Project Documentation:

OOP Fantasy Draft System

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Object Oriented Programming

Content:

1. Project Description

The Fantasy Draft System is a Java-based desktop application that simulates the experience of a football manager. It allows users to build their dream team by drafting real-world players into specific tactical formations. The system is built using Java Swing for the Graphical User Interface (GUI) and Microsoft SQL Server for persistent data storage.

Core Purpose

The application serves two distinct types of users:

Drafters (Users): They can select a tactical formation (e.g., 4-3-3, 3-5-2), draft players onto a visual pitch, calculating a "Formation Rating" based on the players stats.

Admins: They manage the ecosystem by adding new players, updating ratings, removing users, and viewing system-wide statistics.

2. Key Features & Technologies

Language: Java (JDK 17+)

GUI Framework: Java Swing (JFrame, JPanel, Graphics2D for custom card rendering).

Database: Microsoft SQL Server (JDBC Connection).

Architecture: Tiered Architecture separating Interface (View), Users/Draft (Model), and Repository (Data Access).

3. Object-Oriented Design Implementation

This project strictly follows OOP principles to ensure scalability and maintainability.

Inheritance - The User class is the abstract parent. Admin and Drafter inherit from it, sharing common fields like username and password but implementing unique behaviors.

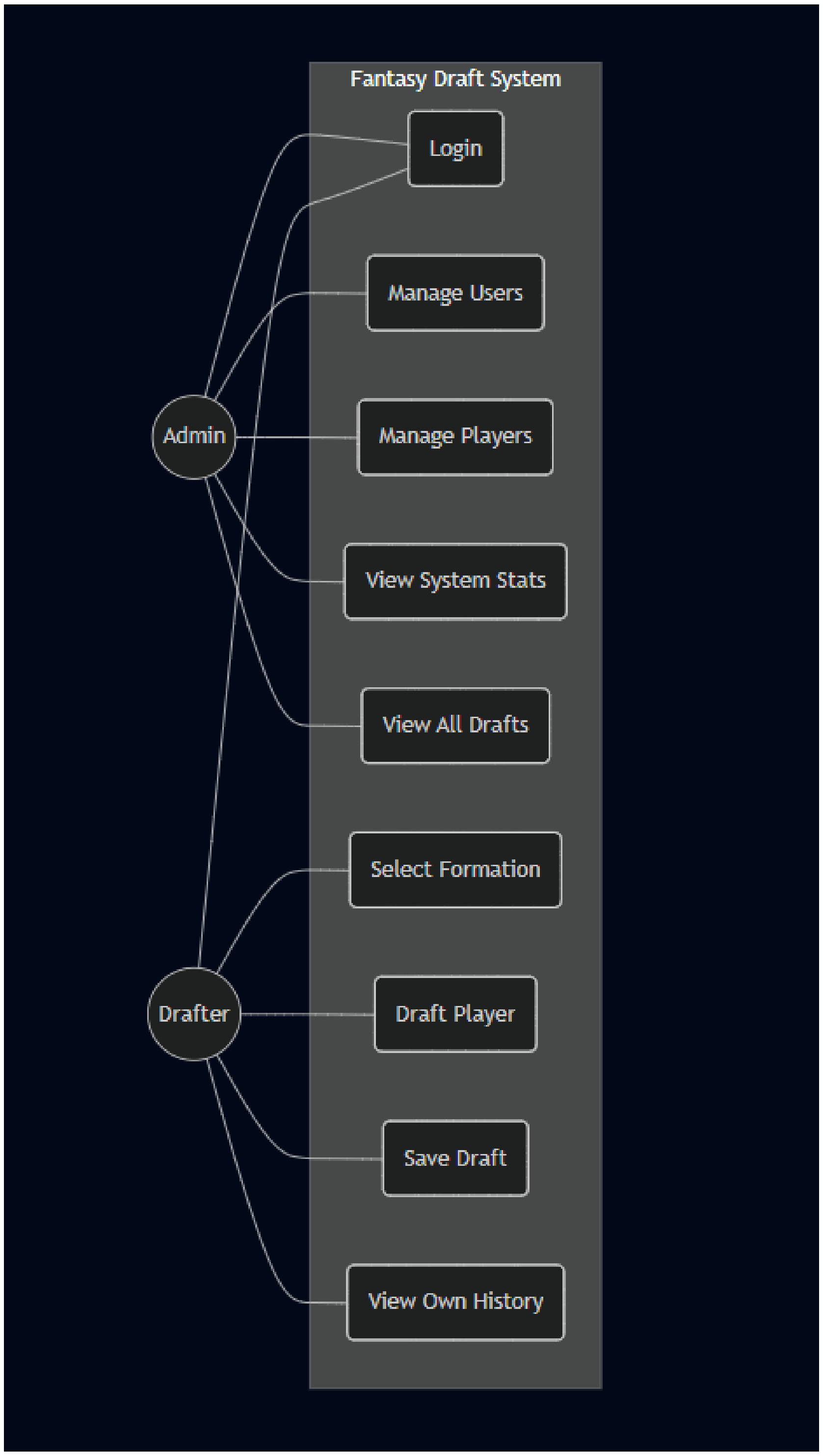
Encapsulation - All data fields in Player (e.g., overall, firstName) are private and accessed only via public Getters/Setters.

Polymorphism - The UserRepository returns a generic User object during login, but the system behaves differently at runtime depending on whether the object is actually an instance of Admin or Drafter.

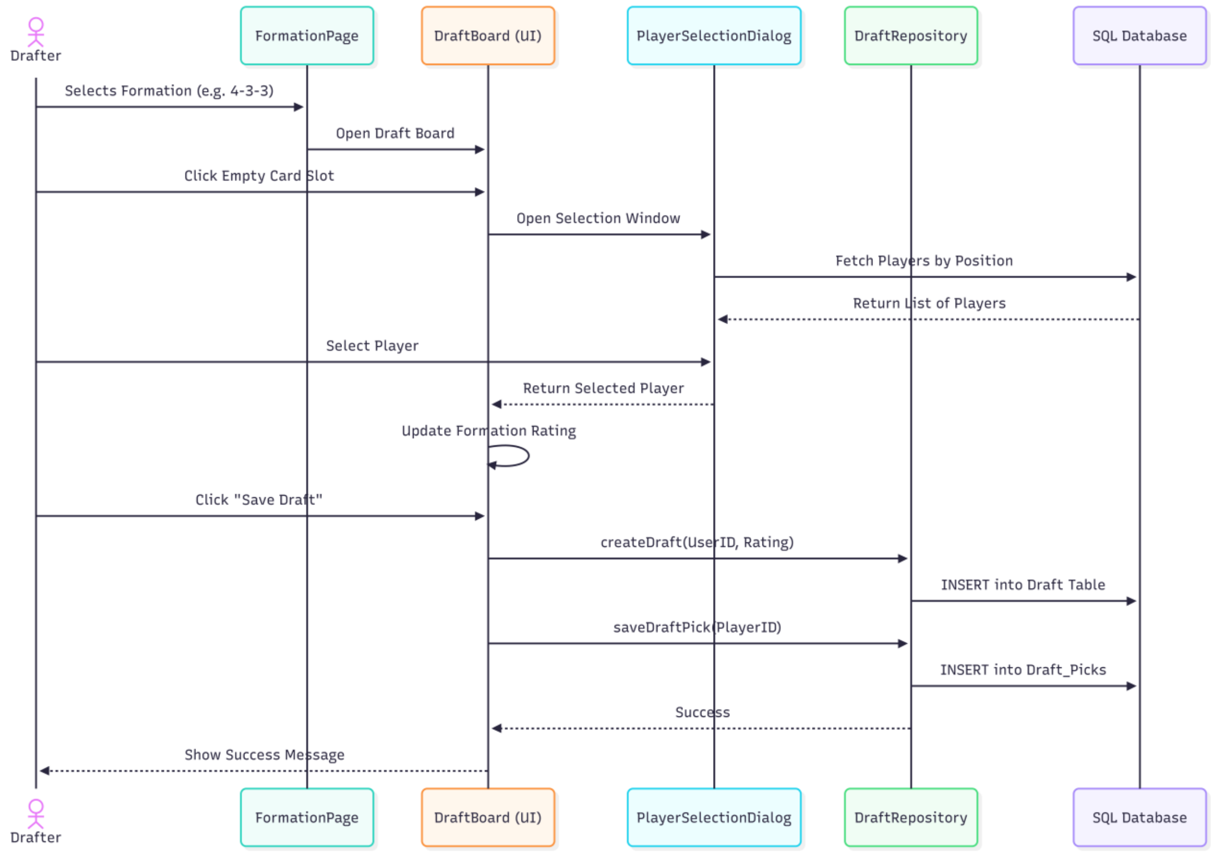
Abstraction - The User class is abstract and defines abstract methods like getDashboardTitle(), forcing subclasses to provide their own implementation.

4. Use Cases

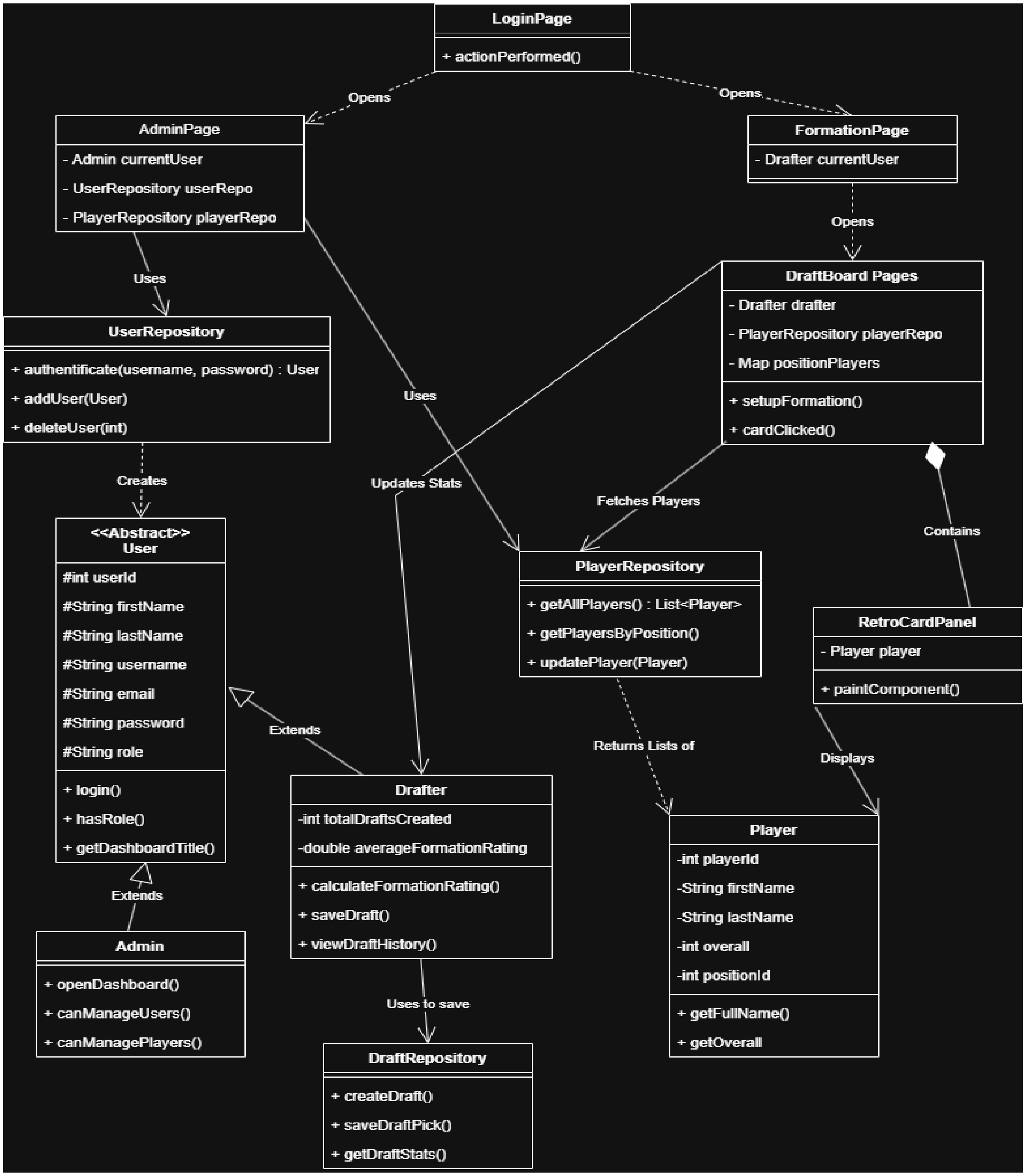
The Use Cases of the Drafter and the Admin



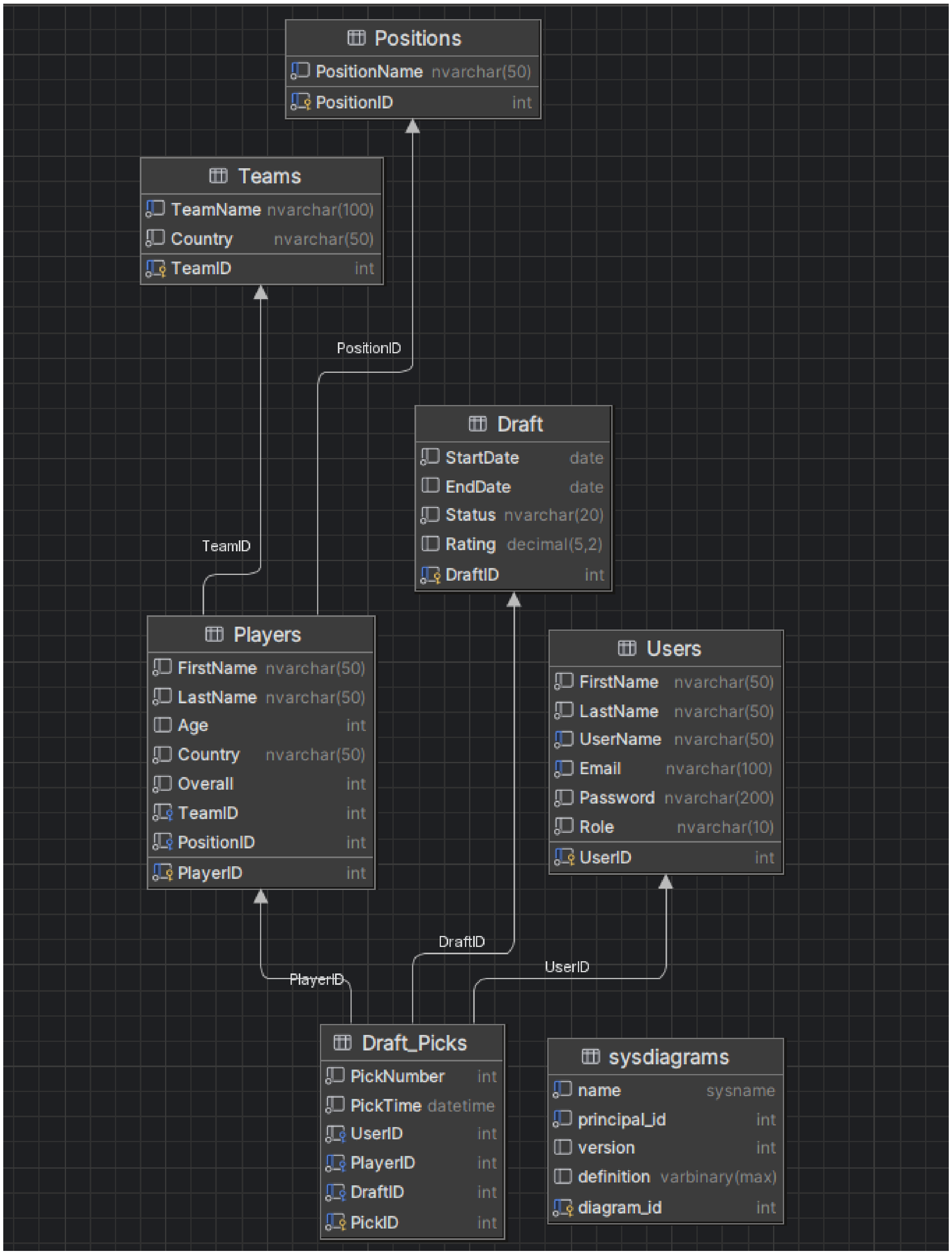
Sequence Diagram detailing the object interactions during the drafting process.



5. UML Diagram

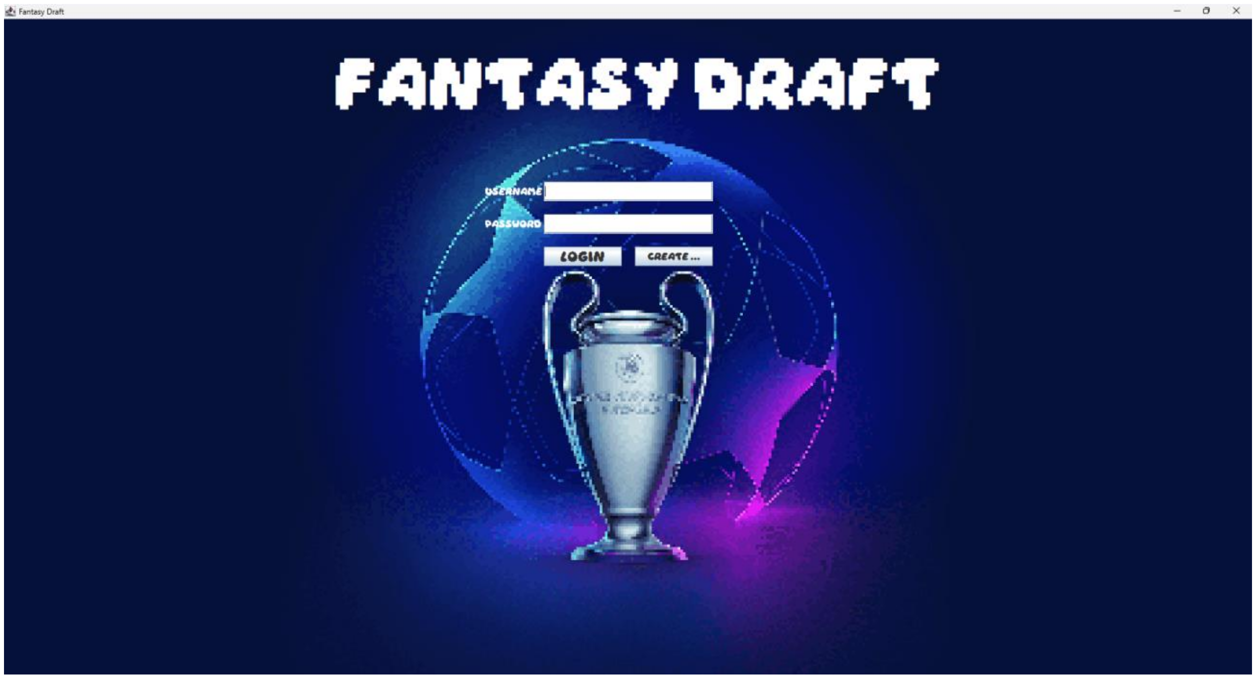


6. Database Schema

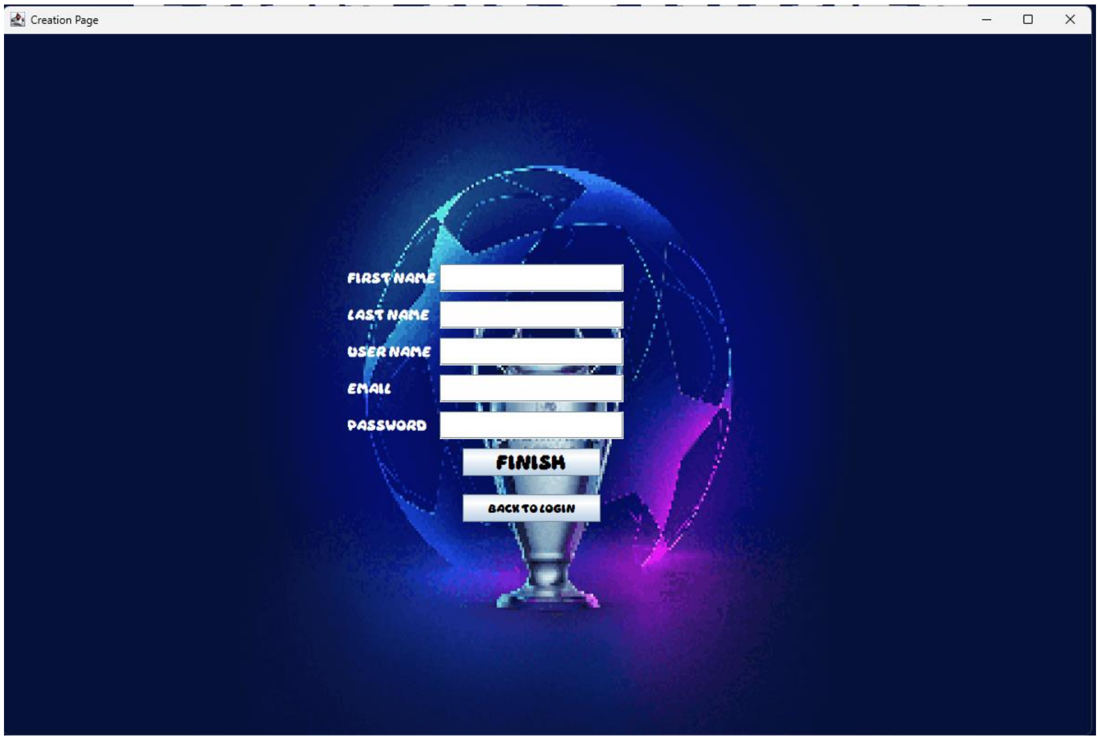


7. Application Interface

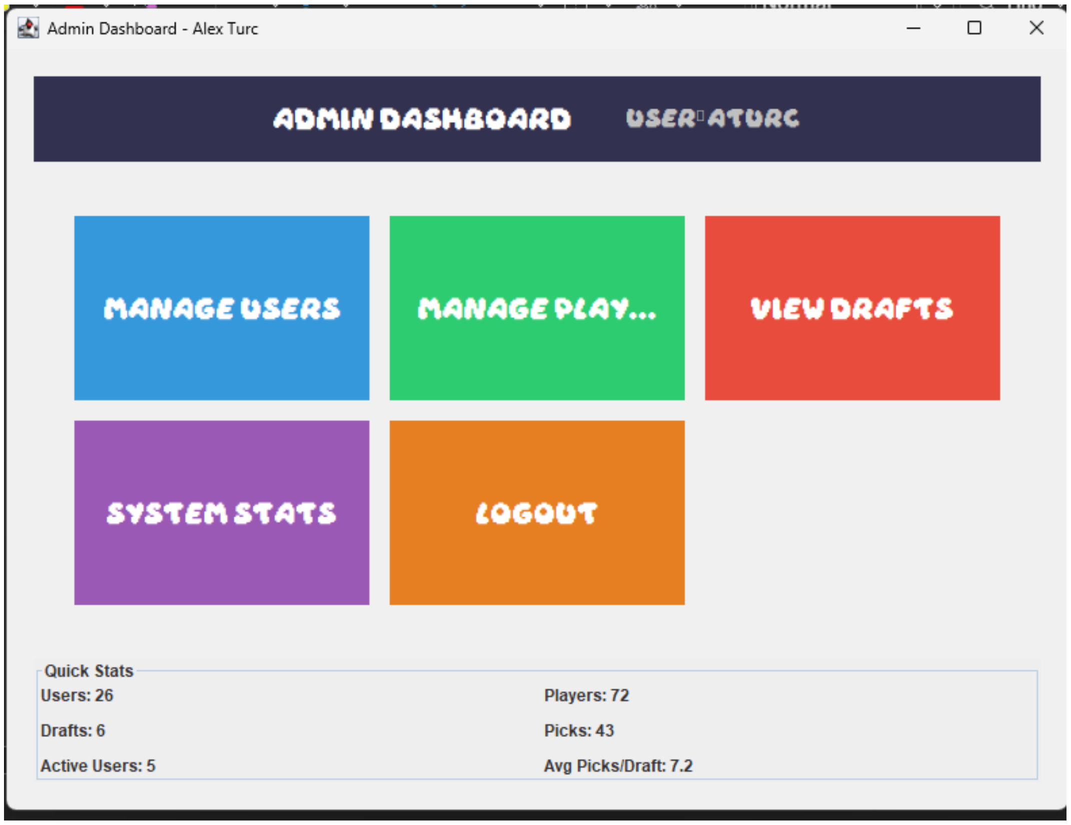
Main page



Account Creation Page



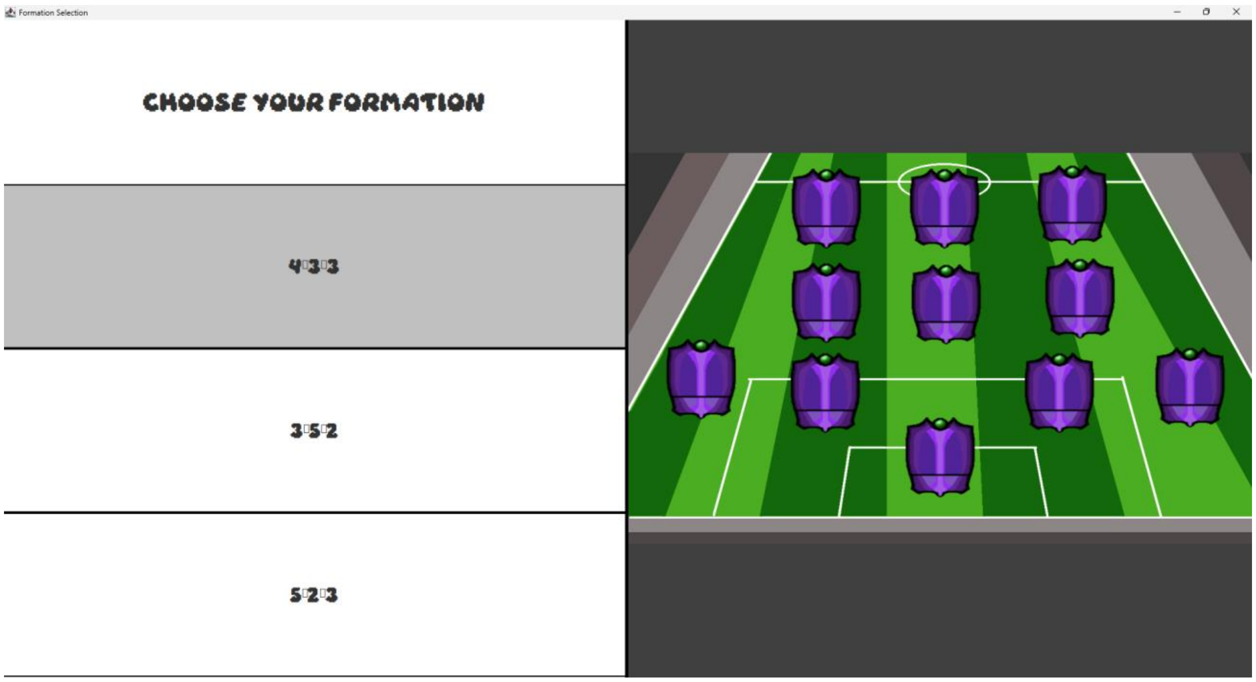
Admin Page



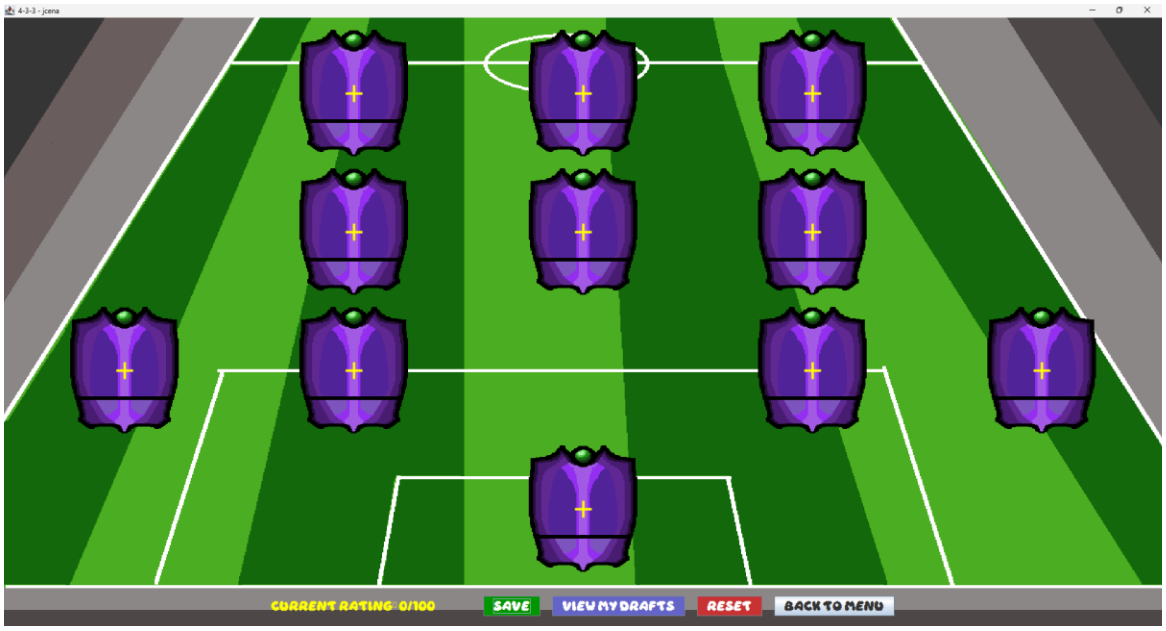
Quick Stats

Users: 26
Players: 72
Drafts: 6
Picks: 43
Active Users: 5
Avg Picks/Draft: 7.2

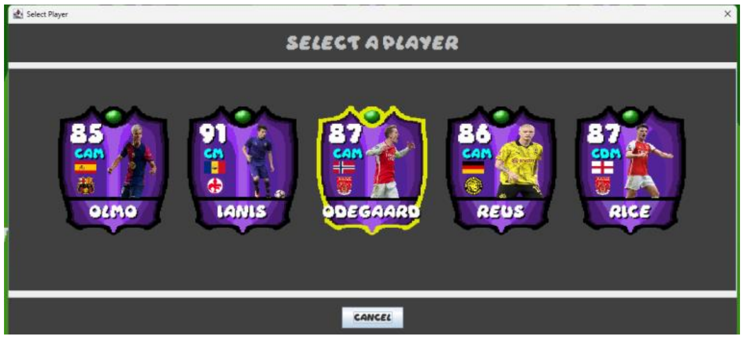
Formation Selection Page



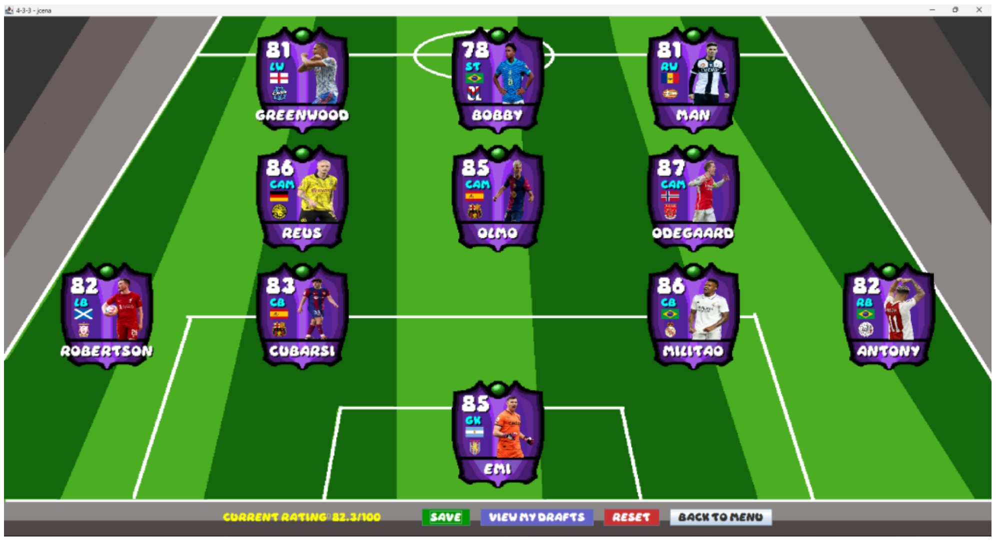
Draft Page



Player Selection Dialog



Completed Draft


4-3-3 - jcena
81 LW GREENWOOD
78 ST BOBBY
81 RW MAN
86 CAM REUS
85 CAM OLMO
87 CAM ODEGAARD
82 LB ROBERTSON
83 CB CUBARSI
86 CB MILITAO
82 RB ANTONY
85 GK EMI
CURRENT RATING: 82.3/100
SAVE
VIEW MY DRAFTS
RESET
BACK TO MENU