MINI PROJECT

(2021-22)

"PrepDrive"

Project Report

Institute of Engineering & Technology

Submitted By -

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Under the Supervision Of

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Chaumuha, Mathura – 281406 U.P (India)

Declaration

I/we hereby declare that the work which is being presented in the Bachelor of technology. Project **"PrepDrive App"**, in partial fulfillment of the requirements for the award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mrs. Harvinder Kaur, Technical Trainer, Dept. of CEA,GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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Certificate

This is to certify that the project entitled "PrepDrive App", carried out in Mini Project – I Lab, is a bonafide work by Pragya Sharma, Utkarsh Ojha, Prashant Kumar and Piyush Kumar and is submitted in partial fulfillment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

Signature of Supervisor:

Name of Supervisor: Mrs. Harvinder Kaur

Date:

Training Certificates

- **Pragya Sharma**

GOLD

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Hybrid Mobile App Development with React-Native

Certificate of Participation

This certificate is awarded to **PRAGYA SHARMA** , Roll No. **191500560** from **GLA University, Mathura**, for successfully completing the *Job Oriented Value-Added Course* on **Hybrid Mobile App Development with React-Native**, organized by Department of Computer Engineering & Applications (CEA) GLA University, Mathura (U.P.), India from **29th June, 2021** to **31st July, 2021**.

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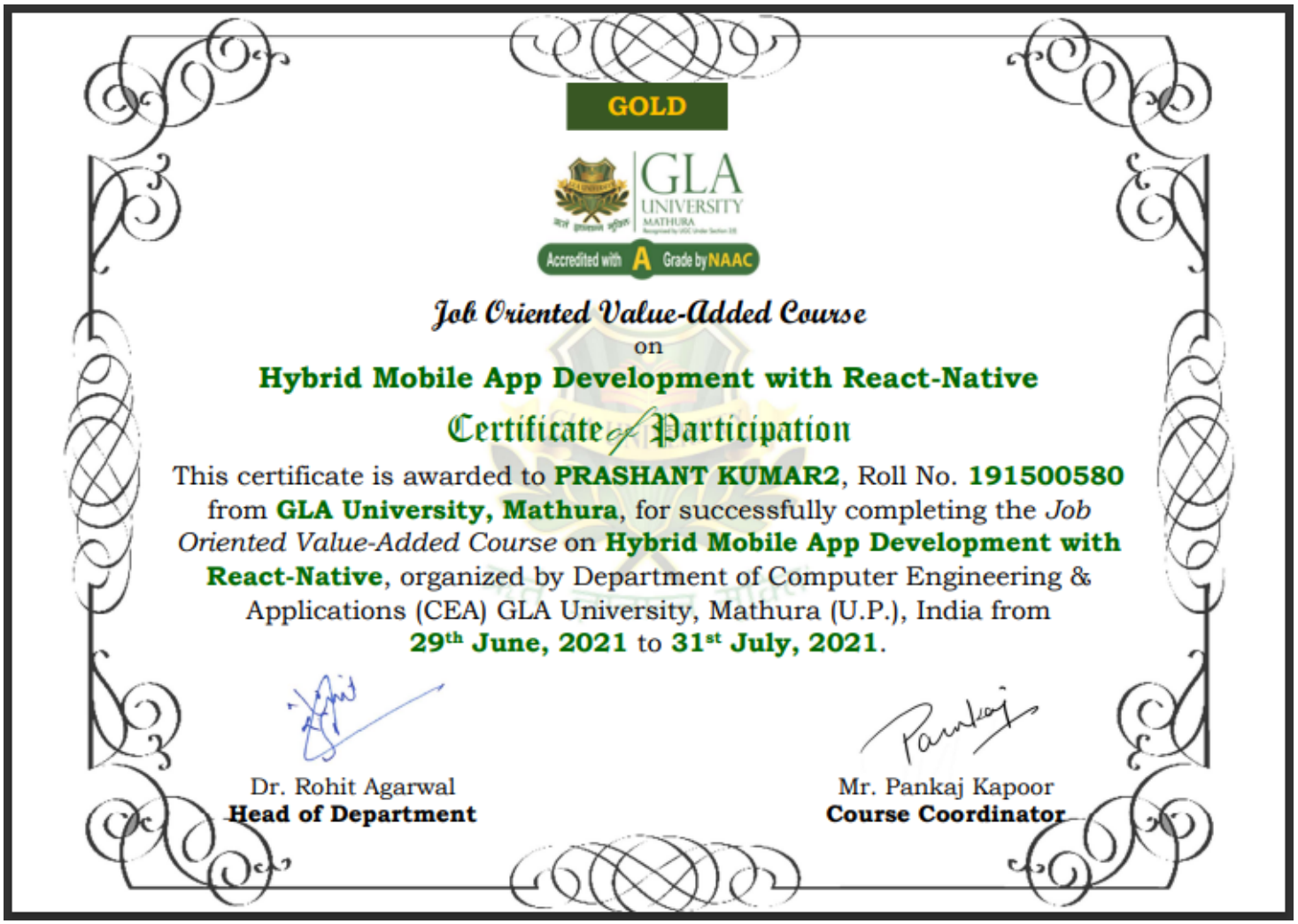

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ACKNOWLEDGEMENT

Presenting the ascribed project paper report in this very simple and official form, we would like to place my deep gratitude to GLA University for providing us the mentor Mrs Harvinder Kaur, our technical trainer and supervisor.

She has been helping us since Day 1 in this project. She provided us with the roadmap, the basic guidelines explaining how to work on the project. She has been conducting regular meetings to check the progress of the project and providing us with the resources related to the project .

I would like to extend my deep appreciation to all my group members. Without their support and coordination we would not have been able to complete this project.

Thanking You:

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ABSTRACT

In this project, we are creating an application, which is designed for the preparation of the upcoming placement drives. Basically , It is an application where users can find all important and mandatory topics related to placement drives at a single destination . All the users will be having their separate accounts on this app which will be connected to their email id and that email information will be stored in firebase . The app dashboard provides five sections, represented as buttons which provide Technical Aptitude , Logical Reasoning , Quantitative Aptitude , Data Structure and Algorithms and Group Discussion and Personal Interview questions came in the last five years.

The app will be completely efficient and transparent to the reviews of the people . The Student can also see the answer to those questions .The project profile section provides all the necessary details that the user may need about his account . The app also has a complete User Interface attached to the firebase, a perfect login system with email id and password and a forget password too.

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LIST OF FIGURES

CHAPTER -1

INTRODUCTION

1.1 CONTEXT

This Android Application “PrepDrive” has been submitted in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at GLA University, Mathura supervised by Mrs.Harvinder Kaur. This project has been completed approximately three months and has been executed in modules, meetings have been organised to check the progress of the work and for instructions and guidelines.

1.2 MOTIVATION

Now-a-days,Getting placed is the topmost priority for each and every student.For this, Every student hustle day and night.In order to make their preparation lenient,easy and quick, a placement oriented application should be there. These types of applications will help students to prepare at the last minute in a very systematic way. On top of that, these should also contain explanations of the topics covered in semester examinations in a crystal clear manner.

After seeing lots of platforms and applications of preparations we realize that students need a single user friendly place where they can find all the important questions regarding their placement.By solving these questions and concepts students will be able to clear their placement rounds.

1.3 OBJECTIVE

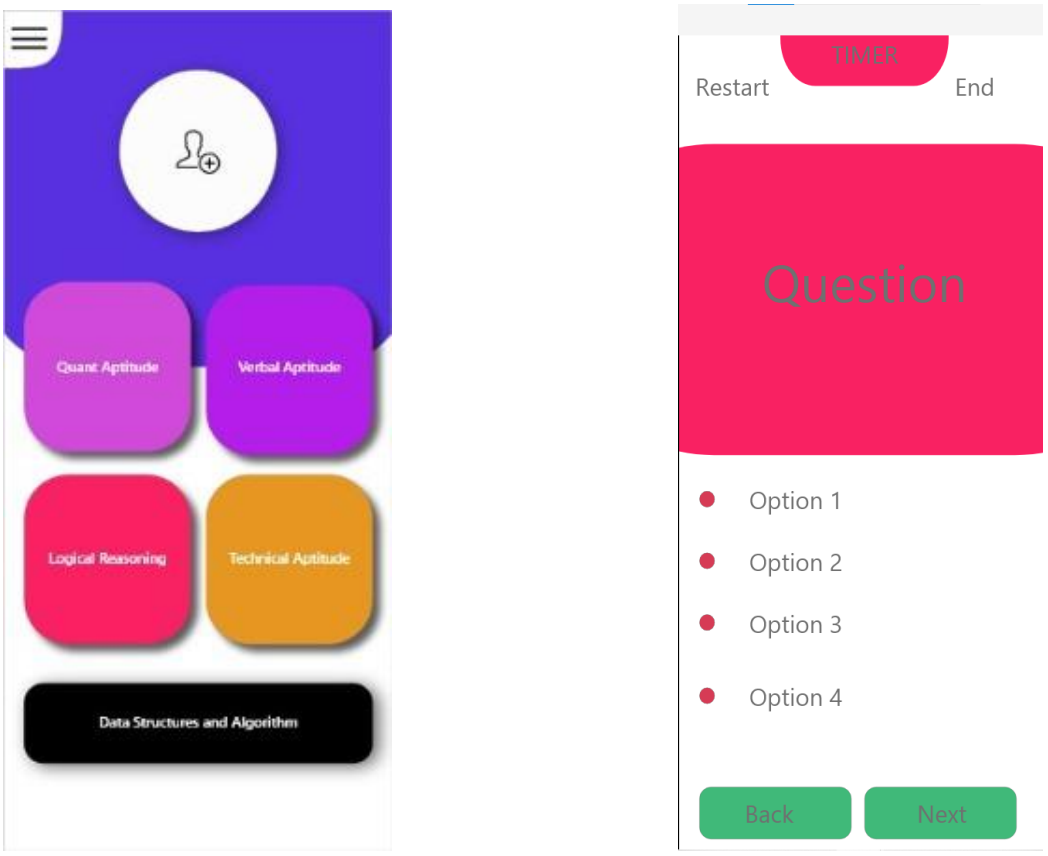
The main objective of this application is to create a Placement Preparation app named “PrepDrive” which will have a lot of questions and which have come in the last five years .

This application can be used at a variety of places, at education hubs and have its significance. The goal of the app was to provide a way to the learners and users to get all the important questions that came to companies in the last five years at a particular location rather than randomly surfing the Internet.

1.4 EXISTING SYSTEM

In the present scenario, we are providing some basic functionalities like profile page , sign Up , Login Page , Dashboard which consists of five sections Technical Aptitude , Logical Reasoning , Quantitative Aptitude , Data Structure and Algorithms , Group Discussion and Personal Interview as buttons and consists of the questions

As this idea as already implemented here



a) Dashboard **b) Quiz Screen**

Figure-1: Existing System

1.5 SOURCES

The source of our project (including all the project work, documentations and presentations) will is available at the following link

https://github.com/piyushpkc/Prep-Drive

CHAPTER -2

SOFTWARE REQUIREMENT ANALYSIS

2.1 Placement Preparation-A Herculean Task

Books are considered as the best friends of students in a real sense, and it is said that they are also the best companions of students. But the students need a straight quick efficient path for their side by side preparation and for this, Prepdrive will also help the students at the time of placement where they need to prepare for only those questions which are important for them .

Our Application, PrepDrive will help students in the same manner as it contains all the previous year questions with solutions that have been asked by the on-campus companies of GLA for five year in a row. On top of that, It will also help students in off-campus recruitment.

It has a user-friendly layout that will help students to switch between functionalities very easily so students will easily understand.

It will also help students in off-campus recruitment. On top of that, our application, PrepDrive, will help students in the same manner as it contains all the previous year questions with solutions that have been asked by the on-campus companies of GLA for five year in a row.

2.2 PROBLEM STATEMENT

It is being hard for students to prepare for placements along with day to day college life.They have lectures,assignments,projects at their heads due to which their placement preparations lack by.For this,we have build this react native application on android by which the students become able to complete their preparations in mean and less time.

Considering current scenario of the students, this application will help them to make their preparation sound and strong for the coming on as well as off campus companies. As we have discussed earlier, it contains various fields of technical,Quantitative,Reasoning,Logical etc where they possess previous year question papers in multiple choice manner, due to which it became user friendly because of the same. It will also help students in off-campus recruitment. On the top of that, our application, PrepDrive, will help students in the same manner as it contains all the previous year questions with solutions that has been asked by the on-campus companies of GLA for five year in a row. It will also contains some youtube, geeksforgeeks and much more sites link in order to elaborate their explanations.

2.3 HARDWARE AND SOFTWARE REQUIREMENTS

Hardware Requirement

- Processor :intel i5

- Operating System :Any Operating System
- RAM : 8 GB (or higher)
- Hard disk : 256GB

Software Requirement

- Software used:Visual Studio Code
- Language used : Javascript,React Native.
- Database: Firebase
- User Interface Design : Android Application

2.4 MODULES AND FUNCTIONALITIES

Login Page: This page is for those users who have already registered themselves on the app and have a username and a password. There is also a way on this page for the new users to register themselves which will take them to the registration page.

Registration Page: This page is solely designed for the new users of the app who are willing to register themselves. This page takes input of the various details of the user and stores it in the database, later helping the user to login into the account with credentials they have provided.

OTP Page: This page is again solely designed for the new users after registration page.This page takes otp from the user to confirm the credentials they have provided.

Forget Password Page: This page comes into picture when one of the users forgets the login credentials. In this case this page asks for the email-id with which the user has already registered. The app will check if there is any entry in its database

with the id and if there a mail will be sent to the same id for recovering the credentials and notification will be given to the user.

Dashboard Page: This is the page displayed for every user after entering the app successfully. It contains the user photo and also there are five subject buttons representing five types of question sections of soft skills from which the user will attempt the questions .

Quiz Page: This is the page displayed for every user after clicking on subject-buttons.It contains previous year on-campus recruitment questions of respective subjects along with their answers hidden in following option-buttons.

Update Profile: This page will update the user details that the user entered while creating the account on the app. The user can update and make changes to all this information as desired.

Menu: This page will show all the details which have to contain in the menu.

Logout page: Then is this last panel for the users to sign out from the account. As soon as the users sign out they are brought back to the login page.

2.5 PREPDRIVE A REACT NATIVE APPLICATION

PrepDrive is actually a portal of questions on soft skills,designed for the placement preparation purpose. The online sites like Geeks for Geeks have Thousands of Questions but sometimes students don't have time to solve each question. So just by solving the questions provided by PrepDrive the student will benefit that at least he/she has solved and learned some important questions and they will also help the students.

Online Preparation is an online technology that allows users(students) to prepare for the placement drives. It helps students to prepare for the topics that have been asked in the previous year's placement rounds of MNCs,Start-ups,FAANGs etc. Our Application, PrepDrive will help students in the same manner as it contains all the previous year questions with solutions that have been asked by the on-campus companies of GLA for five year in a row. On top of that, It will also help students in off-campus recruitment.

Key Points:-

1. Online Preparation is an online technology that allows users(students) to prepare for the placement drives.

2. PrepDrive contains previous year questions with solutions that have been asked by the on-campus companies of GLA for five year in a row.

3. It is based on React Native technology along with front-end, Firebase, Github etc.

4. It is basically a last-minute oriented application where students can prepare for the drives in no time.

5. It has user friendly layout that will help students to switch between functionalities very easily

CHAPTER -3
TECHNOLOGY USED

3.1 REACT NATIVE

React Native is an open-source UI software framework created by Meta Platforms, Inc. It is used to develop applications for Android,Android TV, iOS, macOS, tvOS, Web, Windows and UWP by enabling developers to use the React framework along with native platform capabilities. It is also being used to develop virtual reality applications at Oculus.

The working principles of React Native are virtually identical to React except that React Native does not manipulate the DOM via the Virtual DOM. It runs in a background process (which interprets the JavaScript written by the developers) directly on the end-device and communicates with the native platform via serialized data over an asynchronous and batched bridge.

React components wrap existing native code and interact with native APIs via React's declarative UI paradigm and JavaScript.

While React Native styling has a similar syntax to CSS, it does not use HTML or CSS. Instead, messages from the JavaScript thread are used to manipulate native views. React Native also allows developers to write native code in languages such as Java or Kotlin for Android, Objective-C or Swift for iOS, and C++/WinRT or C# for Windows 10, which makes it even more flexible.

Microsoft builds and maintains React Native for Windows and React Native for macOS..

But first it would be great to see the three different type of Android Apps:-

- **Native Apps:** An executable program coded in the machine language of the hardware platform it is running in. **Native applications** are compiled into the machine language of that CPU. For example, **Windows** and Mac executable **apps** are in x86 machine language, while **mobile apps** are ARM based. Native apps are the most common. They're coded in a specific language like Swift for **iOS** or Java for Android. A popular example is

WhatsApp.

- **Web Apps:** are accessed via the internet browser and will adapt to whichever device you're viewing them on. They are not native to a particular system, and don't need to be downloaded or installed. Due to their responsive nature, they do indeed look and function a lot like mobile apps — and this is where the confusion arises.For this,**React Js** is used.
- **Hybrid Apps:** Hybrid apps are deployed in a native container that uses a mobile Web View object. The web content can either be displayed as soon as the app is opened or for certain parts of the app only i.e. for the purchase funnel. In order to access a device's hardware features (accelerometer, camera, contacts…) for which the

native apps are installed, it is possible to include native elements of each platform's user interfaces (iOS, Android): native code will be used to access the specific features in order to create a seamless user experience. Hybrid apps can also rely on platforms that offer JavaScript APIs if those functionalities are called within a Web View

3.2 VERSION OF REACT NATIVE

Open source React Native releases follow a monthly release train that is coordinated on GitHub through the react-native-releases repository. At the beginning of each month, a new release candidate is created off the main branch of facebook/react-native. The release candidate will soak for a month to allow contributors like yourself to verify the changes and to identify any issues by writing clear, actionable bug reports. Eventually, the release candidate will be promoted to stable.

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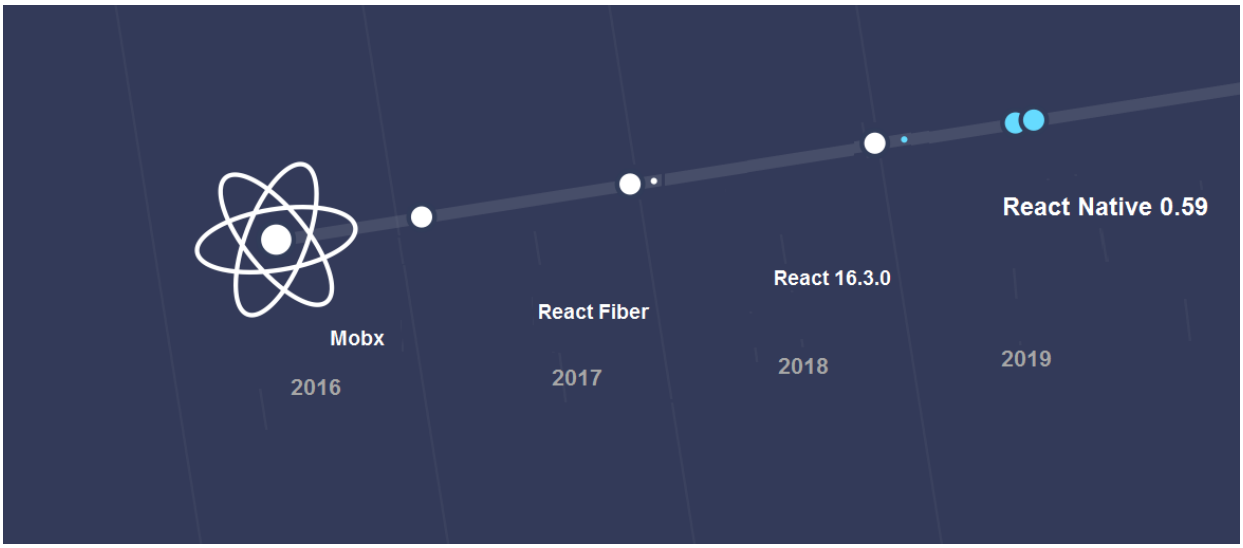

Figure-2: Versions of React Native

3.3 TOOLS AND LANGUAGES

Tools used to build the React Native Android App are:-

- **Visual Studio**: Visual Studio is an environment that helps us create and edit React Native applications. It is the most common IDE for building React Native Application.

- Languages used in building PrepDrive Application are classified as per the Front End and Back End.React Native uses JSX for rendering UI, which is nothing but javascript.

3.4 BASIC TERMINOLOGY

- **Emulator**: An emulator is an Android virtual device through which you can select the target Android version or platform to run and test your developed application.
- **expo-shared:** this is an expo internal folder, no need to peek in there.
- **assets:** this is where we store any assets we may want to use in our application, like images, videos, fonts and icons.
- **node-modules :**- these are all the packages we have installed that make up Expo and React Native. Whenever you `npm install` a new package, it gets added here. This folder should never be checked into source control
- **gitignore:** - this is a file to tell .git which files and directories we want to omit from course control. node_modules is listed there
- **App.js :**- the main entry point to our application. This is where you'll start adding code!
- **app.json:**- another config file, mostly for expo metadata
- **babel.config.json:**- babel config, used to add the expo preset
- **package.json:** - this is where you list dependencies and add scripts

- **package-lock.json:** - you might not have this, but I had npm installed, so expo added all my dependencies using npm.
- **APK**: Short for "Android application package." The extension used in Android app installation files (e.g., app.apk). Similar in nature to an EXE file on Windows..
- **Firebase** is a Backend-as-a-Service (Baas). It provides developers with a variety of tools and services to help them develop quality apps, grow their user base, and earn profit. It is built on Google's infrastructure. Firebase is categorized as a NoSQL database program which stores data in JSON-like documents. Firebase has three core services: a real-time database, user authentication and hosting. With the Firebase iOS SDK, you can use these services to create apps without writing any server code.

JSON stands for JavaScript Object Notation. It is an independent data exchange format and is the best alternative for XML. JSON is used for data interchange (posting and retrieving) from the server. Hence knowing the syntax and it's usability is important.

CHAPTER -4

IMPLEMENTATION AND USER INTERFACE

Creating an app concept design with screen sketches and functional flow diagrams is the best way to communicate your vision to the mobile app developer. Making the concept clear to the developer is probably the most important factor in successful mobile app development. Yet it is one of the most common problems or obstacles in a mobile app development outsourcing project.

No matter what the marketing and profit goals are or if you are outsourcing an app for your personal use, you need to fully design and document the app concept if you expect a programmer to make your vision a reality. Developers are not mind readers and even descriptions given during conversations can be very fleeting or interpreted differently. Fully documenting your concept, therefore, leaves little to chance. The two most important things to do are:

A) make a comprehensive description of how the app works and what it does (functionality) and B) create a comprehensive description of what the user sees and does (look and feel).

4.1Implementation of the PrepDrive:

Implementation of PrepDrive is taking place in various phases. Firstly we build the Menu layout ,Dashboard , Profile and other screens

Step to be followed to develop the app:

1. Firstly we create login phase which comprises of various phases that are mentioned below:
    - Login Page: allows user to login into the app if the user is existing one
    - Register Page: If the user is new to our app then firstly he/she has to register themselves on the app.

- Forgot Password:Allows the user to reset the password if it forgets the previous password.
- OTP Page: After the SignUp page,it shows up for the clarification of data.
- **For authenticating the user we have used firebase authentication**.

2. Now, we are going to create a Menu for update profile,progress report,About us,FAQ,Signout/logout etc.

3. Our Main item is Dashboard.In this,We will have five buttons as Quantitative Aptitude,Verbal Aptitude,Technical Aptitude,Logical Reasoning,DSA.

4. Each button will forward to a window where no. of previous year on campus questions of particular subject is given as multiple choice questions along with their answers.

5. After completing the particular quizzes the result will be shown at the screen and hence progress report.

4.1.1Step to be followed by the user

- Firstly, we have the Login activity which consists of following steps
    - Register : for new User
    - Login: For existing as well as new user
    - Forgot Password: To reset your password
- We authenticate and store the user information from the Firebase authentication.
- After that, we made a layout of our PrepDrive app which includes various functionality
    - Profile Fragment: To check the profile and update the database.
    - Dashboard Fragment: Show the book on the genre basis and it is open by default.
    - About App : Information about the app
    - FAQ:Where user can drop its queries and suggestions regarding application.
    - Sign-out Fragment: Remove/logout you from the app.
- In the Dashboard fragment we have five options or buttons that can be chosen by the user to select the type of questions he wants to go through.

4.2 User Interface

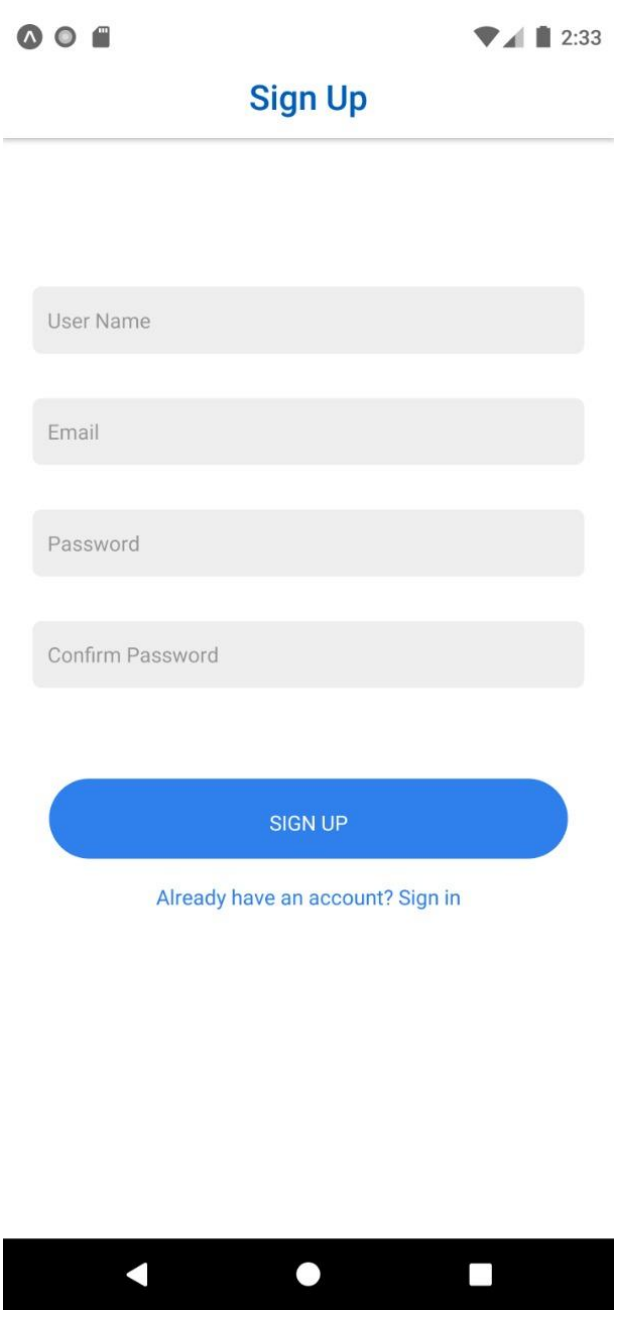

Figure-3: SignUp Page

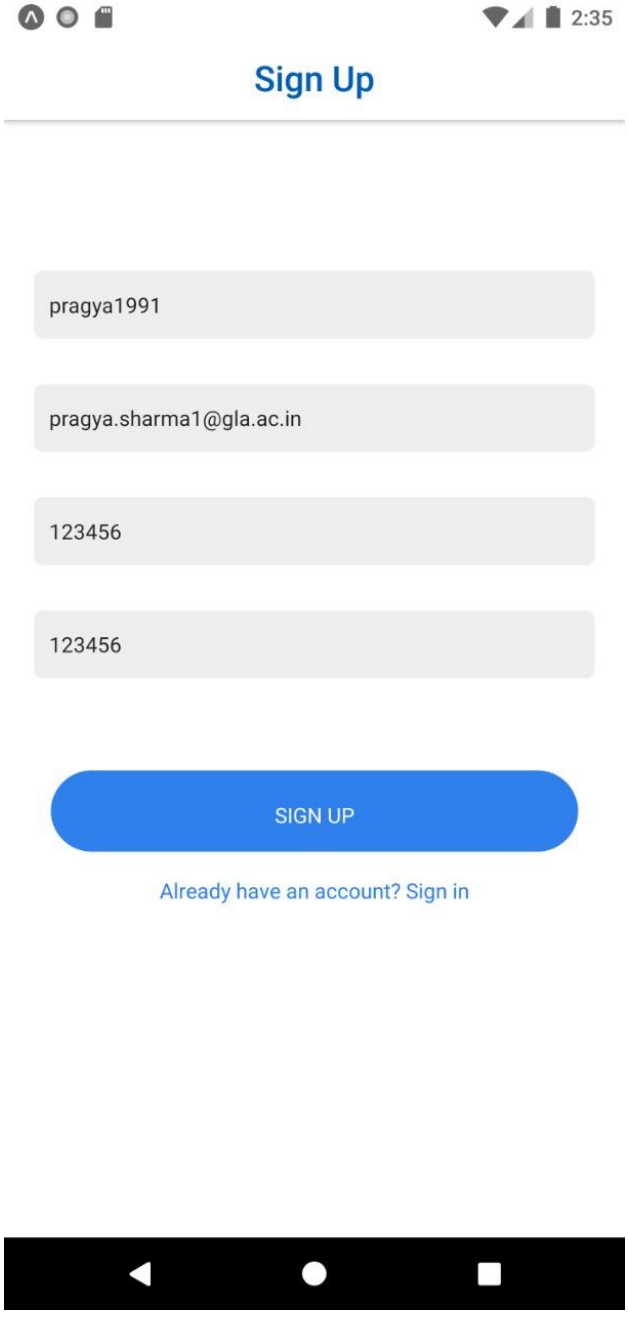

Figure-4 Filled SignUp Page

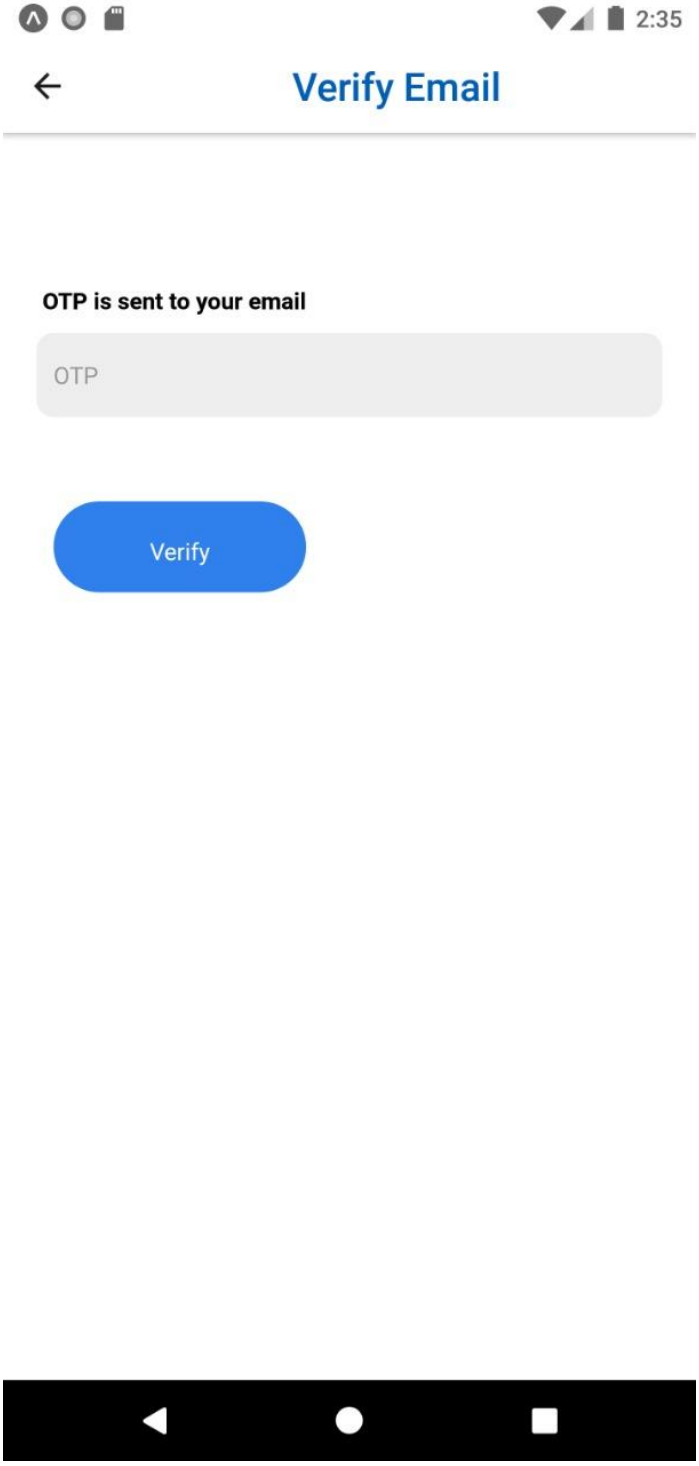

Figure-5:OTP Page

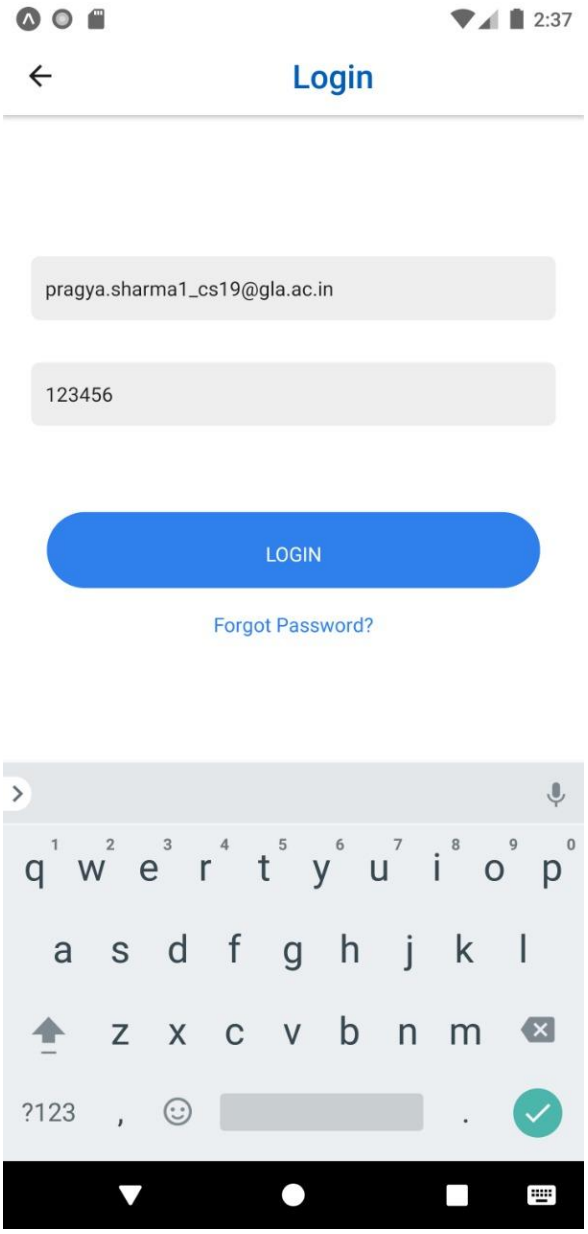

Figure-6:Login Page

Figure-7:No user Found Page

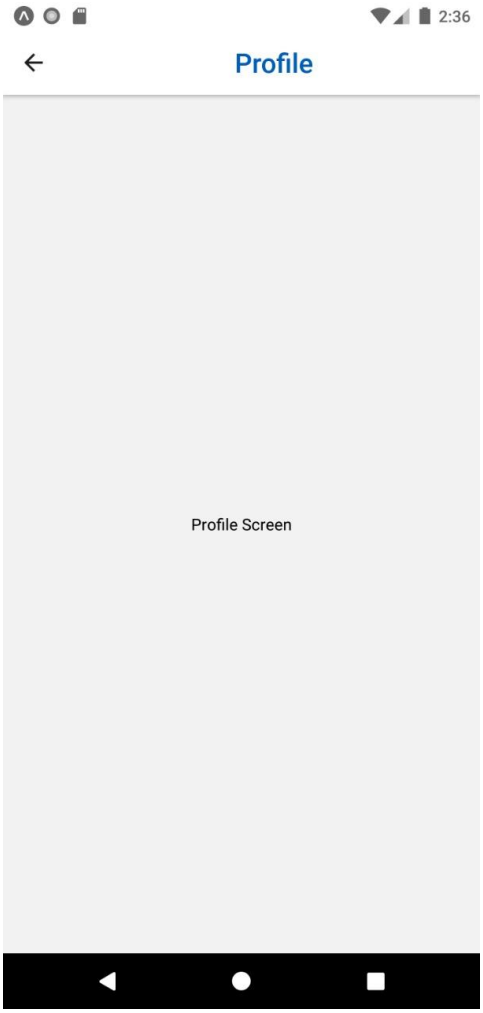

Figure-8:Dashboard Page

PrepDrive Upcoming Pages:

Figure-9:Dashboard **Figure-10 Update Profile Page** **Figure-11:Menu Bar**

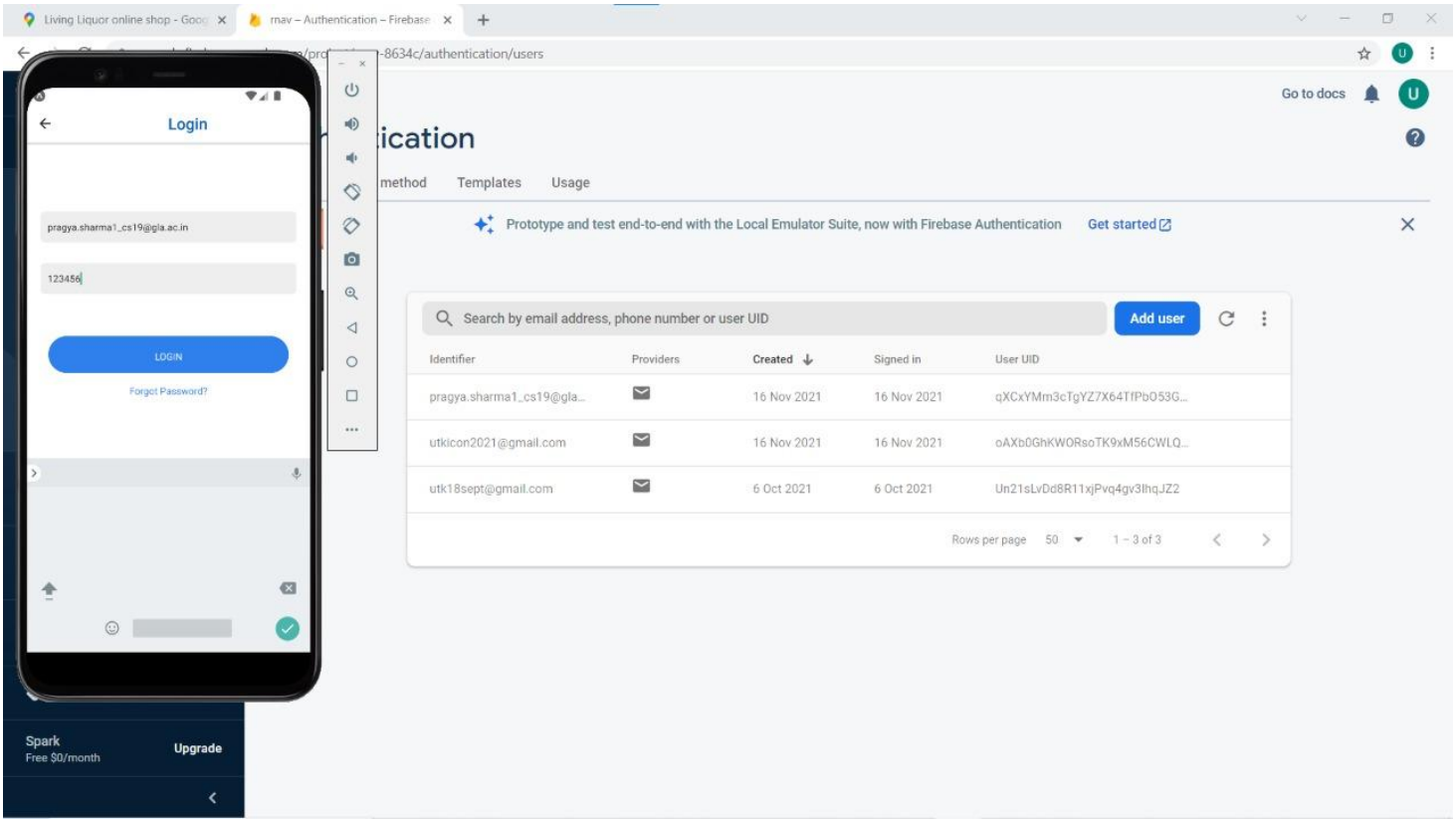

Figure-12: Database Records along with Android Emulator

CHAPTER-5

CONCLUSION

PrepDrive is an application which is designed for the preparation of the upcoming placement drives. Basically, It is an application where users can find all important and mandatory topics related to placement drives that came in the last five years in companies.

REFERENCES

1. **React Native Documentation:**

   https://reactnative.dev/docs/getting-started

2. **For rectifying the error :**

   https://stackoverflow.com/