FIND MY PLAYER

 \mathbf{BY}

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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DAFFODIL INTERNATIONAL UNIVERSITY DHAKA, BANGLADESH DECEMBER 2019

APPROVAL

This Project/internship titled "Find My Player", submitted by MD. Nazim Hossain, ID No: 161-15-7010, Kh. Shaphalovy Sabbir, ID No. 161-15-6899, MD. Ishtiak Ahmed, ID No. 152-15-5600 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 7-12-2019.

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We hereby declare that; this project has been done by us under the supervision of Most. Hasna Hena, Senior Lecturer, Department of CSE Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ACKNOWLEDGEMENT

First, we express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project/internship successfully.

We really grateful and wish our profound our indebtedness to **Most. Hasna Hena**, **Senior Lecturer**, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of "Application Development" to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to Most Hasna Hena and Head Department of CSE, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

We would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, we must acknowledge with due respect the constant support and patience of our parents.

ABSTRACT

Find My Player is an app that will help you to gather players & Highlights our country's traditional game, which are now almost unseen. In the city we don't have enough playground to play but this app will help us to find a games event with the venue location & player also can join the game. International games like cricket, football is also available in this app. A person can be a player or a client. Client can search or create events, see's all player & hire players. On the other hand, player can see the events & can apply for joining the game. A player interested in an event will be shown in event creator's news feed, from there event creator can contact with him. Player can also search other players & they can contact with each other. Every player has his own price tag with his profile for being hired by client. If a client hires a player then that player will receive notification in the newsfeed & can contact with him. Player can see the news feed & will know about how many events are going on. This project will also help some country sports to privilege again. Many traditional sports are forgotten by this generation. Those sports are our heritage. So, this project will ensure their existence. Also, many talented sportsmen will come to the spotlight. Without enough communication and resources nobody could achieve anything in this modern era. So, this will be a platform for sportsmen to communicate and helping each other. And anybody who wants to enjoy their weekend by playing some outdoor game will also be beneficial by our project. They can enjoy their leisure time by playing their favorite sports.

TABLE OF CONTENTS

CONTENTS	PAGE
Board of examiners	ii
Declaration	iii
Acknowledgements	iv
Abstract	v
CHAPTERS	
CHAPTER 1: INTRODUCTION	1-3
1.1 Introduction	1
1.2 Motivation	1
1.3 Objectives	2
1.4 Expected Outcome	2
1.5 Report Layout	3
CHAPTER 2: BACKGROUND	4-6
2.1 Introduction	4
2.2 Related Works	5
2.3 Comparative Studies	5
2.4 Scope of the Problem	6
2.5 challenges	6

CHAPTER 3: REQUIREMENT SPECIFICATION	7-13
3.1 Business Process Modeling	7
3.2 Requirement Collection and Analysis	8
3.3 Use Case Modeling and Description	8
3.4 Logical Data Model	11
3.5 Design Requirements	13
CHAPTER 4: DESIGN SPECIFICATION	14-16
4.1 Front-end Design	14
4.2 Back-end Design	15
4.3 Interaction Design and UX	15
4.4 Implementation Requirements	16
CHAPTER 5: IMPLEMENTATION AND TESTING	17-35
5.1 Implementation of Database	17
5.1 Implementation of Database5.2 Implementation of Front-end Design	17 20
	17 20 34
5.2 Implementation of Front-end Design	20
5.2 Implementation of Front-end Design5.3 Implementation of Interactions	20 34
5.2 Implementation of Front-end Design5.3 Implementation of Interactions5.4 Testing Implementation	20 34 34
 5.2 Implementation of Front-end Design 5.3 Implementation of Interactions 5.4 Testing Implementation 5.5 Test Results and Reports 	20343435
 5.2 Implementation of Front-end Design 5.3 Implementation of Interactions 5.4 Testing Implementation 5.5 Test Results and Reports CHAPTER 6: CONCLUSION AND FUTURE SCOPE 	20 34 34 35 36-37
 5.2 Implementation of Front-end Design 5.3 Implementation of Interactions 5.4 Testing Implementation 5.5 Test Results and Reports CHAPTER 6: CONCLUSION AND FUTURE SCOPE 6.1 Discussion and Conclusion 	20 34 34 35 36-37

LIST OF FIGURES

FIGURES	PAGE NO
Figure 3.1: Business Process Model of Find My Player	8
Figure 3.3.1: Use Case Model of Actor Recruiter of Find My Player	10
Figure 3.3.2: Use Case Model of Actor Player of Find My Player	11
Figure 3.4.1: Logical Data Model Diagram of Find My Player	12
Figure 3.4.2: Data Flow Diagram of Find My Player	13
Figure 5.1.1: Firebase Database Authentication section	19
Figure 5.1.2: Database section of Find My Player on Firebase	20
Figure 5.1.3: Firebase Database Storage section	20
Figure 5.2.1: Sign in Page	22
Figure 5.2.3: Sign Up page for Player	24
Figure 5.2.4: Sign Up Page for Recruiter	25
Figure 5.2.5: Email confirmation and verification	26
Figure 5.2.8: Player and recruiter Profiles	28
Figure 5.2.10: Player Search	30
Figure 5.2.11: Events	31
Figure 5.2.12: Events view and Join Request	32
Figure 5.2.14: Newsfeeds	33
Figure 5.3.1: Targeting SDK version	35
Figure 5.4.1: Testing Implementation	35
Figure 5.4.2: Running Instrumentation Test	36
Figure 5.5.1: Test results	36
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CHAPTER 1

Introduction

1.1 Introduction

Finding a playing buddy for outdoor sports is now challenging problem in this modern era. With the development of science everything has become digitalized and the scope of playing outside reduced drastically. Due to lack of playground in urban area many traditional sports are on the verge of abolishment. Same picture goes for the rural area too. Very few games are being played now a days. Young generation becomes addicted of smartphone games for that very reason. Above all if anyone willing to play outdoor sports, he faces many problems like finding playground and people to play with. Also, people who moved in new area faces those problems too. And there are also clubs who offer many events for matches between local teams. There could be shortage of player in the team at any moment and the whole game strategy could be ruined. We have organized this app trying to solve all those problems we mentioned.

1.2 Motivation

Our real-life motivation was when we tried to play cricket with our classmates in off period then firstly, we faced that there was not any playground near our academic building. Then we went off to a park to play but the place was already occupied. Random groups were playing by themselves. We wanted to join them because our time was limited but they were not friendly towards us at all. So, we returned without playing and the same situation occurred several times. If we knew a specific playground and had the opportunity to book it in advance then we did not have to face this kind of awkward situation at all.

And like us many people face this kind of hopeless situation where they could do nothing but waste their time. So, we decided to work on this problem to help people and creating a community for sportsmen to develop the interpersonal relationships among them.

1.3 Objectives

- Player Profile
- Client Profile
- Searching Player
- All Player
- Events

Newsfeed

People can create an account as a player or a client. Player and client can search other player by location and sports category. They can contact with them. Client can hire player and can create events. By clicking "in my area" players can see events which is going to happen in his area and can join by showing interested. If a client wants to hire a player & click on hire then that player can see that in newsfeed and can contact with.

1.4 Expected Outcome

- Traditional sports of Bangladesh will prevalent.
- Talented sportsman will come to the spotlight.
- Opportunities will create for many underprivileged sportsmen.
- Everyone will enjoy a weekend with full of outdoor sports and fun.
- A platform will create for beginner and experienced sportsman.

1.5 Report Layout

Chapter 1: Is all about Introduction of our project. In this chapter Introduction, Motivation, Objectives, Expected Outcome and Report Layout are described.

Chapter 2: Is all about Background of the project. In this chapter Introduction, Related Works, Comparative Studies, Scope of the Problem and Challenges are described.

Chapter 3: Is all about Requirement Specification of the project. In this Business Process Modeling, Requirement Collection and Analysis, Use Case Modeling and Description, Logical Data Model and Design Requirements are described.

Chapter 4: Is all about Design Specification of the project. In this chapter Front-end Design, Backend Design, Interaction Design and UX, Implementation Requirements are described.

Chapter 5: Is all about Implementation and Testing of the project. In this chapter Implementation of Database, Implementation of Front-end Design, Implementation of Interactions, Testing Implementation, Test Results and Reports are described.

Chapter 6: Is all about Conclusion and Future Scope of the project. In this chapter Discussion and Conclusion, Scope for Further Developments are described.

CHAPTER 2

Background

2.1 Introduction

In the world of sports "finding player "these words define a large amount of preamble. These words can be used in various situation in different sports. However, in international sports like cricket, football, baseball etc. there is a season when all the clubs exchange player or try to find new player all over the world. Thus, this project contains completely different purpose. The main goal of this project was solving the local area sports, gully sports or the indoor game. As from the title we've already understand that this project is all about finding player. However, this application will help an individual to find player in specific area. User of this application can find player for various game and hire them by negotiation. However, only client can hire players. When a team will face a problem of lacking player because of sickness or other issues then a Client can use this app and hire a new player for his mate. However, finding or hiring is not the only purpose of this application because there is another feature for gully sports which is EVENTS. In Events a client can create events by choosing location of gully or the area that match will be held, type of sports and of course the time and the date. In this way all the local games, traditional games can be up rise again and the effort to search a new player for a game will be reduced.

2.2 Related Works

There is a good amount of sports related application. In scope of "finding player" there are many applications in these days in application store also [11]. However, most of the mobile application that are related to sports in store are related about streaming game, watching game, current score, the upcoming matches, or the news about scores. There are very few applications which is related about the finding player. There is some application that helps a user to find player, book venues, manage groups. But the purpose of hire a player for the gully sports or the local area sports is absent in those app. However, there are some specific application which completely targeted to finding player only. Where an individual can find a player by watching a player's playing videos, judging them and call for a meeting. That is kind of searching new talent for national level player. "Find My Player" is giving a user not only find a player and hire them but also create matches between local areas.

2.3 Comparative Studies

First of all, in our country there is no application exist as like as our application. But there are few apps in play store that help us to watch games & streaming but not finding players, their target is different than us because they want to do business with it but our target is gather players together & highlight our country's traditional games. We mainly focus on our country since we don't enough playground in our country. Day by day we are losing land & playground just because of garments, factory was built up. So, we came up with this application where client can create events & hire players. Our application is different from other apps because it doesn't require too much knowledge & we actually make it easy for rural area. Our design is simple & easier than others apps exist in play store. Our application doesn't need high configuration phone as like others apps need high config to run their applications. We ran off some people & take their opinion on our project/application & they were actually impressed by giving us some motivation, also said it will be helpful for them to play sports together.

2.4 Scope of the problem

Since we didn't add payment system in our application, there might be slightly chance you ran a fraud. If we include the payment option in the sing up portion then most of the people aren't going to register to our apps because it's new so we need people to use this application & make it useful. There might be an issue with venue because if it doesn't exist in the first place also someone hired a player & he didn't show up on the spot. There is no ranking system in the application right now so player can be noob or pro. Host can be fraud sometimes because of free to register & create events. Our main goal is designing a platform for all the players whom are willing to play but didn't find partner or playground.

2.5 Challenge

Since this is our first android project, we face a lot of things to build up this application. First of all, there are less application as like as "Find My Player" so it's kind of hard when you don't have enough information to work with. Gathering information from others apps is easy but to build the proper system was hard for us & we skip some steps because in time we won't able to do it. Since there are no free database system with unlimited storage, we had to use free database for our application.

CHAPTER 3

Requirement Specification

3.1 Business Process Modeling

Overlooking this Application, it is notable that a registered user can be a client who only login for find or hire player and create various events to find new players. So, on the business diagram there can be two poles[8]. One is client another one is player.

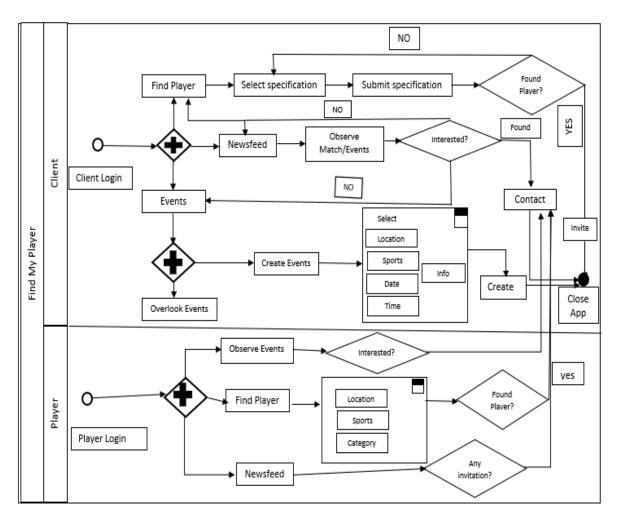


Figure 3.1: Business Process Model of Find My Player

3.2 Requirement collection and analysis

Overlooking the background studies most of the application now a days are about sports news, current score update, match streaming. However, there are some app which help an individual to ©Daffodil International University 7

find player but those application are not compatible for local area or gully area of this country. To solve this problem an app should store all the local place or the gully places which will stored in database system and aid a user to find a player by location. Not only finding option will satisfy a user. There should be hire or contact option which can satisfy a user desire of finding a new player. However, some extra features can rich a normal mobile application. For that extra features like events where a user can see events around him and also create new events by selecting location, sports type, date and time. This kind of opportunity in a sports type mobile application can make a user satisfy of using a mobile application.

3.3 Use Case Modeling and Description

Basically, Use Case is the list of events or actions steps typically defining the interactions between a role and a system to achieve goal. Find my player is an application where a client can see all players, hire them, contact them, find them, can see his own newsfeed, can see events and create events also. On the contrary, a player also can see all players, contact them, find them, can see his own newsfeed, can see events and all these updates will handle by a database system. In this total system we see two different actor one is recruiter another one is player [9]. So, the use case diagram of actor one the recruiter should be following below [9],

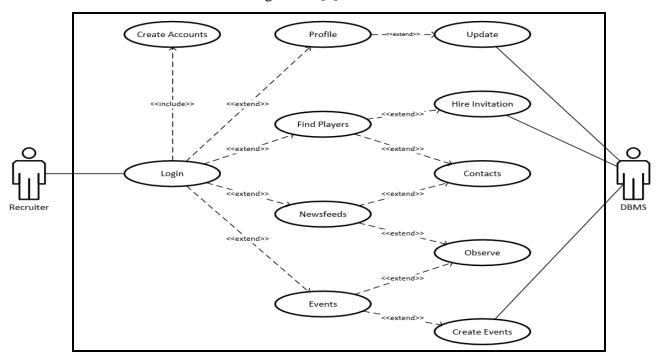


Figure 3.3.1: Use Case Model of Actor Recruiter of Find My Player

And here is another actor's use case diagram who have all most same facility like first actor the recruiter except creating new events and hiring player. So, the use case model of this actor should be following below [9],

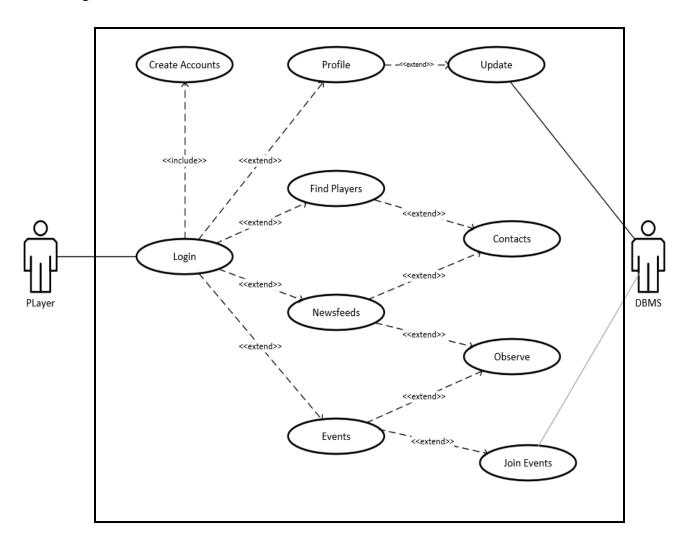


Figure 3.3.2: Use Case Model of Actor Player of Find My Player

3.4 Logical Data Model & Data Flow

3.4.1 Logical Data Model

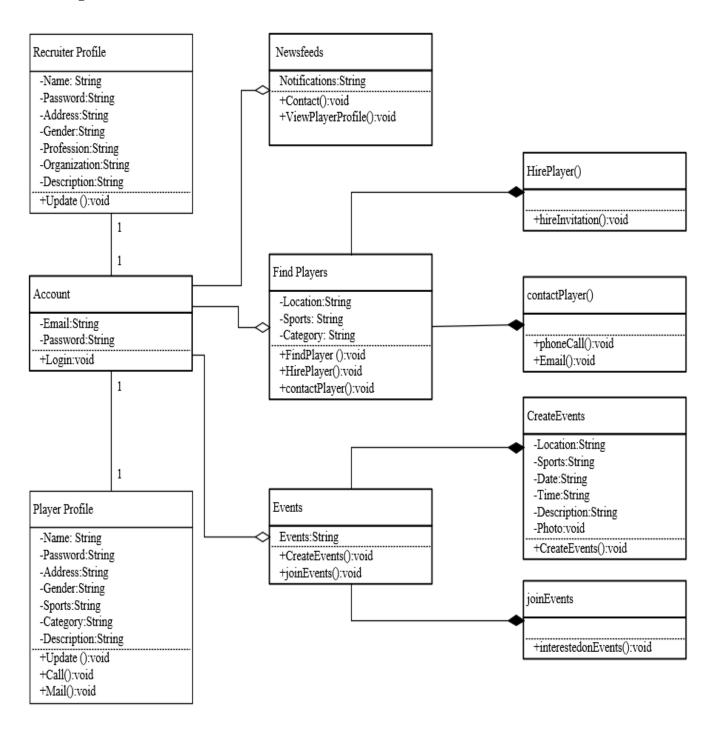


Figure 3.4.1: Logical Data Model Diagram of Find My Player

3.4.2 Data Flow Diagram

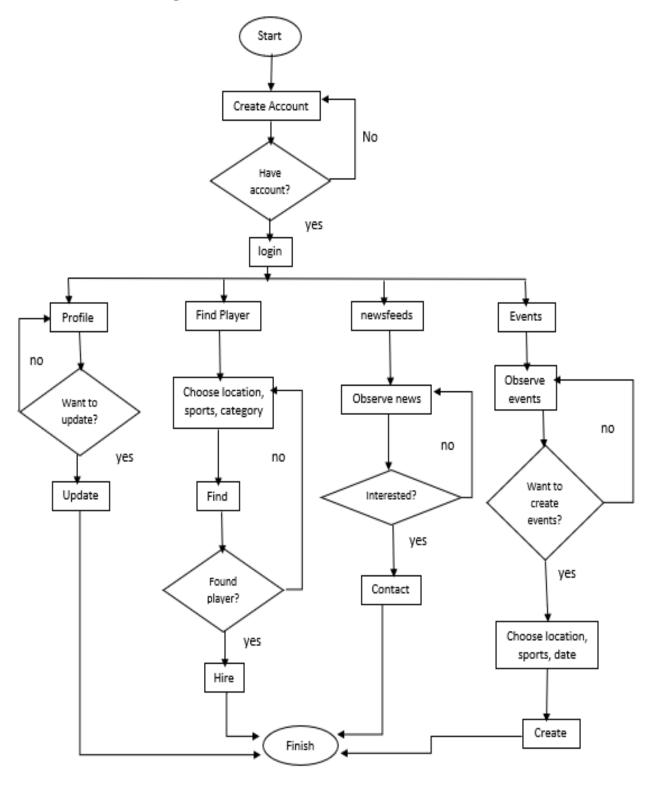


Figure 3.4.2: Data Flow Diagram of Find My Player

3.5 Design Requirements

To interact with mobile application some components would be necessary for user interface. To Design an application like player finding some components like text field, edit text, password field and button etc. will be needed form a registration form for an account. However, to complete this application we may need radio group, radio button for gender and sports and sub-category selection. A database system will be required to store information details of all registered account. Different button for different activities is needed also which can take user from one activity to another activity. As example Find Player, Newsfeeds, Events, Events Creator can be put in different Button. So that, each button can take a user into each different section or activity.

Chapter 4

Design Specification

4.1 Front End Design

To develop this project, we used Android studio. For layout's front-end design of this application we used xml file. Abbreviation of xml is "Extensible Markup Language" is a data file that hold the basic structure design or front-end design of an application. It is almost formatted much like a Hypertext Markup Language (HTML). However, the .xml file uses custom tags to define object like- "<tag_name>...... </tag_name>". Each object has a starting tag and a closing tag. The main purpose of .xml file is making the application user friendly and emphasize on simplicity, usability across the internet through different devices. However .xml file is not like Java which is actually backbone of an application works like the brain. On the contrary .xml file helps a developer to design an application, the outlook of the application, outlook of components like text view, buttons, scroll view, background color, margin and padding, edit text, displaying photos, checkbox, radio button, rating bar, seek bar, android switch, in app icon size etc.

However, the main purpose of .xml file is not only designing an application but also it helps a developer parsing data from the database or the server into an android mobile application.

4.2 Back End Design

Basically back-end design is the code that runs on the server that receives requests from application user/clients, and also contain the logic to send back appropriate data against of the data that user or the client has requested.

Find My Player is a sports category application where a user looks for new player or shout out for a new sports event through internet. So, there should be some logical code that can send appropriate data by mean player list or the events list to a user. In this application we have used one of the most popular language of this time "Java".

Java is a programming language that can provide open platform. Code that is written by a developer in Java can be run on various devices, various operating system (OS) including Windows, Linux, Mac OS etc. Java derives much of its syntax from the C and C++ programming

language because it was mainly planned to have the look and the texture of the C++ programming Language.

4.3 Interaction design & UX

A good and interesting story book cannot be popular if the readers cannot read that book. Even the language of that story book is mother tongue of the reader but it was written in hard language that cannot be popular because it takes away the interest of the The same formula goes on in technology world. A very essential mobile application cannot be popular if the user of that application cannot comfortable to use that application. The more user friendly and easier iconic user interface application can grab more attraction of a user. As developer of this project we had an aim to make this application easier and more efficient to a user. In that case we have used a very simple interface and front-end design. A lite user interface can be supported by most of the device. A developer should target most of the customer of the market and design that type of application which can be run-on low-end devices.

4.4 Implementation Requirement

For implementation purpose following requirement are requires,

- Microsoft Windows 7 to latest (32-bit or 64bit), MAC OS 10.10(Yosemite) or higher, GNOME or KDE desktop Ubuntu 14.04 LTS, Trusty Tahr (64-bit distribution capable of running 32-bit applications)
- An Integrated Development Environment (IDE) Android Studio
- Desktop with minimum 4 GB RAM, 8 GB recommended (plus 1GB for the Android Emulator)
- 1280 x 800 minimum screen resolution
- Lite and easier XML designs for user friendly graphical interface.
- Logical back-end program (JAVA, KOTLIN)
- Efficient condition to handle the application
- Firebase Data and algorithm for faster fetch of data (JSON Parsing)

Chapter 5

Implementation and Testing

5.1 Implementation of Database

Find My Player is a kind of project that need a huge database system for storing players information, profile picture, Client Information, Client profile image, Event picture etc. As developer of this application we used "Firebase Database". It's a free database provided by google.

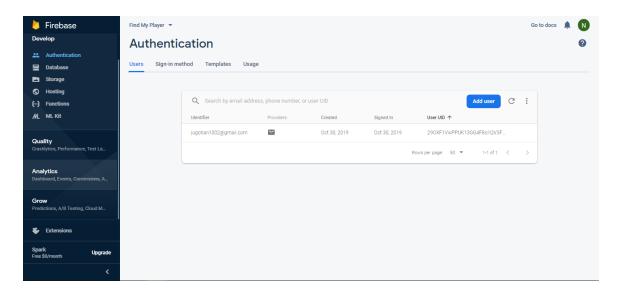


Figure 5.1.1: Firebase Database Authentication section

In this picture, On the firebase database system in Authentication section we are able to see all the users who have registered on our application. Here we see only one user have registered on our system. Registered user can use the application after verifying his e-mail address [3].

On the Database section of Firebase, we can see the details information of those person who have registered in application. As user registered on our system and verified

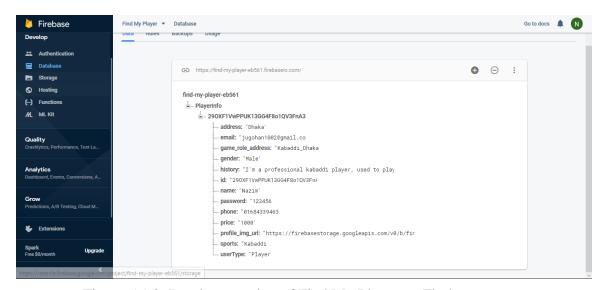


Figure 5.1.2: Database section of Find My Player on Firebase

his email address so we can see all the information he has inserted during register are stored in our database system. As he inserted his address, email, game_role_adress, gender, history, name, password, phone, price, sports, user type are stored. But here is a random ID is generated by the database system automatically and an image URL is visible which is actually stored in "Storage" section[4].

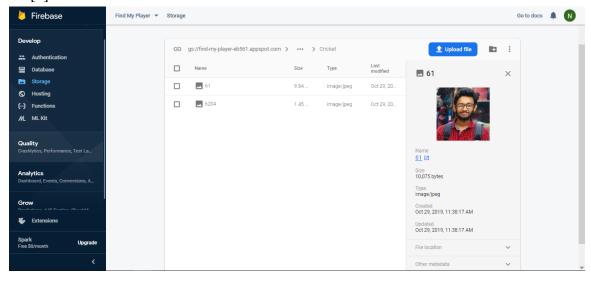
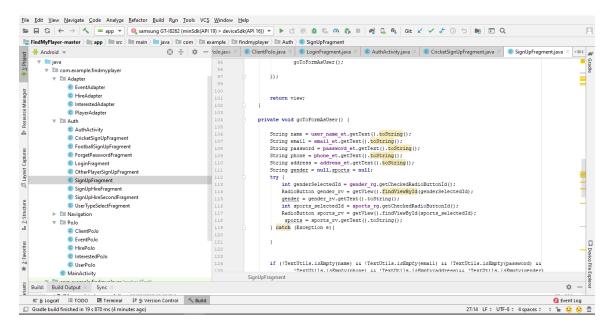


Figure 5.1.3: Firebase Database Storage section

In the given screenshot below, simple java code is visible for signup fragment.



Where we are taking information from a user by using the method getText().toString(); The method getText() is using to scanning and getting the text from the editText that is given by user and toString() method using for setting the data type of the user input[4].

As we used two radio button group in our application. One is for gender another one is for sports and to get the value of these radio button group we have used getCheckedRadioButton() method[4].

5.2 Implementation of front-end design

Here is all implementation in description about our application.

The Front Page/Login Page

1. Sign in Page

The page comes first is "Find My Player" Login page. Where only a registered user can sign in. Various types of components are visible here textview, edittext and button. Giving a valid E-mail address and Password will a take user from login page to home page of this application.

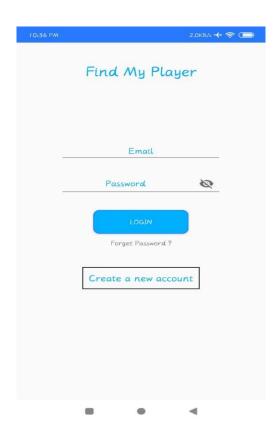


Figure 5.2.1: Sign in Page

2. Sign Up page

The first sign up page gives a user opportunity to choose his career either he/she wants to be a player or recruiter. Two basic normal buttons are visible here. The Button "I want to play" will take a user sign up page for player and the Button "I want to hire" will take a person to sign up page for recruiter.

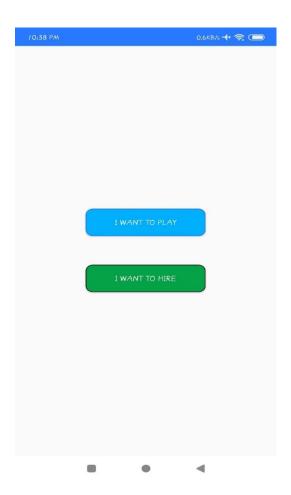


Figure 5.2.2: Sign Up page

2.1 Sign Up page for Player

Sign up for player has two steps. On the first step a player should in his/her Name, a valid E-mail addresses, choose a strong password for his/her account, phone number for contact through edittext and of course his/her location district from the listview. However, he/she must have to choose his/her gender and Sports through radio button. The blue arrow is the button that indicates the next page for sign up of a player. On the next page a player has to choose profile picture, add description, sports category etc.



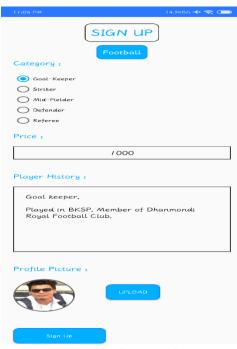


Figure 5.2.3: Sign Up page for Player

2.2 Sign Up page for Recruiter

Sign up page for Recruiter has only one page unlike player. On the sign-up page a recruiter must have fill his/her Name, Occupation, Organization, valid E-mail address, Password, Phone number through edittext and choose his location through listview.



Figure 5.2.4: Sign Up Page for Recruiter

3. Email Confirmation & Verification

For valid unique valid account, a user must have verified his/her email address. To verify an account user have to click on the link that is send by the system to the given email by the user.

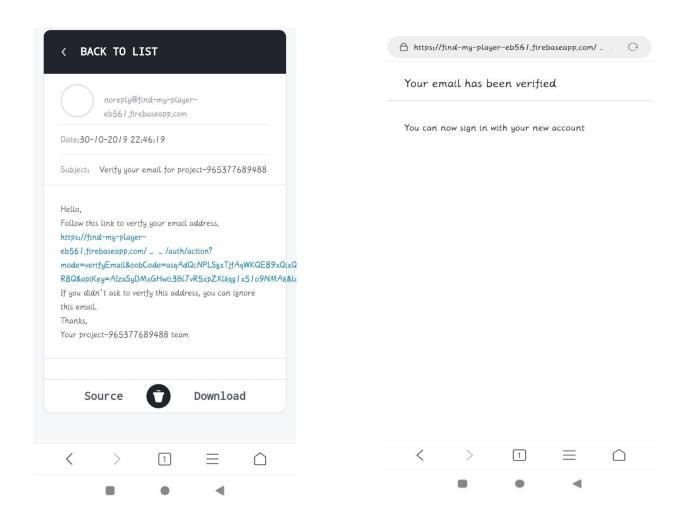


Figure 5.2.5: Email confirmation and verification

4. Forget Password

We have kept an opportunity to recover password for a player or recruiter if he/she forget his password. By pressing "Forget Password?" it will take a person into a page where his/her E-mail addresses will be asked by the system. Giving his/her E-mail a mail will be sent into his/her E-mail to reset his password and create new password. We have used textview, edittext and a button for this page.

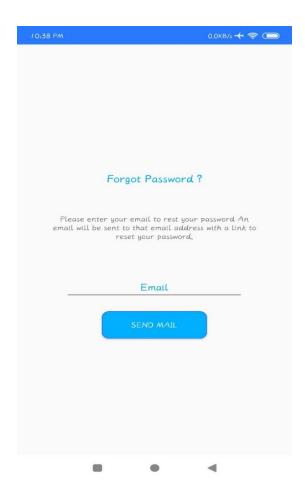


Figure 5.2.6: Forget Password

5. Homepage

After sign up a user will able to login and after login user can see homepage where he/she will able to see all the players registered in this application. Player can only see players but Recruiter can see player with hire option. On the top left corner of app there is a menu button which will helps a user to navigate from home page to other page like Newsfeed, Events, About & Helps etc. However, a user can pay a visit to the profile of all the player those are visible into home page and also able to contact through phone call or e-mail.

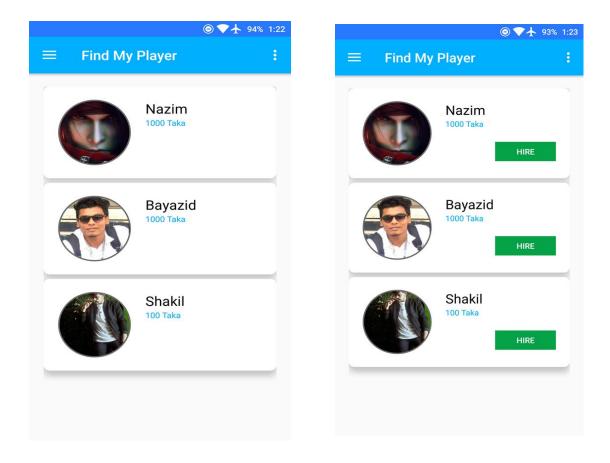


Figure 5.2.7: Homepage for Recruiter and Player

6. Player & Recruiter Profile

Profile shows the details of a player like his avatar, history, basic information, location etc. After login we can find the profile option in menu button. And the information we used for signing up is showed here. Profile can be changed later.

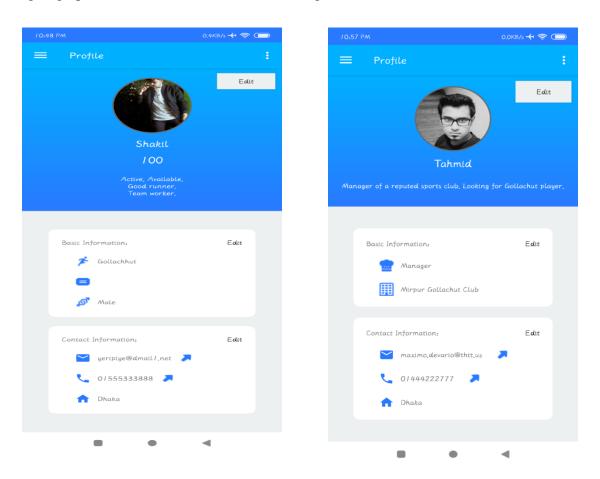


Figure 5.2.8: Player and recruiter Profiles

6.1 Edit Profile & Basic Info

Picture, name and history can be edited in this page. User should use clear picture and real name for authenticity. Their basic info like Gender, sports name and sports category can be edited in the 2^{nd} picture.

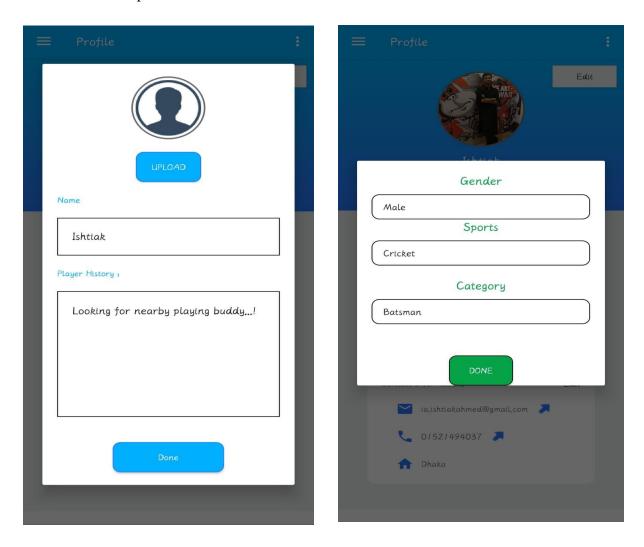


Figure 5.2.9: Edit profile and basic info

7. Player Search

Player can be searched by location, sports and sports category. Every field must be clicked for getting result.

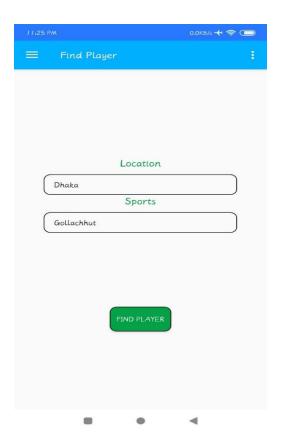
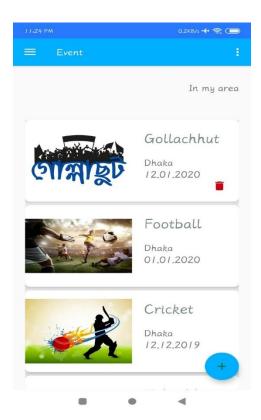


Figure 5.2.10: Player Search

8. Events

Recruiter create events & also can delete events by selecting sports, location, date, time, invitation limit and writing some description.



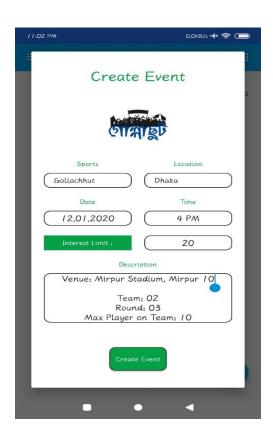


Figure 5.2.11: Events

9. Players Events View & Join Request

Player can send interest to an event. Players can see the events in nearby places. Player can see the event details by clicking on them and can join by clicking interested button until the event player limit isn't max.

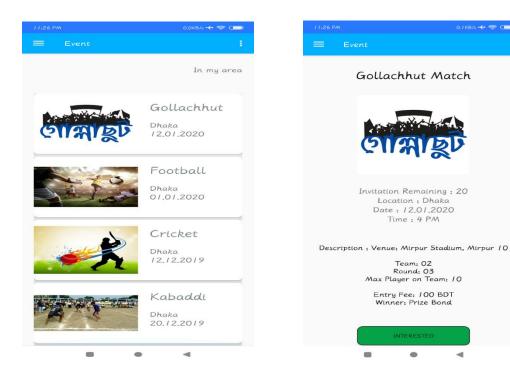


Figure 5.2.12: Events view and Join Request

10. Recruiter Hire Player

Recruiter can choose any player he wants to hire. By clicking hire a request will be send in players newsfeed.

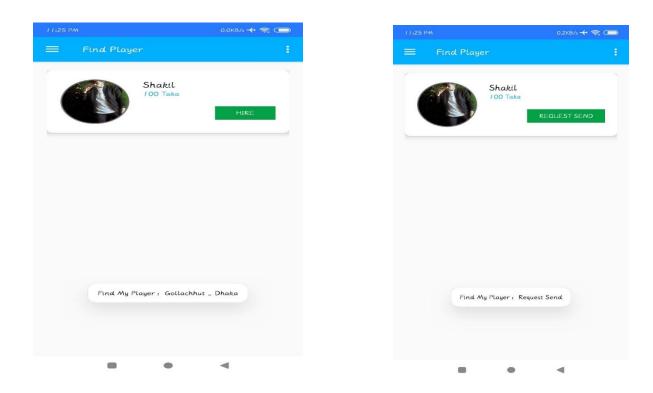


Figure 5.2.13: Recruiter Hire Player

11. Recruiter & Player get Notification in Newsfeed

In the newsfeed option player can see who wants to hire them and can see the hirer details simply by clicking on the notification. Player can remove any notification. Player can see the hirer details by clicking on the notification.

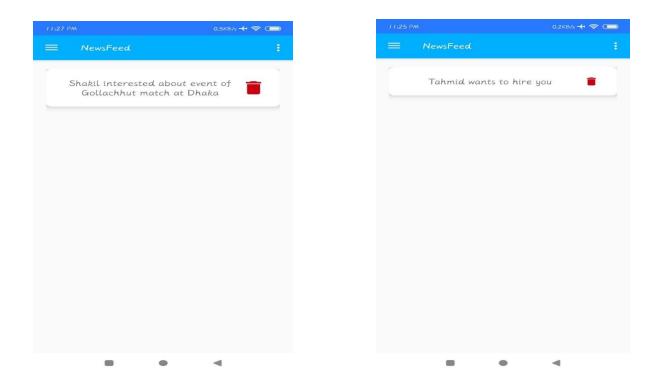


Figure 5.2.14: Newsfeed Notifications

5.3 Implementation of interactions

About this application we tried to represent in more easier way for the users to use this application and interact with the application more easily and it is a light weight application to run in most of the device. It has a huge range of devices to support including 4.4 to all the latest versions.



Figure 5.3.1: Targeting SDK version

5.4 Testing implementation

Here is an image when we started the application if it has any error or not. We have tested in some virtual devices and these are the devices.

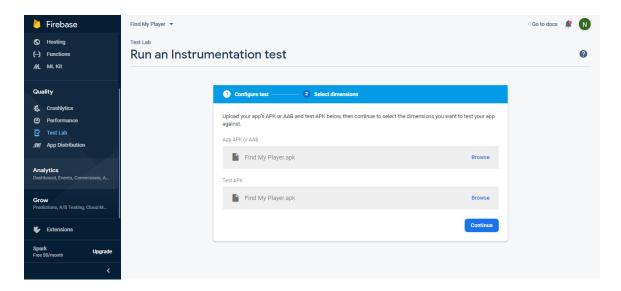


Figure 5.4.1: Testing Implementation

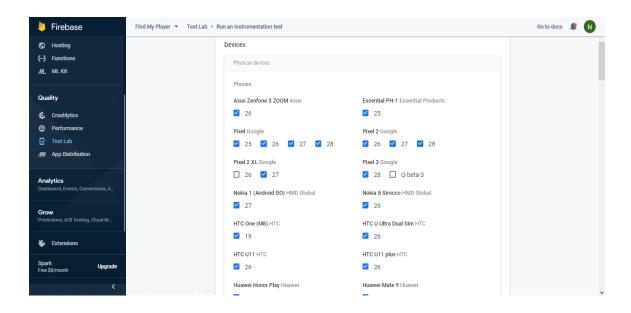


Figure 5.4.2: Running Instrumentation Test

5.5 Test result's and reports

Here is the test report of the application and we're glad cause we found 0% error's when we test our application in "Firebase Test Lab"

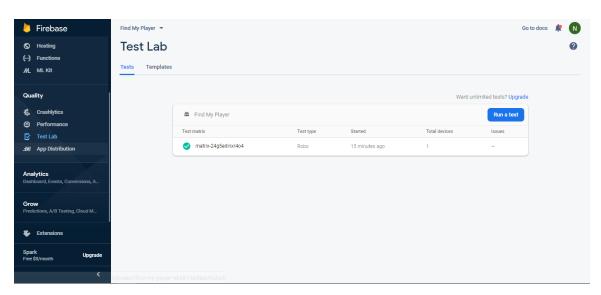


Figure 5.5.1: Test results

Chapter 6

Conclusion and Future Scope

6.1 Discussion and Conclusion

Find my player is an application where user can register as two different ways. A user can be a client who can observe various player. Not only he can observe player but also a user can send hire invitation to a player and see his profile. However, A client user also can find a player by using specific location, Sports, Category. Newsfeed also an important part of this game where a client can see all those players who are interested in his events. And Events is also an extra feature of this application which doesn't fulfill the goal of this project. However, A client can see all the events created by other client user and also can create events of his own by choosing location, sports, date, time, writing something about the event as description also can choose an appropriate picture of that event. A client can choose maximum number of players that he might need for that event. On the contrary, a user also can be register as a player. If any client sends this individual hire invitation for any match then a simple notification will appear his/her newsfeed. However, if the player is interested on that event, he can contact using phone call or mail through application and negotiate for the price of that event. Thus, a player profile cannot create any event but he/she can observe events that created by a client who is looking for new player. A player can show interest on any events. This is also a good thing that a player can see other player profile and keep touch through mail.

Application from other platform like IOS, windows store and of course play store for android application now a days have a lot of app that is related to sports like SofaScore, UEFA Champions League, ESPN, BDIX Sports etc. These applications are all about live score of games or streaming a live match. There are very few applications that helps an individual to find a player for specific events. But Find my player is an application that connects a person to another player of this region. There is no application that can connect a person to other players of this country. The specialty of this application is it can find a player locally. In this way a hidden talent of a gully or rural or urban area can come to light easily.

6.2 Scope for Further Developments

This application helps a person find a player for specific match or tournament. However, it also provides some extra features like newsfeed where user gets notification about events, interested players, hire invitation etc. And there is some opportunity to edit own profile, see other profile and also can create events for specific sports. However, there is also some limitations and bug also. As the developer of this application we are trying to overcome of those bug and limitation and also planning for further development. We may add some new extra features like,

- a. Sports groups where player can create groups and start tournament by their own.
- **b. Skill** Skill could be an important side of this application. By observing a player skill hiring that player would be safer.
- **c. Rating** Those clients who has hired a player once, he/she can rate that player by watching gameplay of that player and these rating will make effect on the skill of that player. Higher rating will increase skill points and lower rating will decrease skill point of that player.
- **d. Google Map** Google map API will be added on location in near future which will make location more specific and make easier to find.
- **e. Chat System** Messaging in this application will be added so that player and the recruiter can stay in communication through this application.
- **f. Favorite Player-** After hiring player and seeing his/her skill recruiter will be able to add him in his favorite list.

APPENDICES

Appendix A: Project Reflection

We Started our project from Fall 2018 to make a development project in sports category to find player and create specific events. We have tried to make this application's user interface as much as user friendly. The main goal of this project was finding a specific category/classes player within a local range area. It is very important that the database of this application of player side should be rich otherwise finding player feature wouldn't be much efficient. However, to store that much data in a free database like firebase is not possible. For that, developers should use a paid database. There are some extra but essential features like newsfeed and events where user can create events as selecting location, sports, date, time, maximum number of players, choosing appropriate picture for events and some info of that events as description. To store these data, we also need a huge amount of storage. We've used android studio to implement this project. However, to build this project we had to create a project structure as start point. We've drew use case model, UML as prerequisite to develop this project. After designing the BPM, Use Case model diagram, Flowchart we started to develop this application step by step. However, after a long journey and hardworking and also a good supervision of our supervisor finally we are able to reach our goal.

Appendix B: Related Diagram

To develop a project, it is necessary and prerequisite that a basic structure of that project should be prepared. And to prepare a basic structure of whole project some basic diagram is needed like, Business process model, use case Diagram, Logical Data model, Data Flow Diagram is necessary. To draw this diagram for soft copy Microsoft Visio is an essential software. But It cannot provide a perfect diagram while we are talking about hardcopy of a project report. As in a softcopy it is possible to zoom in to see the diagram. But in a hardcopy, it is not possible. We drew all the diagram in Microsoft word using Insert and Shape. However, all the related diagram is shown at chapter 3 Requirement Specifications.

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