

Sports Betting System

Jackson Zhang

Road Map

1. My Approach to the project
2. Data Access Framework
3. Testing
4. UML
5. Security and Authentication
6. Used Source Control
7. SOLID principles
8. Design Pattern used
9. Next work for the project
10. Lessons learned from the project

My approach to the project

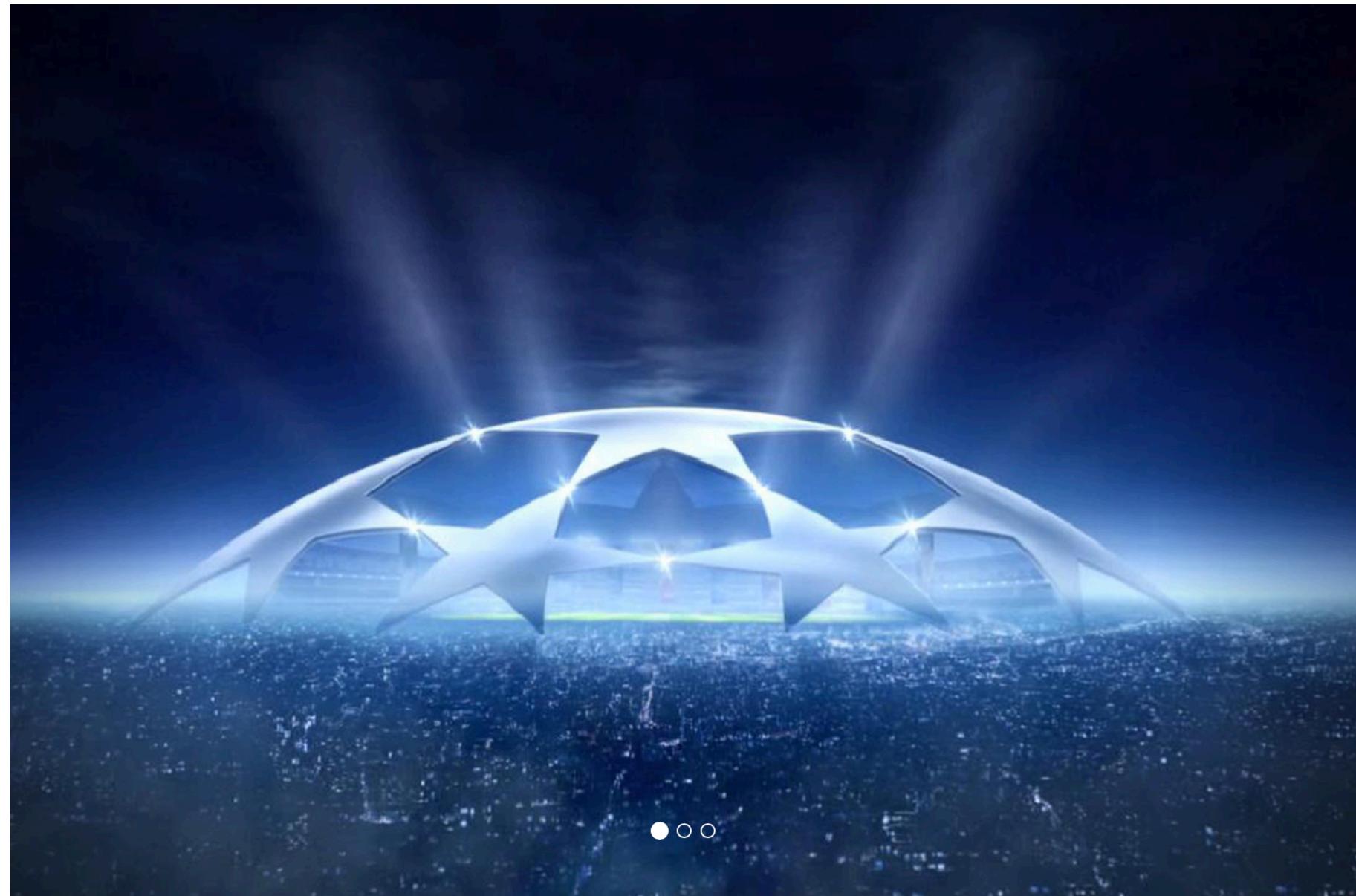
1. How I manage the project
2. Project delivery
3. Challenges and problem solutions

1.How I manage the project

- Draw the detailed User Case Diagram, making sure the functionalities expecting to achieve.
- Build the Database and have the detailed idea of ERD, and then creating the corresponding classes.
- Deciding to implement the MVC pattern for designing the project, and wrote codes for achieving the controller and view functionality.
- Using the Kanban board, following and monitoring current progress
- Using the SVN to commit all works.

2. Project Delivery

- Registration Functionality
- Login in
- Log out
- Top on money in User Account
- Choose one match and make the bet
- Reviewing the bet lists you have ordered
- The Team Rank View
- The popular Team and its match history view.

► REGISTRATION Username  Name Surname Email Password  Password  DD/MM/YYYY**REGISTRATION** Welcome to BET250

Please make the bet order

17:30 Saturday

Arsenal VS AFC Bournemouth

Arsenal Draw AFC Bournemouth 0.00

 Make a Bet

2.87 6.78 7.88

12:30 Saturday

Chelsea VS Burnley

Chelsea Draw Burnley 0.00

 Make a Bet

8.62 3.34 2.56

15:00 Saturday

Everton VS Crystal Palace

Everton Draw Crystal Palace 0.00

 Make a Bet

9.98 1.16 8.08

➔ Your Information

User Name: Godcrying

Email Address: jackson.zhang1@hotmail.com

Account Money: 600.0

0

Top on

Update

🎱 Latest Bet Orders

You bet AwayTeam Win 200.0 for match
Arsenal VS AFC Bournemouth 

You bet Draw 200.0 for match

 Team Points Rank

Everton... 41

Manchester United... 35

Southampton... 35

Tottenham Hotspur... 33

Chelsea... 32

Burnley... 31

Stoke City... 31

AFC Bournemouth... 30

Hull City... 30

West Ham United... 30

Crystal Palace... 29

Recent Matches History

17:30 Saturday 19th Week

Everton VS Manchester United

1----0

15:00 Saturday 18th Week

Crystal Palace VS Manchester United

3----4

17:30 Saturday 17th Week

Manchester United VS Swansea City

3----3

Welcome to BET250



3. Challenges and Solutions

- Algorithm for automatically generating the match schedule seems difficult to design
- The functionality of showing betting list whenever you make a order is difficult to achieve because it is not valid for writing and reading from database at the same time.
- Not get used to use the mockito for testing, and spent a lot of time for learning the mockito approach.

Data Access Framework

- JPA
- SQL

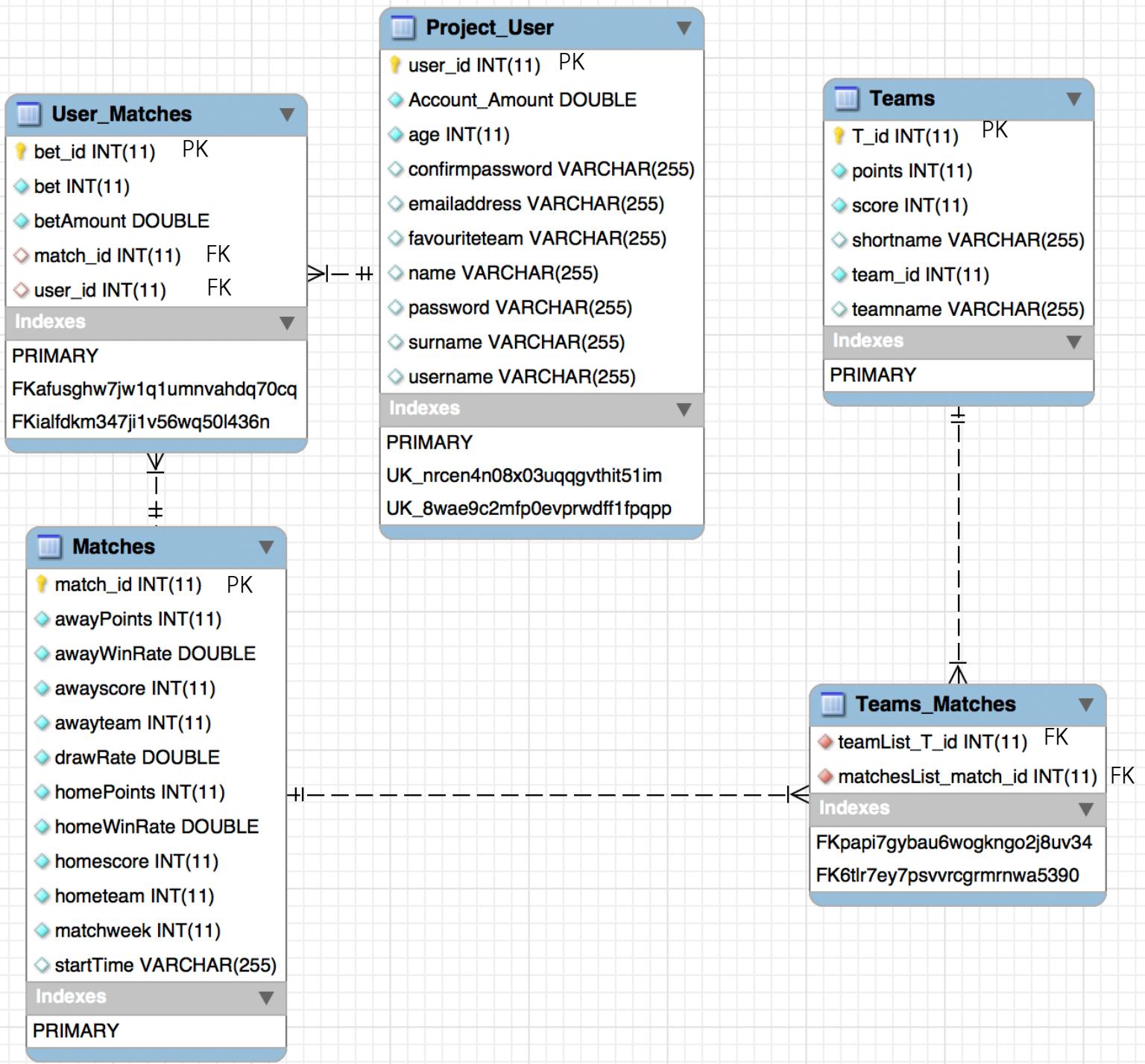
Testing

1. Both using Junit and Mockito Test Framework.
2. As for the method accesing the database, using the Mockito for testing.
3. I ran 61 tests, and all tests pass and no access to the database.
4. I have 96.1% coverage for the writing codes

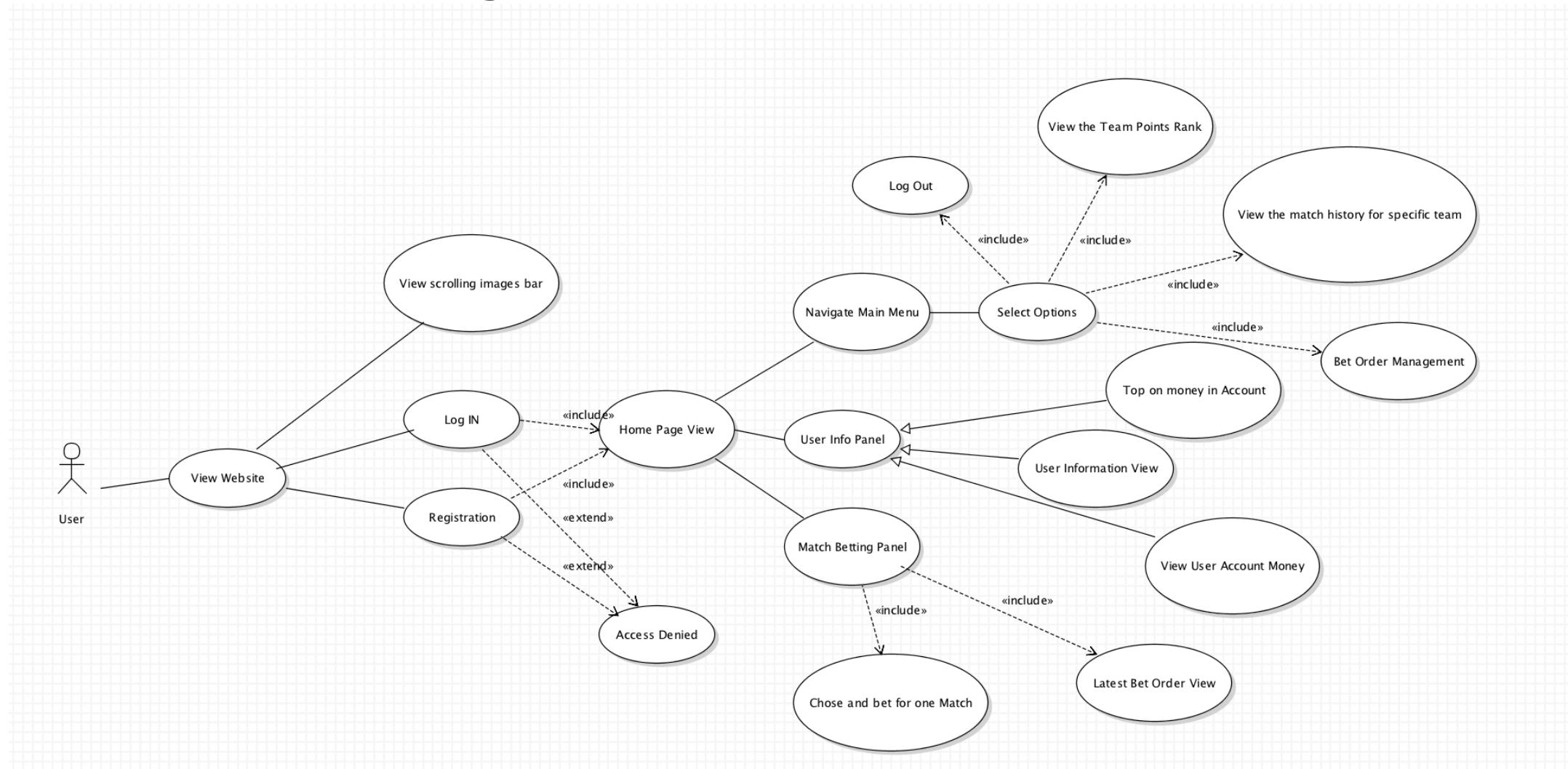
UML

- ERD
- Use Case Diagram
- Class Diagram

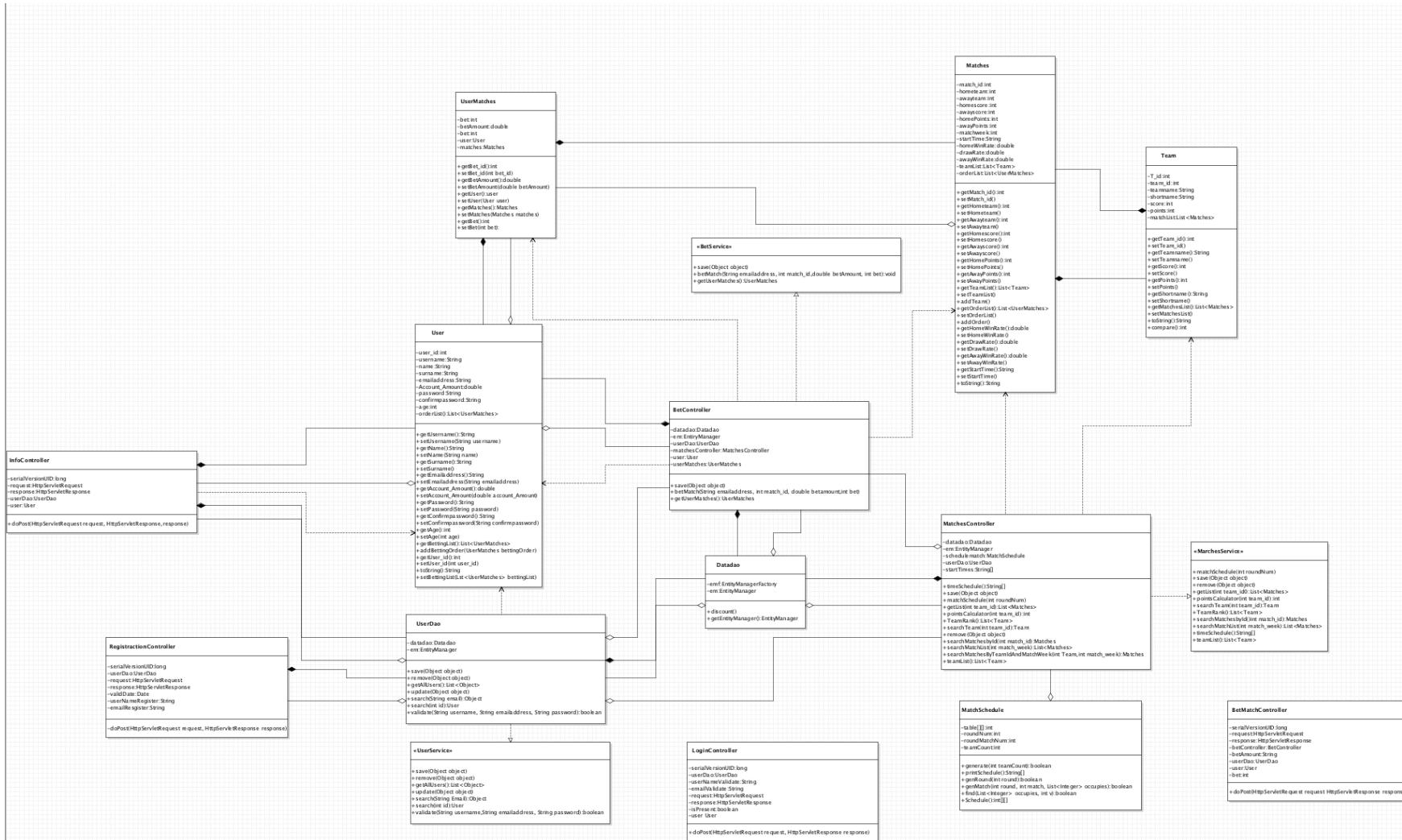
ERD



Use Case Diagram



Class Diagram



Security and Authentication

1. Registration

Password and confirmed password should match

User should provide data of birth, it cannot access in if User's age is less than 18

Email address and username are set to unique key, avoiding the same users accessing in

Password should follow the format with at least 6 digitals, must contains A capital and special character.

2. Log in

Registered User should provide username and email address.

All information and functions are not accessing if user does not provide correct information

SOLID Principles

1. Single Responsibility
2. Open/Close
3. Liskov substitution
4. Interface segregation
5. Dependency Inversion

Designing Pattern

1. MVC Pattern: Having model, view and controller parts, and every parts responsible for different functions.
2. Singleton Pattern: for the entity manager, using the singleton pattern, and every controller can get the entity manager from this class, not any detached between database connection.

Next work for the project

1. Improving the security, making sure that it will avoid any causes when wrong interface
2. Enhance the website appearance and layout, making it more outstanding, like employing table
3. Adding more functionalities based on the real sports betting system for the user
4. Simplify the codes but making sure it can work well

Lessons Learned from the project

1. Test is very import, Testing will help you manage the whole projects and manage the project.
2. Having the clear planning and not expecting too much before starting the project.
3. A good naming for both testing methods and all implementing methods