Project Report (Android Development)

**Final Task-Student Companion App**

In the final task of the Internship Drive, I was required to build a **Student Companion App**, which contained features that would help overcome some obstacles in a student's day to day life. This report includes comprehensive details about the procedures that I took to achieve the final result.

Firstly, I created the **Login Activity**, which takes the user's email and password to login the user into the app and takes the user to the dashboard. The Login Activity is the first screen the user encounters after opening the app and passing through the splash screen. In this activity, we have the option of logging in, going to the Register Activity if the user has not already registered, and the option of retrieving the password if the user forgets it.

**Register Activity**- It uses Firebase Authentication to create a user using email and password. It also takes the fields of Name, College Registration Number, and stores in the details of the user into the Cloud Firestore Database.

**Reset Password Activity**- It takes the user's email and sends an email to the user containing the link to change the password using the Firebase portal.

**Splash Screen Activity**- This activity shows a splash screen for about 2.5 seconds before the Login Activity and uses a thread to delay the transition.

**Dashboard (Main Activity)**- The dashboard is the Main Activity that the user lands to after logging in, and if the user is already logged in, then this is the activity that will start on opening the app. It contains several buttons to open different apps. This activity contains the following apps-Academic Section, Calculator, Voice Recorder, Syllabus, Timetable, Library Fine Calculator, To-do App, Calendar, Notice Board and also the Log Out Button.

**Calculator**- This button opens up the in-built calculator of the phone. Intent service was used to achieve this task.

**Voice Recorder**-This button opens up the in-built voice record of the phone. Intent service was used using the MediaStore.Audio class.

**Academic Section**-This activity includes the basic details about the academic section, like PIC Academics, email, and office hours. It contains some buttons that trigger the following actions: -

**Online Payment**- It redirects the user to the online portal to the CET website for online payment.

**Download Fee Structure**- It downloads the Fee Structure for the different courses available in pdf format, which is stored in Firebase Storage.

**Back paper Registration**-This button opens up a back paper registration form, which takes various details from the user, and on clicking the register button, stores the details into the Cloud Firestore.

**Retrieve Back paper Registration Details**-Retrieves the details of the user from the Cloud Firestore and displays it.

**Syllabus**-It shows the syllabus of the user for all the semesters. It contains **two dependent spinners**. The parent spinner contains the semesters as items, and the child spinner contains the subjects related to the semester chosen in the parent spinner.

**Timetable**-This activity shows the timetable of the current user. On opening the activity, it shows the week's days as a list, which was designed using **ListView**. On clicking each day, the timetable of that day is shown, comprising of the subjects and the specific time.

**Library Fine Calculator**-This activity is used to calculate the library fine. It shows the current date, which was implemented by using the **Calendar and Date Class.**The user has to input the fine amount and the due date. By these two inputs, the activity calculates the days past due and the total fine amount.

**To-do Activity**- This activity is a to-do app to log the tasks which need to be done. It was designed using three different fragments likely **To-do, Homework, and Projects,**and **FragmentManger**was used to navigate through the fragments. The fragment also contains a ListView to show the items as a list, and to retain the stored data, it implements the methods of a different class called **FileHelper** containing the methods **FileInputStream**and **ObjectInputStream Class**which is used to store in the data in a **'.dat'** file

**Calendar Activity-**This activity displays an image that shows the list of holidays for the college for the academic year 2020. It also has the zoom functionality. **PhotoView** was used for this function.

**Notice Board Activity-**This activity shows the latest notices from the official CET website. The data is stored in **Cloud Firestore** and we can update the database for real-time update.

**Log Out Button-**Logs out the user on button click and redirects the user to the Login Activity. It also shows an **AlertDialog** to verify if the user really wants to log out or not.

**Technical Stack**

Java

**Future Scopes**

At present, this app could cater to the basic needs of any IT student from the college as the contents of Syllabus and Timetable are hardcoded for IT Branch Only. Adjustments can be made so that the content changes according to the user. The syllabus and timetable of the user can be stored in the database and retrieved on the activity call. Other than that, this app would be helpful for the daily use of college students.

I also plan to add the map feature showing different places in the college so that the user can navigate through the college easily and other features soon.

**Report By: -**

Anupam Dung Dung

Information Technology

Regn. No.-1801106100

2nd Year