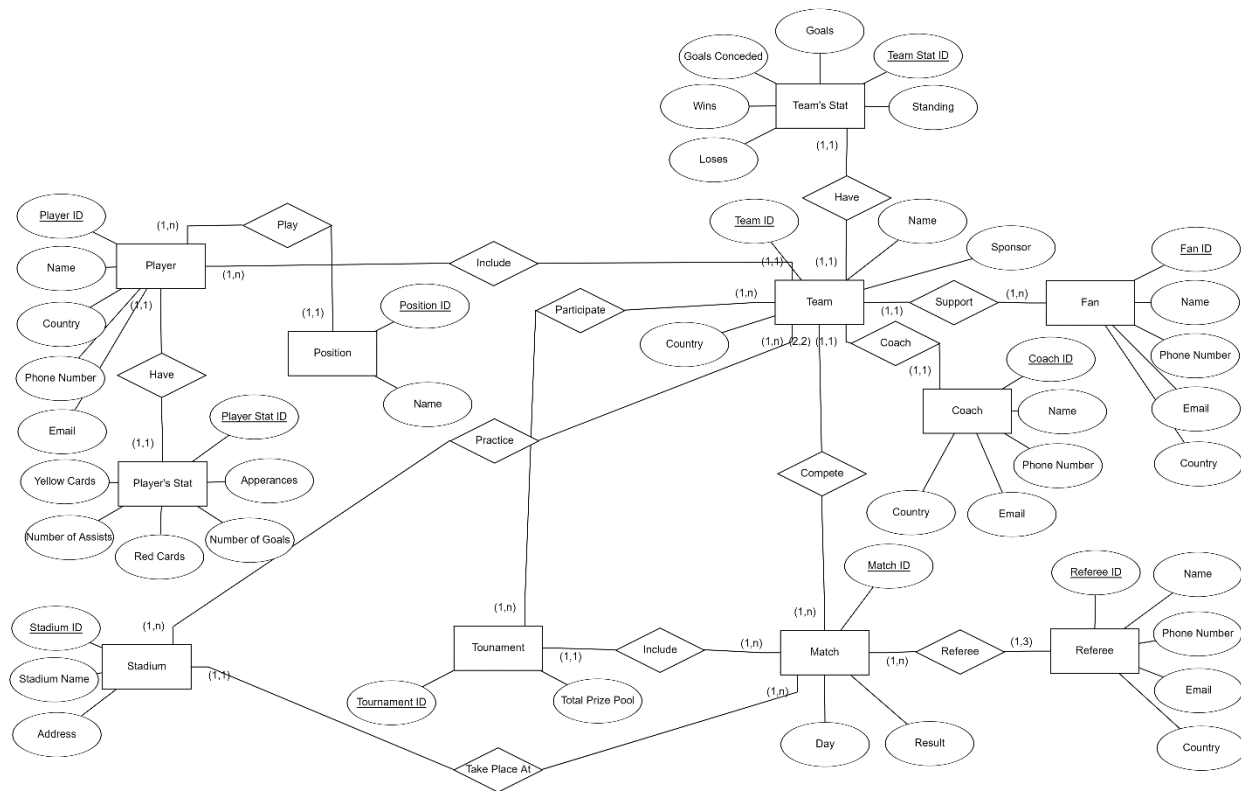
Figure 10. ERD

All the data is saved in the database:

- Player information
- User information
- Team information
- Match information
- Stadium information
- Tournament information
- Referee information
- Coach information

The database allows concurrent access by various employees and is kept consistent at all the times requiring a good database design.

4.2. Data Dictionary

Entity	Data Element	Description	Composition or Data Type	Length	Values
User	Username	Username of the User account	string	20	
	Password	Password of User account	string	max	
	Email	Email of User	string	100	
Player	Player ID	ID of player	string	20	
	Player Name	Name of player	string	20	
	Player Nationality	Country of player	string	20	
	Player date of Birth	Birthdate	Date		
	Player Age	Age of player	int		
	Player Phone Number	Phone number of player	string	20	
	Player Email	Email of player	string	20	
	Weight	Player's weight	float		
	Height	Player's height	float		
	Stronger Foot	Player's stronger foot	int		
Player's Stat	Player's Stat ID	ID of player's Stat ID	string	20	
	Appearances	No. Appearances	int		
	Number of Goals	Player's total of goals	int		
	Number of Assists	Player's total of assists	int		
	Red cards	Player's number of red cards	int		

		received			
	Yellow cards	Player's number of	int		
Position	Position ID	ID of position	string		
	Name	Name of position (eg: FW, MF, GK,…)	string		
Team	Team ID	ID of team	string	20	
	Team Name	Name of team	string	20	
	Team Country	Country of team	string	20	
	Team Sponsor	Sponsor of team	string	20	
Team's Stat	Team's Stat ID	ID of team's stat	string		
	Standing	Standing of the team	int		
	Goals	Team's total goals	int		
	Goals Conceded	Team's total goals conceded	int		
	Wins	Team's number of wins	int		
	Loses	Team's number of loses	int		
Fan	Fan ID	ID of fan	string	20	
	Fan Name	Name of fan	string	20	
	Fan Phone Number	Phone Number of fan	string	20	
	Fan Email	Email of fan	string	20	
	Fan Nationality	Country of fan	string	20	
Coach	Coach ID	ID of coach	string	20	
	Coach Name	Name of coach	string	20	
	Coach Phone	Phone number	string	20	

	Number	of coach			
	Coach Email	Email of coach	string	20	
	Coach Country	Country of coach	string	20	
Referee	Referee ID	ID of referee	string	20	
	Referee Name	Name of referee	string	20	
	Referee Phone Number	Phone number of referee	string	20	
	Referee Email	Email of referee	string	20	
	Referee Country	Country of referee	string	20	
Match	Match ID	ID of match	string	20	
	Day	The day of match	date	10	
	Result	Result of match	string	20	
Tournament	Tournament ID	ID of tournament	string	20	
	Tournament name	Name of the Tournament	string	30	
	Total Prize Pool	Prize pool of the tournament	int	100	
Stadium	Stadium ID	ID of tounament	string	20	
	Stadium Name	Name of tournament	string	20	
	Stadium Address	Address of tournament	string	20	

4.3. Data Integrity, Retention, and Disposal

DI-1:   The NFLM shall retain player information for 3 years after the player left a team.

DI-2:   The NFLM shall retain team information for 3 years after the team disbanded.

5. External Interface Requirements

5.1. User Interfaces

Customer Interface

The NFLM screen displays an interface for the user to choose features for him to review tournament information.

Manager Interface

The NFLM screen displays an interface to communicate with NFLM system.

5.2. Software Interfaces

Create Account Interface

The NFLM screen displays an interface for the user to type in their information like username, password and email, personal information to create account.

Sign-in Interface

The NFLM screen displays an interface for the user to sign-in to NFLM system.

Team Profile Interface

The NFLM screen displays an interface for the manager create team profile and an interface for user to choose whatever team profile they want to view.

Scheduling Match Interface

The NFLM screen displays an interface for the manager to scheduling match and an interface for user to view match schedule.

Record Result Interface

The NFLM screen displays an interface for the manager to record match result and an interface for user to view all tournament's match result.

Player Lookup Interface

The NFLM screen displays an interface for the user to type in information about the player they want to lookup and displays all the player found.

Tournament Report Interface

The NFLM screen displays the leaderboard and scorer list of tournament.

Regulations Interface

 The NFLM screen displays an interface for the user to view all the current regulations of the tournament and an interface for the manager to add or change regulation.

5.3. Hardware Interfaces

No hardware interfaces have been identified.

5.4. Communications Interfaces

CI-1   The NFLM shall send an email to the User to confirm his register request.

6. Quality Attributes

6.1. Usability Requirements

USE-1   The NFLM shall allow an User to view tournament information with a single interaction.

USE-2   95% of new Users shall be able to successfully view information without errors on their first try.

6.2. Performance Requirements

High level of performance requires high speed network and high level of connectivity.

6.3. Reliability Requirements

The available server must be reliable and the network connectivity in the supermarket should be proper for smooth flow of all operations and data.

6.4. Security Requirements

SEC-1   Every user of the software is provided a unique login username and a password which is stored in the Microsoft SQL database.

SEC-2   Users shall be required to log on to the NFLM for all operations.

SEC-3   Only authorized Managers shall be permitted to work with the system.

SEC-4   The system shall permit Users to view only what they choose to view.

6.5. Availabilty Requirements

The software is available for use all the time the tournament is still available.

6.6. Inverse Requirements

INV-1   The software does not allow the team with not enough player to play in the tournament.

INV-2   The software does not allow any other person except the managers to change the system information.