MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

VI Semester B.Tech. (IT)

ICT 3264: ADVANCED TECHNOLOGY LAB

MINI-PROJECT IMPLEMENTATION DOCUMENT

MATCH PREDICTION GAME

A PROJECT REPORT

submitted by

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ABSTRACT

The project is an Android app that allows users to invest virtual coins on the winning chances of their favorite team in Indian Premier League (IPL) matches. The app is developed using Android Studio and is designed to provide an interactive and engaging user experience.

The app provides real-time news updates on IPL matches, including match schedules and completed matches history. Users can create a virtual wallet and earn virtual coins by participating in in-app challenges. They can then use these virtual coins to invest in the outcome of IPL matches.

The app uses a sophisticated machine learning algorithm to calculate the winning probabilities of each team based on historical data, current team form, and other relevant factors. Users can review these probabilities and invest their virtual coins accordingly.

The app also includes a leaderboard that displays the top-performing users based on their coin earnings. Users can compete with these users and set a benchmark for making strategical bets.

Overall, this app offers a fun and engaging way for IPL fans to test their knowledge and investment skills while staying updated on the latest IPL matches.

Scope And Application

The Indian Premier League (IPL) is one of the most popular cricket tournaments in the world. Millions of fans eagerly await each match and support their favorite team. However, what if fans could do more than just cheer for their team? What if they could invest virtual coins and predict the outcome of the matches to earn rewards? This is where our Android app comes in.

Our team has developed an Android app that allows users to invest virtual coins on the winning chances of their favorite team in IPL matches. We have used a combination of Node Js, Express Js, Firebase, JWToken, BCryptJS, Android SDK, Java, XML, SQL Database, and Lottie animations to create a seamless and engaging user experience.

The app provides real-time updates on IPL matches, including match schedules and completed matches history. Users can create a virtual wallet and earn virtual coins by participating in in-app challenges. They can then use these virtual coins to invest in the outcome of IPL matches.

What sets our app apart is the use of a sophisticated machine learning algorithm to calculate the winning probabilities of each team based on historical data, current team form, and other relevant factors. Users can review these probabilities and invest their virtual coins accordingly.

To add an element of competition, the app includes a leaderboard that displays the top-performing users based on their coin earnings. Users can compete with these users and set a benchmark for making strategical bets.

Overall, our app offers a fun and engaging way for IPL fans to test their knowledge and investment skills while staying updated on the latest IPL matches. With its intuitive interface and advanced features, our app is sure to delight cricket fans around the world.

Objectives

1. To provide a fun and engaging way for IPL fans to test their knowledge and investment skills while staying updated on the latest IPL matches.
2. To create a personalized experience for users by allowing them to track their investment history and recommend investment strategies based on their past performance.
3. To foster a sense of competition among users by including a leaderboard that displays the top-performing users based on their coin earnings.
4. To provide users with real-time news updates on IPL matches, including match schedules and completed matches history.
5. To use a sophisticated machine learning algorithm to calculate the winning probabilities of each team based on historical data, current team form, and other relevant factors.
6. To provide users with a seamless and intuitive interface that makes investing in IPL matches easy and enjoyable.
7. To ensure the security and integrity of user data by using technologies such as Firebase, JWToken, BCrypt, and SQL database.

Overall, the objectives of our app are to provide a unique and engaging experience for IPL fans while leveraging the latest technologies to ensure a seamless and secure user experience.

REQUIREMENTS

Non-Functional Requirements:

- EFFICIENCY REQUIREMENT
  - ➔ When the website is entirely filled with data, it would acts as a one stop location for all information on any IPL match.
- RELIABILITY REQUIREMENT
  - ➔ The system should accurately perform customer sign-up with encryption standards, IPL data, betting, leaderboard and signout.
- USABILITY REQUIREMENT
  - ➔ The system is designed for a user-friendly and interactive interface for the customer.

Functional Requirements:

The app must allow users to create a profile and register using their email address or social media accounts. It should also provide users with a virtual wallet to store their earned virtual coins and an easy-to-use interface to invest in their favorite team's winning chances. Additionally, the app should provide real-time news updates on IPL matches and use a machine learning algorithm to calculate winning probabilities. Finally, it should include a leaderboard to foster competition among users.

SOFTWARE AND HARDWARE REQUIREMENTS

Software Requirements:

Execution:

- Android Phone running Android 7(Nougat) or above.
- AVM emulator running gradle build with Android 7(Nougat) or above.

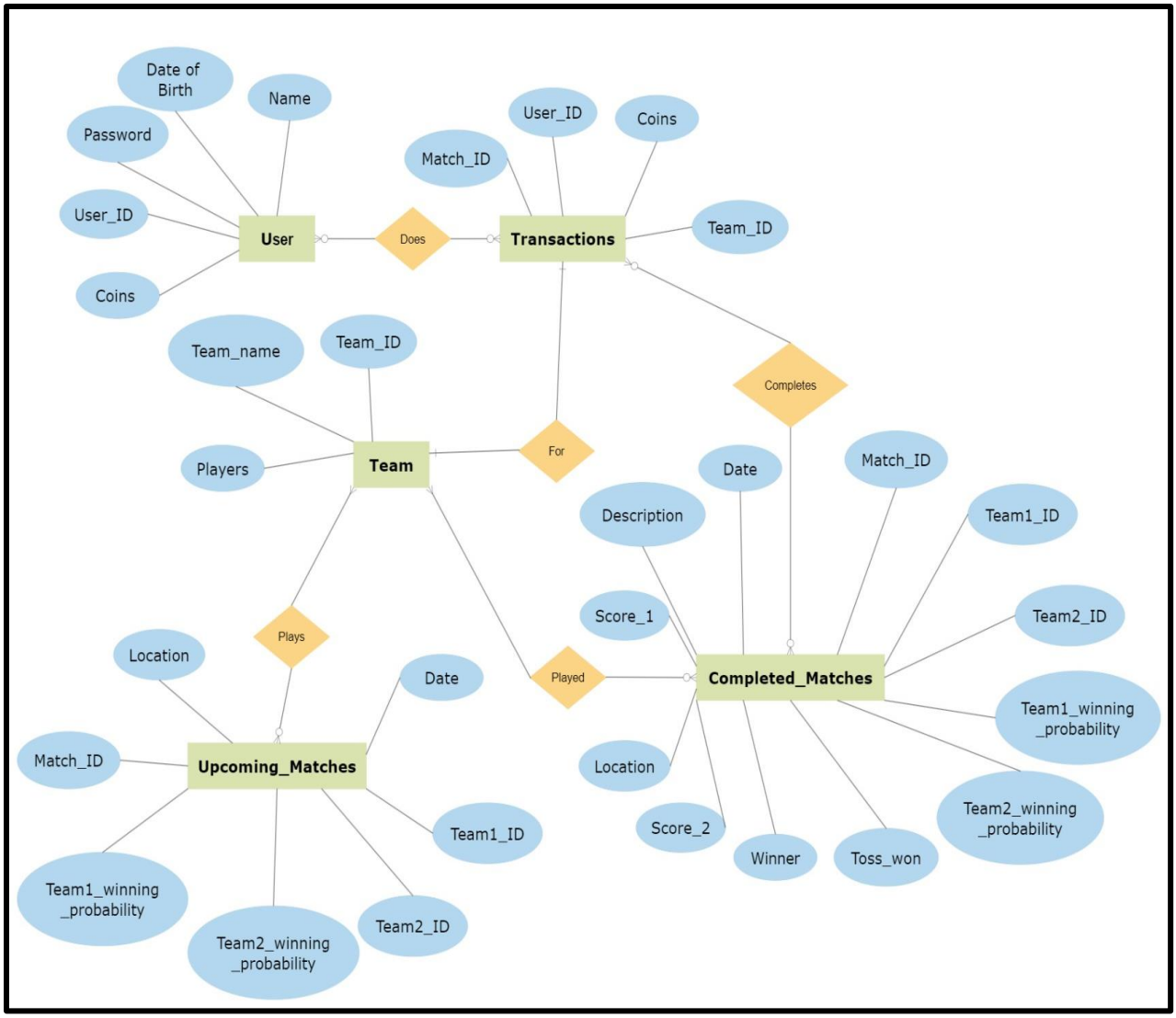
Development:

- Operating system- MacOS was used as the operating system for development, as it is stable and supports more features and is more user friendly. However, Windows would work just as fine.
- Database MYSQL and Firebase-MYSQL is used as a database as it is easy to maintain and retrieve records by simple queries which are in the English language which are easy to understand and easy to write. Firebase is used for user authentication.
- SQL Workbench- This allowed visual representation and GUI interaction between the admin and database data. It is interactive and makes the development process much much faster than a command line interface.
- Development tools and Programming language- The front-end and back-end are built using Android SDK on Android Studio, ExpressJS server on NodeJS

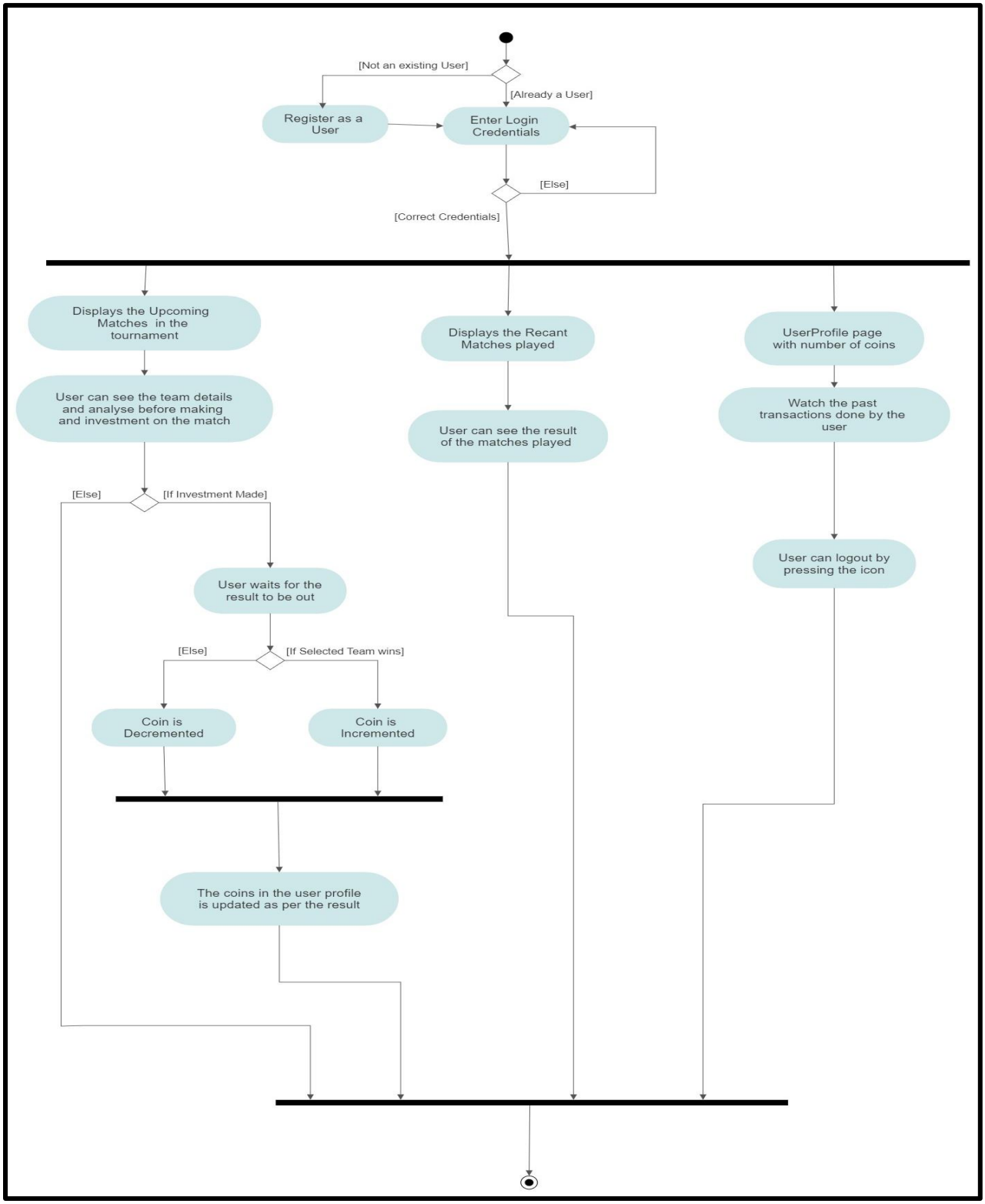
Hardware Requirements

For execution, android phone running more than 2gb of ram should be sufficient for smooth interface with an internet connection. For development, Intel Core i5 2nd generation is used as a processor because it is fast than other processors and provides reliable and stable and we can run our pc for a long time. By using this processor, we can keep on developing our project without any worries. Ram 1 GB is used as it will provide fast reading and writing capabilities and will in turn support processing.

Entity-Relationship Diagram



Activity Diagram



Product Module Description

1. User Management Module: This module will handle user registration, authentication, and user profile management. Users can create a profile, log in, and manage their profile information. User information will be stored securely in the SQL database, and sensitive information will be encrypted using BCrypt.
2. Wallet Management Module: This module will handle the creation and management of user virtual wallets. Users will be able to earn virtual coins by participating in in-app challenges and use these coins to invest in IPL matches. The module will ensure that user virtual wallets are accurate and up-to-date.
3. Payment Gateway Module: Razorpay Payment Gateway integrated to incorporate in-app purchase to let users be able to buy more coins using real life currency via all possible payment methods
4. Investment Module: This module will provide users with an easy-to-use interface for investing in IPL matches. Users will be able to view current match data, select their favorite team, and invest virtual coins in the winning chances of their chosen team. The module will use a machine learning algorithm to calculate the winning probabilities of each team and display this information to users.
5. News and Match Updates Module: This module will provide real-time news updates on IPL matches, including match schedules and completed matches history. Users will be able to view match highlights and other relevant information to stay up-to-date with the latest IPL news.
6. Leaderboard Module: This module will display a leaderboard that ranks users based on their coin earnings. Users will be able to compete with each other and set a benchmark for making strategical bets.
7. Database Management Module: This module will ensure that user information, investment data, and other relevant information are efficiently managed and retrieved from the SQL database. It will ensure data integrity and security and enable personalized experiences such as tracking investment history and recommending investment strategies based on past performance.

DATABASE USED:

The database we chose to use is MySQL. MySQL is easy to use. We have to get only the basic knowledge of SQL. We can build and interact with MySQL by using only a few simple SQL statements. MySQL follows the working of a client/server architecture. There is a database server (MySQL) and arbitrarily many clients (application programs), which communicate with the server; that is, they can query data, save changes, etc.. MySQL is considered one of the very fast database languages, backed by a large number of the benchmark test.

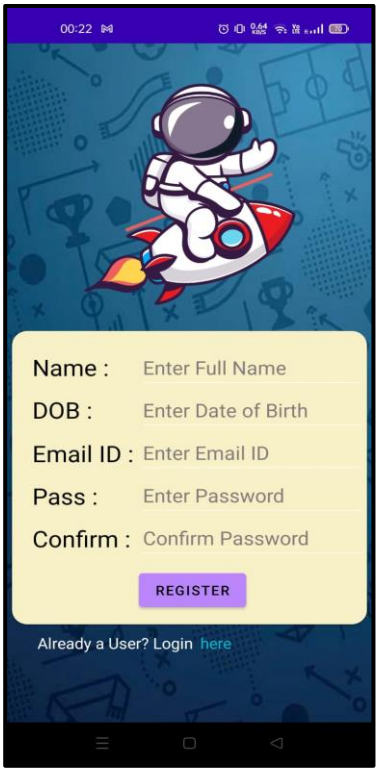
USER AUTHENTICATION:

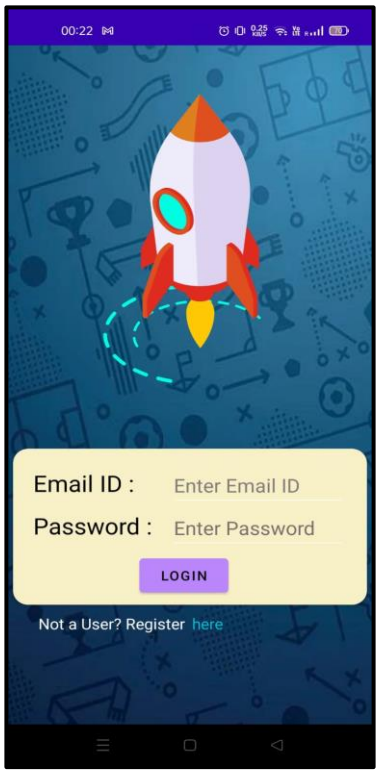
Firebase is a popular mobile and web application development platform that provides various tools and services to make app development easier and faster. One of the key features of Firebase is user authentication, which allows app developers to integrate secure user authentication and authorization into their apps quickly and easily.

TECHNOLOGIES USED:

- Android SDK on Java
- ExpressJS
- NodeJS
- RazorPay Payment Gateway
- NewsAPI
- MySQL
- Firebase
- Sci-Kit learn

SCREENSHOTS OF FRONT END



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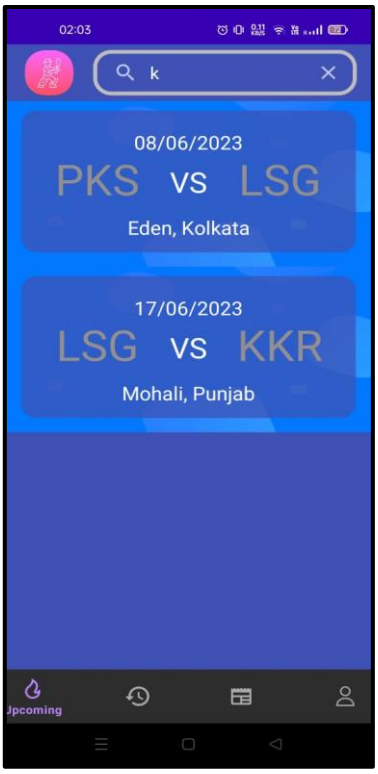
11/06/2023
RR vs MI
Assam, Guwahati
15/06/2023
GT vs DD
Wankhade, Mumbai
17/06/2023
LSG vs KKR
Upcoming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k
08/06/2023
PKS vs LSG
Eden, Kolkata
17/06/2023
LSG vs KKR
Mohali, Punjab
Upcoming


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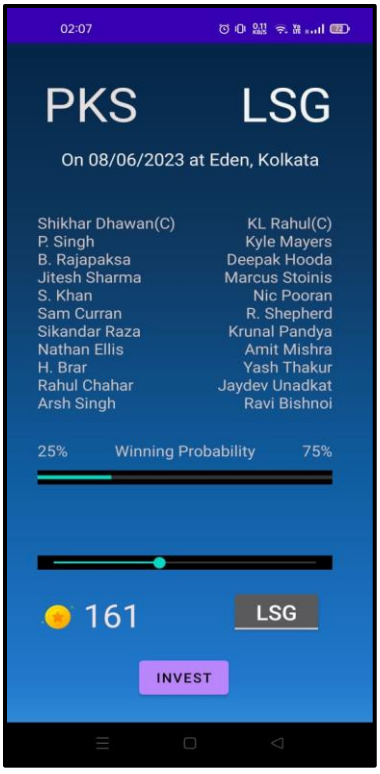
Toss Winner: GT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P. Singh
B. Rajapaksa
Jitesh Sharma
S. Khan
Sam Curran
Sikandar Raza
Nathan Ellis
H. Brar
Rahul Chahar
Arsh Singh
KL Rahul(C)
Kyle Mayers
Deepak Hooda
Marcus Stoinis
Nic Pooran
R. Shepherd
Krunal Pandya
Amit Mishra
Yash Thakur
Jaydev Unadkat
Ravi Bishnoi
25% Winning Probability 75%
161
LSG
INVEST


01:44
+
LOGOUT
RS
Ravi Sharma
Ravi@gmail.com
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LEADERBOARD
05/06/2023
CSK vs MI
Invested: 75
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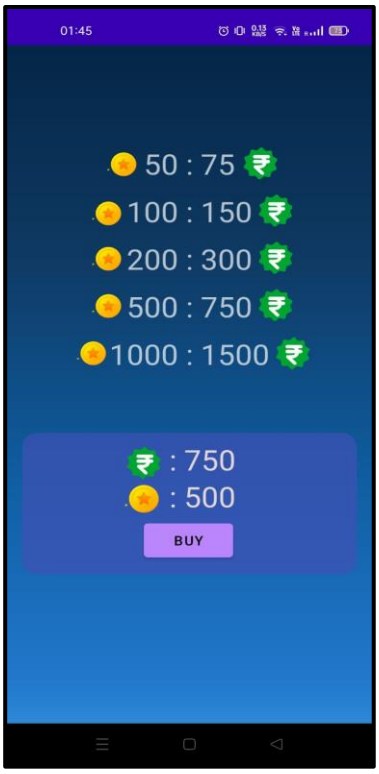
Profile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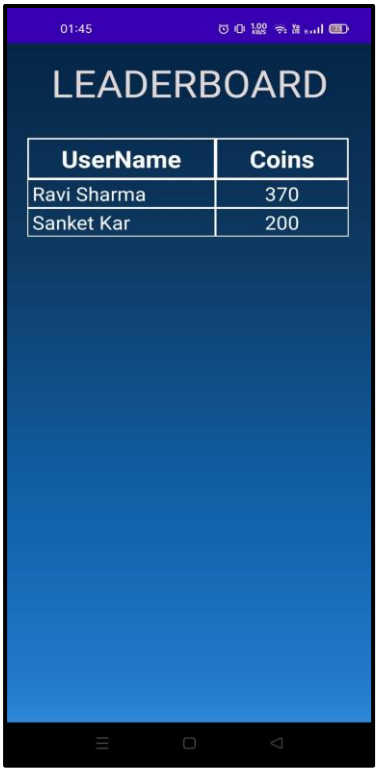
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UserName
Coins
Ravi Sharma
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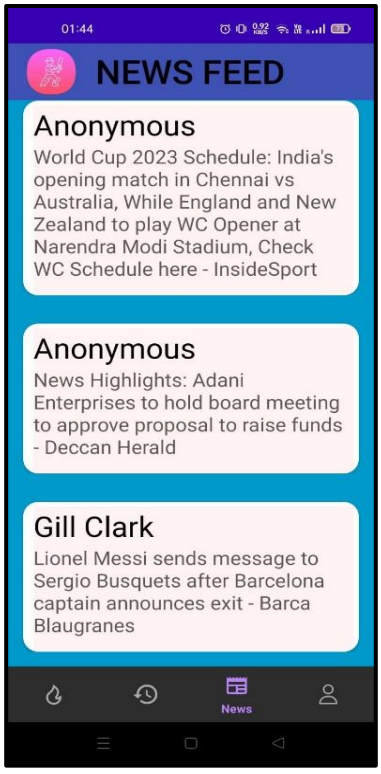
Sanket Kar
200


01:44
NEWS FEED
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World Cup 2023 Schedule: India's opening match in Chennai vs Australia, While England and New Zealand to play WC Opener at Narendra Modi Stadium, Check WC Schedule here - InsideSport
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Gill Clark
Lionel Messi sends message to Sergio Busquets after Barcelona captain announces exit - Barca Blaugranes
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EXPECTED RESULTS

From a consumer perspective, the expected output of our IPL investment app is an engaging and personalized experience that allows users to invest virtual coins on the winning chances of their favorite IPL teams. The app should provide users with up-to-date information on IPL matches, including real-time news updates, match schedules, and completed match history.

The app's investment module should provide an easy-to-use interface that allows users to view current match data and invest virtual coins in the winning chances of their chosen team. The module should also provide winning probability calculations using a sophisticated machine learning algorithm that factors in historical data, current team form, and other relevant factors.

Users should also be able to compete with each other through the leaderboard module, which ranks users based on their coin earnings. This feature adds a competitive element to the app and encourages users to make strategical bets to outperform their peers.

Overall, the expected output of the app is an interactive and engaging experience that enables IPL fans to test their knowledge and investment skills. Users should feel empowered to make informed investment decisions using the app's real-time data and machine learning algorithm. They should also feel a sense of competition and engagement through the leaderboard module.

CONCLUSION

In conclusion, our IPL investment app is a unique and engaging Android application that allows users to invest virtual coins on the winning chances of their favorite IPL teams. The app is designed to provide real-time information on IPL matches, including news updates, schedules, and match history, and features a sophisticated machine learning algorithm that calculates winning probabilities for each team.

The app also includes a user-friendly investment module that allows users to invest their virtual coins in the outcome of IPL matches, and a leaderboard module that allows users to compete with each other based on their coin earnings.

We used a variety of technologies and tools in developing the app, including Android Studio, Java, XML, Node.js, Express.js, Firebase, SQL database, JWT, and BCryptJs. Each of these tools helped us to develop a robust and user-friendly application that provides a unique and engaging experience for IPL fans.

Overall, our IPL investment app provides a fun and interactive way for IPL fans to test their knowledge and investment skills while staying up-to-date on the latest IPL matches. We are confident that the app will be well-received by users and will provide a valuable tool for IPL fans looking to engage with the game in a new and exciting way.