

AN ANDROID APPLICATION ON DAILY ACTIVITY MANAGEMENT

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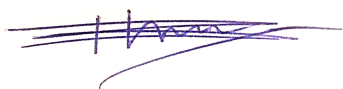
DAFFODIL INTERNATIONAL UNIVERSITY
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APPROVAL

This Project titled “**Android Application on Daily Activity Management**,” submitted by **Md.Tasnimul Hasan, Md. Mehedi Hasan, and Md. Shakhawat khan** 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 will be held on 29th May 2021.

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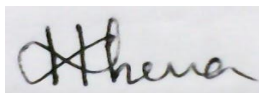
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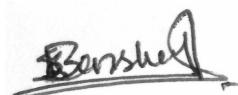
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DECLARATION

We hereby declare that this project has been done by us under the supervision of **Md. Sadekur Rahman, 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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ABSTRACT

A budget tracker application is either web or smartphone based and can help you track a scope of costs. You enter approaching and active cash and the application can help you store and track that data. It can help you track your spending plan, track your speculations, use diagrams and graphs to show your advancement, and keep your business and individual costs discrete. Cost tracker applications can likewise follow your ways of managing money and give you accommodating experiences to more readily assist you with understanding where you're spending and how you can scale back. Cost trackers can be utilized in a hurry and distinctive applications are useful for various sorts of cost following.

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CHAPTER 1

INTRODUCTION

1.1 Introduction:

A budget tracker application is either web or smartphone based and can help you track a scope of costs. You enter approaching and active cash and the application can help you store and track that data. It can help you track your spending plan, track your speculations, use diagrams and graphs to show your advancement, and keep your business and individual costs discrete.

Cost tracker applications can likewise follow your ways of managing money and give you accommodating experiences to more readily assist you with understanding where you're spending and how you can scale back. Cost trackers can be utilized in a hurry and distinctive applications are useful for various sorts of cost following.

1.2 Motivation:

We face many kinds of problems in our daily life. We constantly letter different kinds of things. Let's shop. As we go shopping, we buy clothes, we buy more things. And we have to keep a record of all these things in our pens or in our mouths. One of the main problems is that we do not get the information we need. Due to which it is difficult for us to reconcile at the end of the month or at the end of the day. And this problem is observed by me or you. And to overcome this problem, we have this Expense Tracker app, which allows you to keep a record of your daily calculations or where and how much money has been spent, as well as you can understand at the end of the month where you have spent more money and where. To reduce the cost of money, this app is a separate section for recording useful information where you can save your words with photos. In a word, digital notes or digital memoirs. You'll also find a separate section for what you need to do and when to do it, where you can plan according to your needs and what has been done and what remains to be done. Basically, this is an app that will help you make your daily work easier.

1.3 Objectives:

This app is simple , fast and user friendly all in one application which helps someone to manage their daily income expense activity, at the same time make a new budget so that one can save money. This app will also help to write down some personal or private or open notes with images and urls. This app also comes with a simple todo planner where one can plan for the future.

1.4 Expected Outcome:

We hope this app will make our life easier than other times. Through this app we can manage our daily activities without doing lots of work.

1.5 Report Layout:

This project report is divided into 7 chapters with detailed view and valuable information.

Chapter-1 : In this chapter we discussed all types of introduction.

Chapter-2 : In this chapter we discussed the Background of the proposed system.

Chapter-3 : In this chapter we discussed diagrams and schema.

Chapter-4 : In this chapter we discussed Design and Implementation.

Chapter-5 : In this chapter we discussed testing and debugging.

Chapter-6 : In this chapter we discussed the impact of this application on our daily life.

Chapter-7 : In this chapter we concluded the report and discussed the future scope for this app.

CHAPTER 2

BACKGROUND

2.1 Terminologies:

At this time wherever you want to look you will find that everything is digitalized. From bottom to top of the system or our daily life we all want to do our task or work digitally means we want to do it faster and more accurately. For comparison in Bangladesh almost 40 millions of smartphones are active. Keep it in mind we develop android apps which will help our day to day lives. With this app anyone can make their lives easier than others and at the same time one can be more smarter than others.

2.2 Related Work:

If you look on play stores you will find plenty of apps which also do the same as ours. But those apps are either paid or have less functionality that is not beneficial for us. We also didn't find an app which fulfills our desires and needs. In our app you will find 3 sub apps which are a) Expense Tracker, b) Note Taker, c) To-Do Planner. There is not a single app on the play store which offers these three things at the same time.

2.3 Comparative Studies:

The proposed application above we mentioned is an Expense/Budget tracker, Note taking and ToDo Planner application. It will give clients three sub apps at the same time. With this, a user no need to go to the play store and search for 3 separate apps, because one can get three things at the same time.

Table 2.0: Comparative Studies with other available apps

App Name	Transaction Tracking	Note Taking	Plan Making	Free	Cloud Backup
Wallet	Yes	No	No	Partially	Yes/Paid
Elephant Money	Yes	No	No	Partially	No
Mint Budget	Yes	No	No	No	Yes/Paid
Any Do	No	No	Yes	Yes	Yes/Paid
Simple Note	No	Yes	No	No	No
Note Expense	Yes	Yes	Yes	Yes	Yes/Free

2.4 Scope of the Problem:

Scope with this app is one can utilize their daily life with more perfection. You can give up your bad habits by tracking , managing and utilizing your day to day tasks. In one sentence this app is an allrounder app.

2.5 Challenges:

The only challenge of this app is that it is Developed with Kotlin Programming Language where materials like plugin, algorithm etc. are not available like other programming languages.

CHAPTER 3

REQUIREMENT AND SPECIFICATION

3.1 Requirement Collection and Analysis:

A lot of strategies we have a tendency to utilize to accumulate the wants in our undertaking. In lightweight of the utility of the procedures, we picked the perfect methods that is right And assisted America with get-together greatest necessities-

1.We antecedently utilized coordinated conferences of social specialists, associations and people to understand their assumptions and necessities from such reasonable utilizations. This technique assisted us with recognizing the holes within the current frameworks.

2.Secondly we organized an inspiring meeting. During this meeting we examined which offices have to be compelled to be remembered for our App.

3.We at that time created a form to get the fundamental wants of such AN application.

4.A meeting to get new concepts was then commanded to get basic} problems with this Application.

5.A Request for Proposition Session was then created wherever we have a tendency to gather recommendations from folks in general.

6.Finally, a prototyping meeting was hurried to Analysis for check

3.2 Use Case Diagram:

A use case diagram could be a graphical depiction of a user's attainable interactions with a system. A use case diagram shows numerous use cases and differing kinds of users the system has and can usually be accompanied by different varieties of diagrams as well. the utilization cases are represented by either circles or ellipses.



Figure 3.1: Use Case Diagram

3.3 ER Diagram:

An entity–relationship model describes reticulate things of interest in an exceedingly specific domain of knowledge. A basic ER model consists of entity varieties and specifies relationships that may exist between entities.

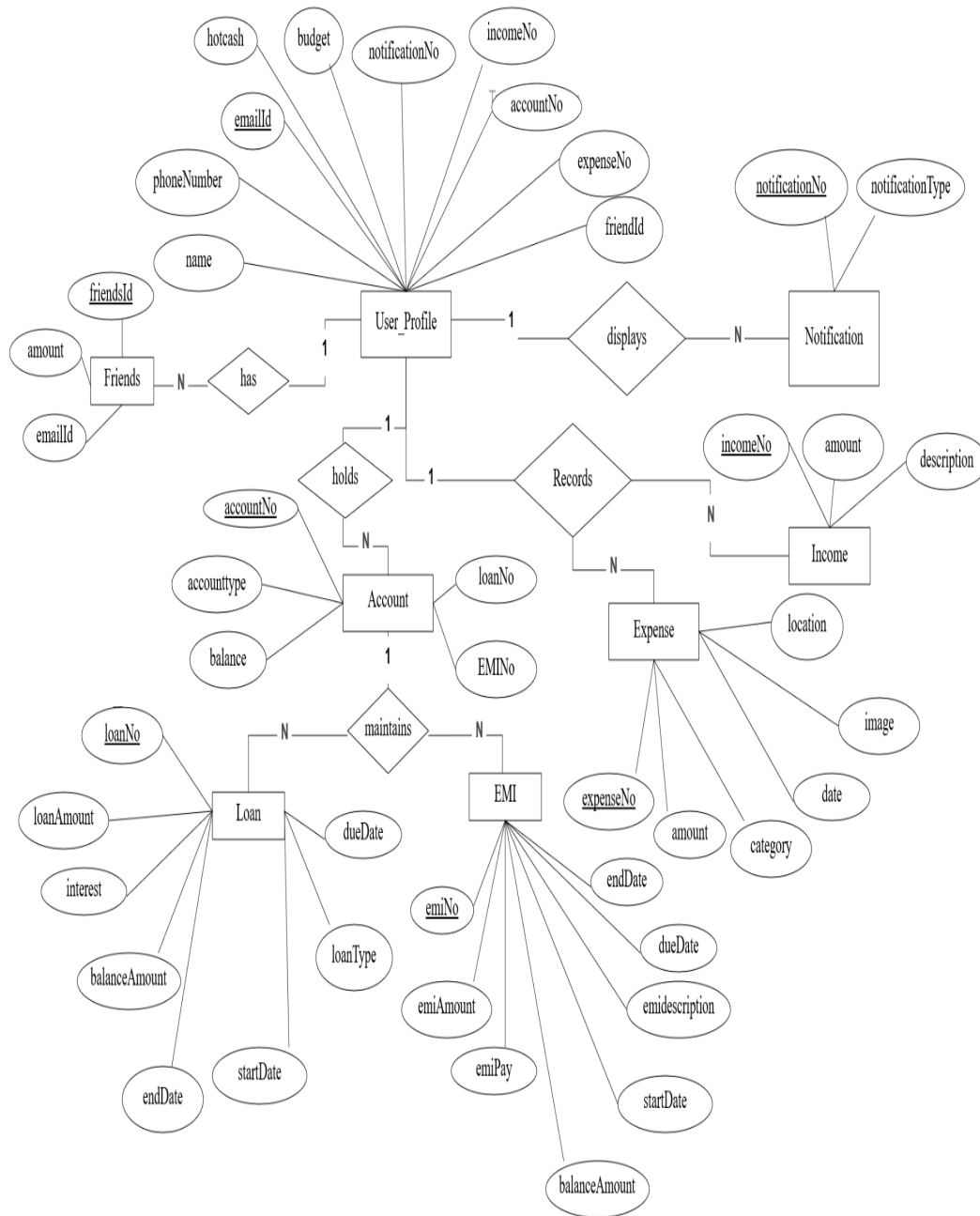


Figure 3.2: ER Diagram for Expense Tracker

3.4 Activity Diagram:

Activity diagram is another necessary behavioral diagram in UML diagram to explain dynamic aspects of the system. Activity diagram is basically a complicated version of flowchart that models the due one activity to a different activity.

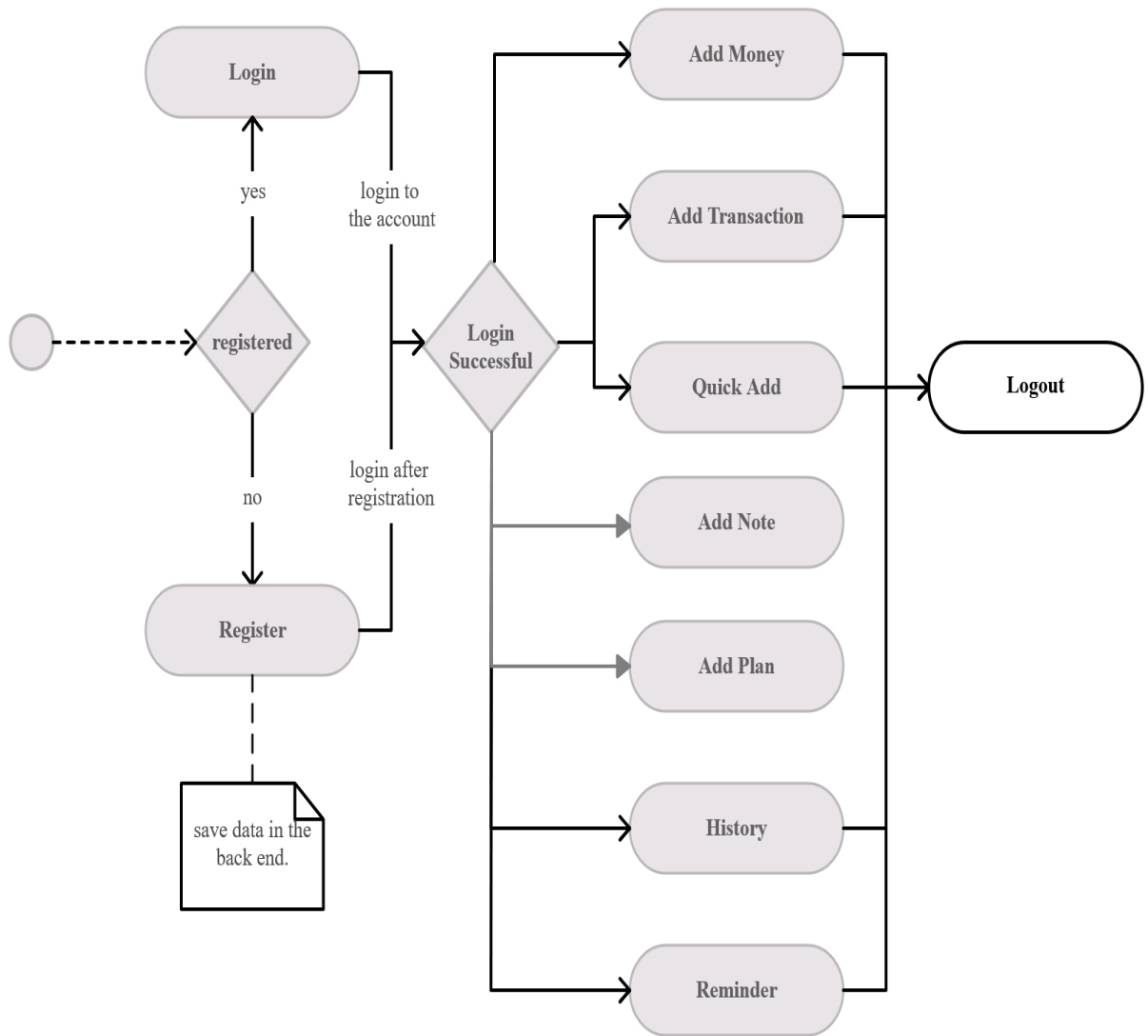


Figure 3.5: Activity Diagram

3.5 UML Diagram:

An UML graph is a chart dependent on the UML (Unified Modeling Language) with the reason for outwardly addressing a framework alongside its principle entertainers, jobs, activities, curios or classes, to all the more likely comprehend, change, keep up, or record data about the framework.

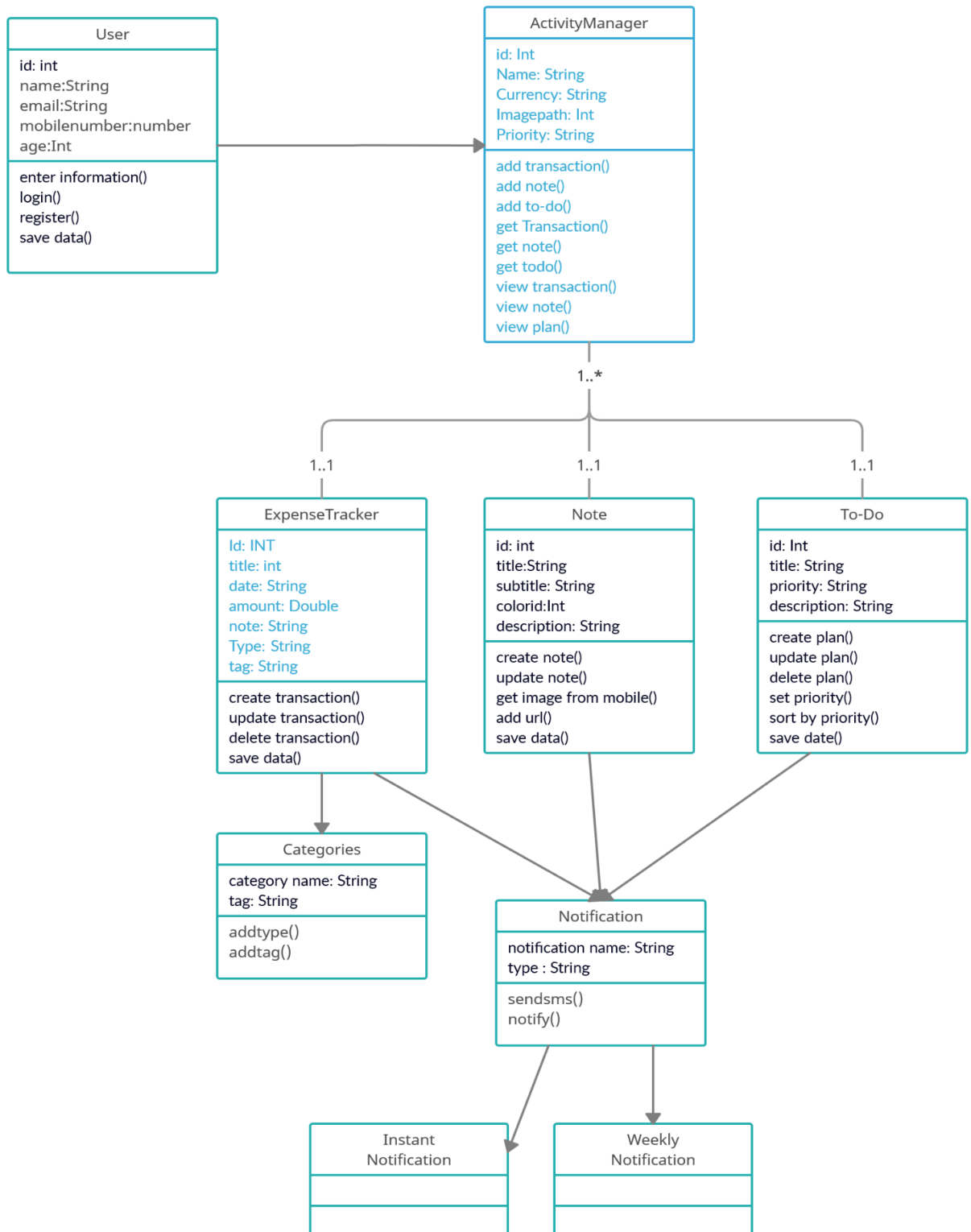


Figure 3.8: UML Diagram

CHAPTER 4

DESIGN and IMPLEMENTATION

4.1 Front End Design:

4.1.1 What is XML:

Extensible language (XML) could be a markup language that defines a collection of rules for coding documents in a format that's each human-readable and machine-readable. the planet Wide Internet Consortium's XML 1.0 Specification of 1998 and several other other connected specifications—all of them free open standards—define XML. We use XML for our front end system which is the ui/ux of the app.

4.1.2 UI/UX Designs:

The below images show the main home page of the app. Here you can find three buttons, first one is for expense tracking, second one is for planning making and third one is for note taking.

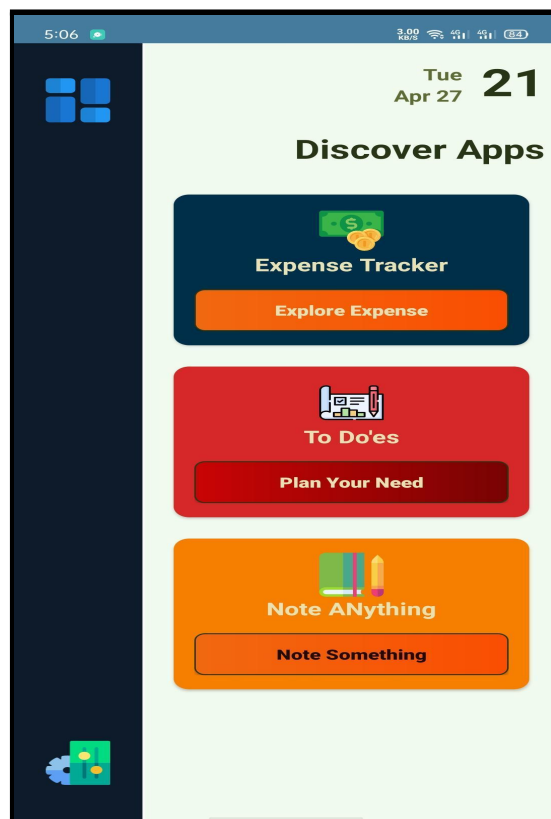


Figure 4.1: App Dashboard UI

The below figure 4.2 is the front end view of side bar menu. From where one can access available options that's the app has. One can log in and log out from this menu by clicking on menu item dedicated for sign in and sign out.

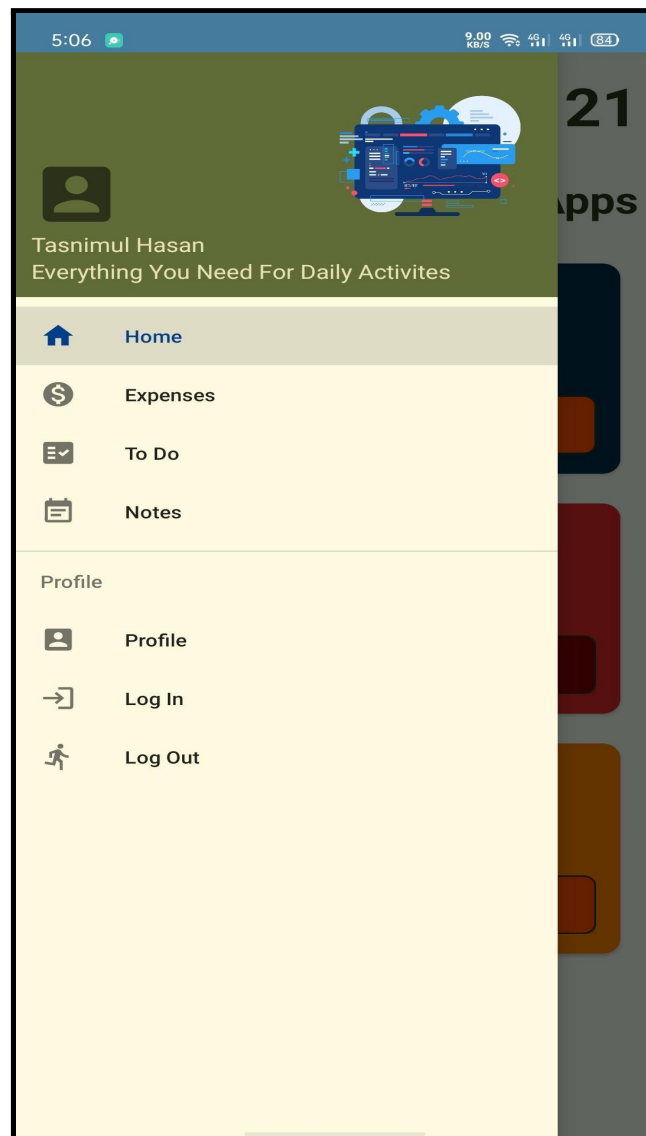


Figure 4.2: Dashboard Menu UI

The below figure 4.3 is the dashboard view of ToDo section. Where one can see their available plan or what they want to do. Or at one line one access all the plans they have.

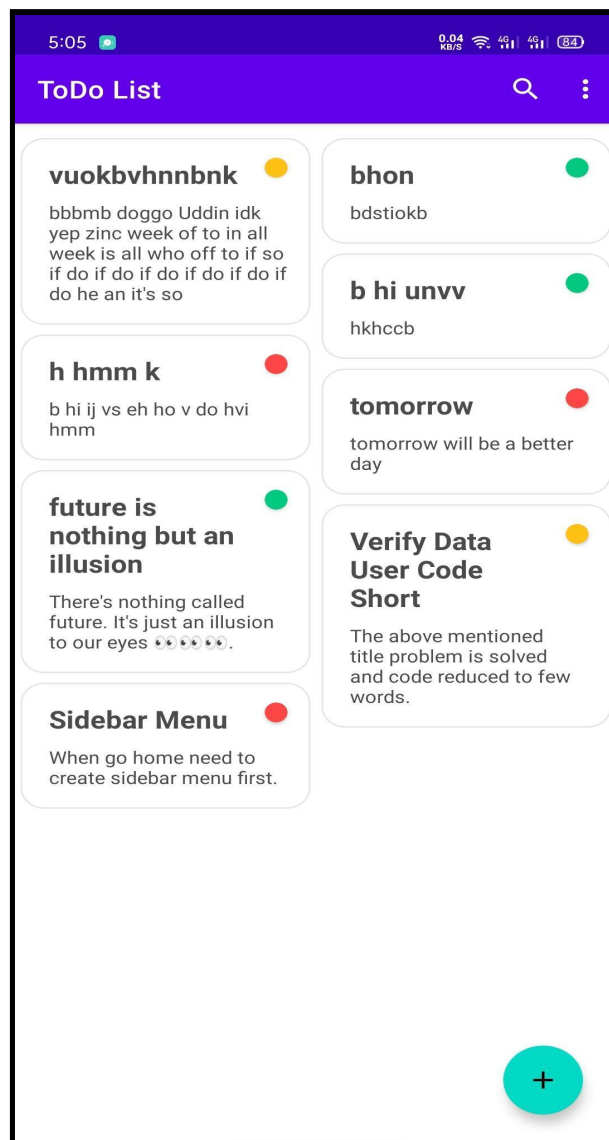


Figure 4.3: To-Do App Dashboard UI

The below figure 4.4 has the front end view of plan making ui. Here we can see three options which are pre defined as Title, Priority and Description. User can set their priority by clicking this option as High, Medium and Low.

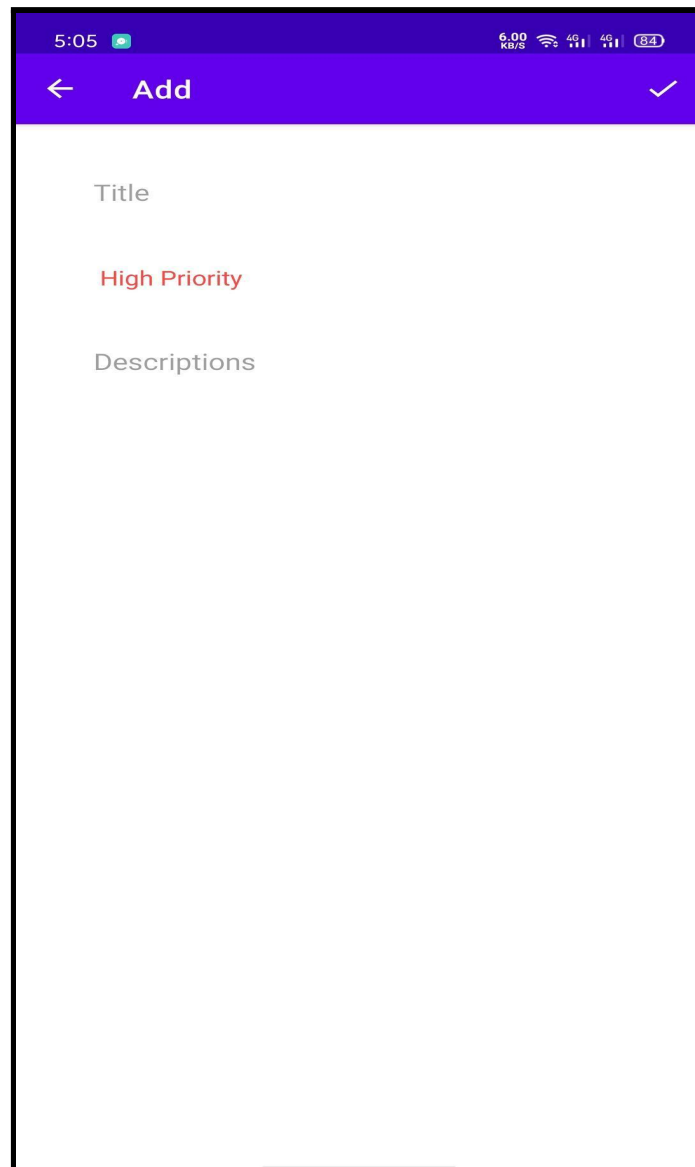


Figure 4.4: To-Do app Add Plan UI

The below figure 4.5 is the front end view of Notes dashboard page. Here an user can see all the available notes they created.

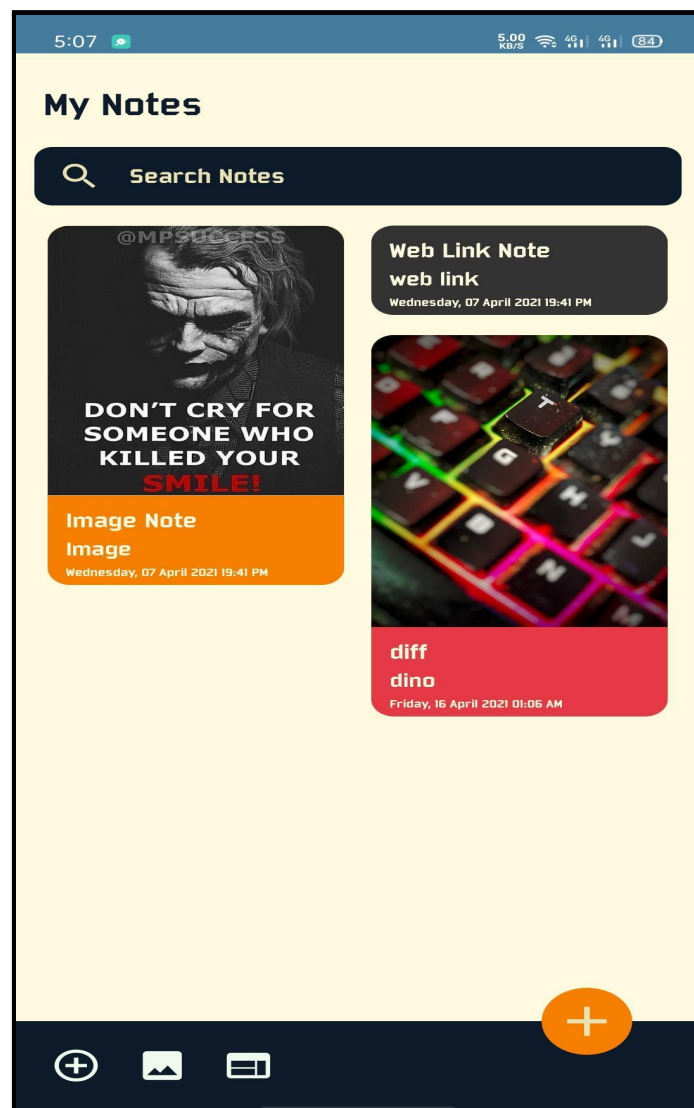


Figure 4.5: Notes app Dashboard UI

The below figure 4.6 shows us the how an user can create a note and which options they will have during creating a note. This page has Title, Sub-Title, Description, Color selection, Web link add Option and Image add option for a Note.

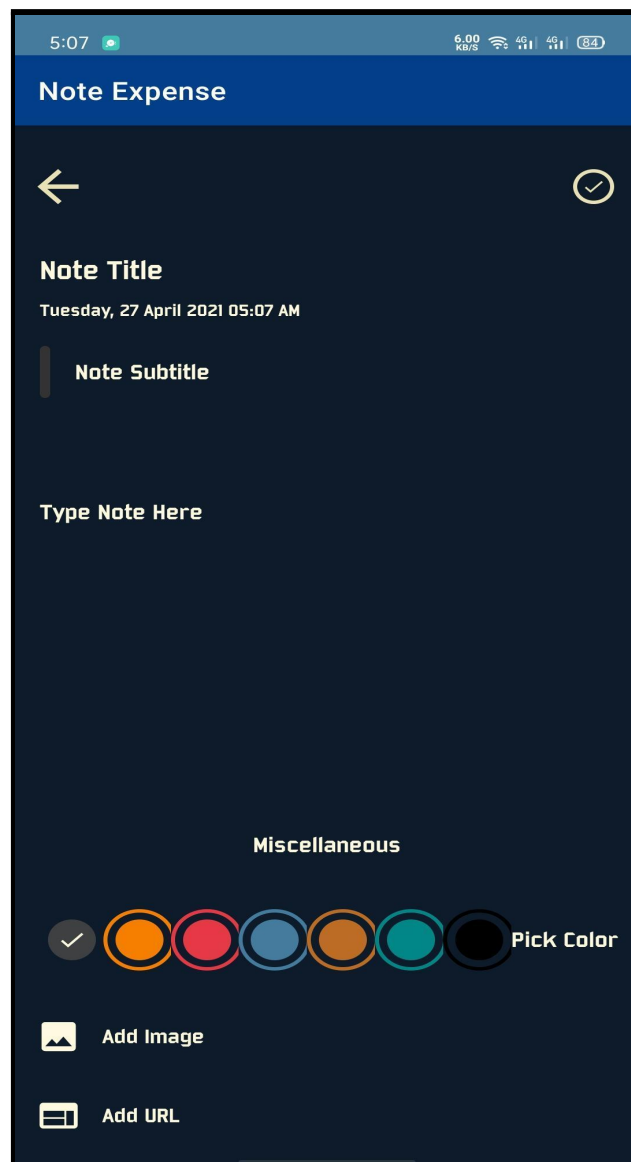


Figure 4.6: Create Notes UI 2

The below figure 4.7 shows the Add new transaction page. From this page an user can create their Income or Expense transaction record. Here an user will have title, amount, description, transaction type, transaction tag and date option. After filling all the field user need to click on add transaction button and the record will be added.

5:06 0.11 99% 4G 4G 84

Add New

Add New Income Or Expense

Title

Required* 0/30

Amount

Required* 0/10

Note Something Here

Optional 0/100

Transaction Type

Type

Categories

Tag

Date

Required*

ADD TRANSACTION

Home Budget New Statistics All

Figure 47: Add Transaction UI

The below figure 4.8 shows how an user can update their existing record. This page is similar as add transaction page.

The screenshot displays the 'Update Transaction' screen of a mobile application. At the top, there is a status bar with the time 5:22 and various connectivity icons. Below this is a blue header bar with a back arrow and the title 'Update Transaction'. The main content area is titled 'Edit Your Transaction' and contains several input fields:

- Title:** A text field containing 'Samucha' with a character count of 7/30. A red 'Required*' label is positioned below the field.
- Amount:** A text field containing '\$ 100.0' with a clear button (X) on the right. A red 'Required*' label is positioned below the field, and a character count of 5/10 is shown.
- Note:** A text field containing 'For Iftaar' with a clear button (X) on the right. A blue 'Optional' label is positioned below the field, and a character count of 10/100 is shown.
- Transaction Type:** A dropdown menu currently showing 'Expense'.
- Categories:** A dropdown menu currently showing 'Food'.
- Date:** A text field containing '22/04/2021' with a clear button (X) on the right. A red 'Required*' label is positioned below the field.

At the bottom of the form is a large blue button labeled 'UPDATE TRANSACTION'. The bottom of the screen features a navigation bar with five icons and labels: 'Home' (house icon), 'Budget' (calculator icon), 'New' (plus icon), 'Statistics' (bar chart icon), and 'All' (document icon).

Figure 4.8: Update Transaction UI

The below figure 4.9 shows all the transaction created by an user. Here an user can see which they record in database. From this page an user can add new transaction by clicking Plus image at the right bottom corner. Then user will redirected to add transaction page. At the same time by clicking on an item user can also update their existing record.

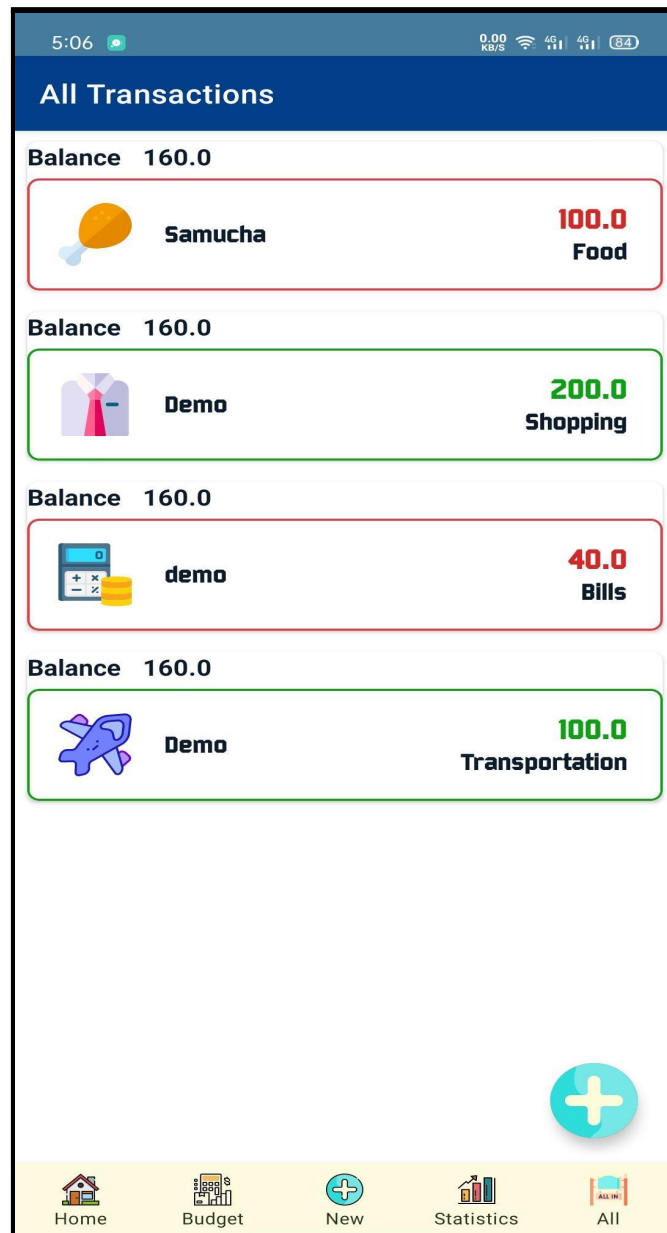


Figure 4.9: All Transaction UI

4.2 Back End:

For the backend we use Kotlin Programming language. Kotlin programming language is fast , robust , secure, and more easy and understandable than Java programming language. Here are given some example of Kotlin code,

4.3 Package Architecture:



Figure 4.10 : Package Architecture

4.4 Implementation:

4.4.1 Room Database:

Room is a database layer on top of an SQLite database. Room takes care of mundane tasks that you used to handle with an SQLiteOpenHelper. To use Room: Create a public abstract class that extends RoomDatabase. Use annotations to declare the entities for the database and set the version number.

4.4.2 Room Database Architecture

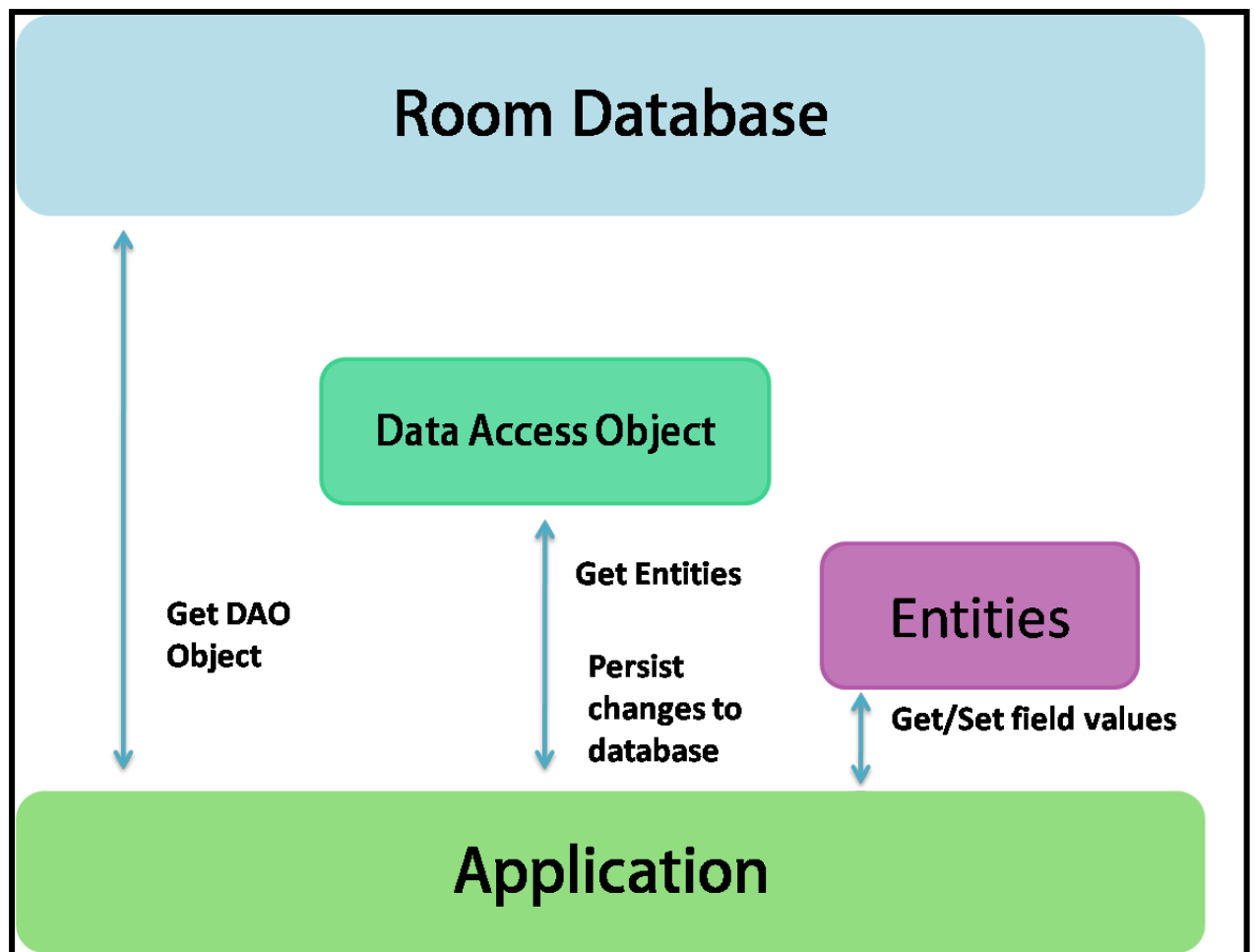


Figure 4.11: Room Database Architecture

The above figure 4.13 shows the architecture of Room Database. Room Database separate in three parts. First is the entity or table which stores the column name. Then the database builder and at last DAO. DAO means Data Access Object. Dao contains three different classes which are dao, repository and view model.

CHAPTER 5

TESTING AND DEBUGGING

5.1 Testing:

Application of Package Testing:

- **Cost Effective Development** - Early testing saves each time and cost in several aspects, but reducing the value while not testing might result in improper style of a software package application rendering the product useless.
- **Product Improvement** - throughout the SDLC phases, testing is never a long process. but designation and fixing the errors identified throughout correct testing may be a long however productive activity.
- **Test Automation** - take a look at Automation reduces the testing time, however it's unfeasible to start out taking a look at automation at any time throughout software development. take a look at automaton ought to be started once the software has been manually tested and is stable to some extent. Moreover, take a look at automation that will ne'er be used if necessities keep changing.
- **Quality Check** - software package testing helps in decisive following set of properties of any software love
 - Functionality
 - Reliability
 - Usability
 - Efficiency
 - Maintainability
 - Portability

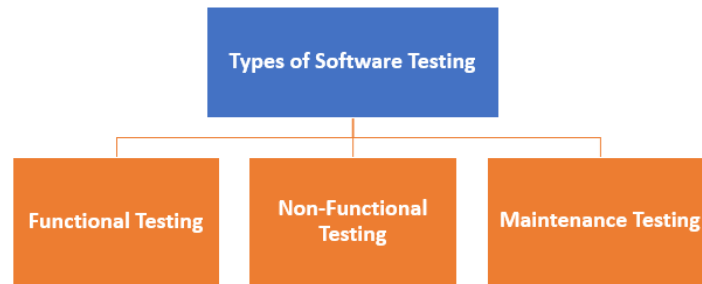


Figure 5.1: Software Testing Diagram

Our app passed all the above mentioned scenarios successfully.

5.2 Testing App Performance:

We run the test process so that we can ensure our app performance is faster and our app passed all the testing correctly.

5.3 Debug App

This app successfully passed the debugging test and a few small bugs were found and solved.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Conclusion:

Tracking your payment is usually the primary step in obtaining your finances in order. By understanding what you pay cash on and the way abundant you spend, you'll see specifically wherever your money goes and areas where you can cut back. It's straightforward to make this a part of your everyday routine because of note expense apps that assist you manage your money on the go. These apps definitely overlap with budgeting apps, however whereas the latter give a big-picture read of your finances, expense tracker apps place additional stress on your spending. These apps usually reason your expenses and assist you get a decent plan of your getting behavior. Whether or not you would like an expense tracker app that simply captures all of your expense action data, one that automates the expense news method at your job or one that holds you responsible by requiring you to manually input each of your transactions, there's an app out there for you.

6.2 Future Possibilities:

In future we will add more features and more functionality. Like our plan is to add mess management with the expense tracker. Because in our country like Bangladesh, mess is a big thing. Many of us live in messes and they calculate their transactions manually. We will add beautiful design and animation and will add future technologies also.

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