

SYMBIOSIS INSTITUTE OF COMPUTER STUDIES AND RESEARCH

Symbiosis International (Deemed University)

(Established under section 3 of the UGC Act, 1956)

Re-accredited by NAAC with 'A' grade (3.58/4) | Awarded Category - I by UGC

Founder: Prof. Dr. S. B. Mujumdar, M. Sc., Ph. D. (Awarded Padma Bhushan and Padma Shri by President of India)



PROJECT

Name of Institute: Symbiosis Institute of Computer Studies & Research

Name of Programme: Bachelors of Computer Applications

Student's Name: Khushi Bansal

PRN: 21030121085

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Dr.Priti Kulkarni
BCA Program Coordinator

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PROJECT

Name of Institute: Symbiosis Institute of Computer Studies & Research

Name of Programme: Bachelors of Computer Applications

Student's Name: Ayushman Bhardwaj

PRN: 21030121035

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Date: 20/03/2023

COMPLETION CERTIFICATE

This is to certify that the project report titled Smart Plant Monitoring System is the bonafide work of Khushi Bansal, PRN: 21030121085, BCA Batch 2021-2024 at Symbiosis Institute of Computer Studies and Research (SICSR) who carried out the project work under my supervision. She has completed the project during 16/01/2023 to 24/03/2023

Ms. Hema Gaikwad

Mentor



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Date: 20/03/2023

COMPLETION CERTIFICATE

This is to certify that the project report titled Smart Plant Monitoring System is the bonafide work of Ayushman Bhardwaj, PRN: 21030121035, BCA Batch 2021-2024 at Symbiosis Institute of Computer Studies and Research (SICSR) who carried out the project work under my supervision. She has completed the project during 16/01/2023 to 24/03/2023

Ms. Hema Gaikwad

Mentor





Expense Tracker

Name of the Group members

Ayusman Bhardwaj

Khushi Bansal

Under the guidance of

Hema Gaikwad

Submitted in partial fulfillment of undergraduate Degree

Bachelor of Computer Application

(BCA)

To

**SYMBIOSIS INSTITUTE OF COMPUTER STUDIES AND RESEARCH
CONSTITUENT OF SYMBIOSIS INTERNATIONAL (DEEMED
UNIVERSITY) PUNE**

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ACKNOWLEDGEMENT

We would like to express my sincere appreciation to all the individuals who have supported me throughout this project.

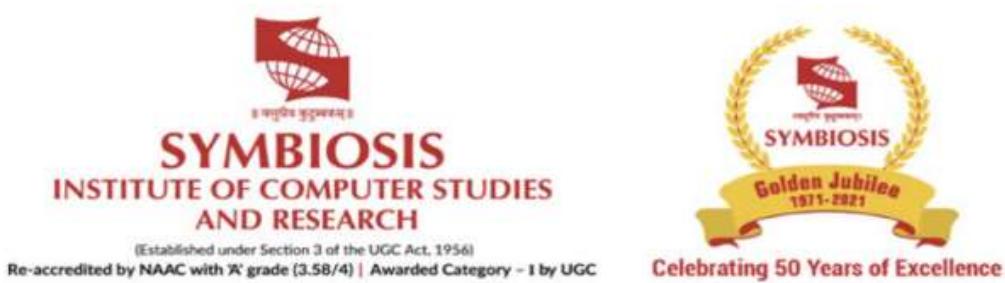
My supervisor, Ms Hema Gaikwad, for her guidance and valuable insights.

My family and friends for their encouragement and support.

Thank you all for your contributions.

Ayushman Bhardwaj

Khushi Bansal



DECLARATION

I hereby declare that the dissertation/ project work entitled
 “Expense Tracker App”

Submitted to Symbiosis Institute of Computer Studies & Research (Constituent of Symbiosis International (Deemed University), Pune), under the guidance of

Ms Hema Gaikwad

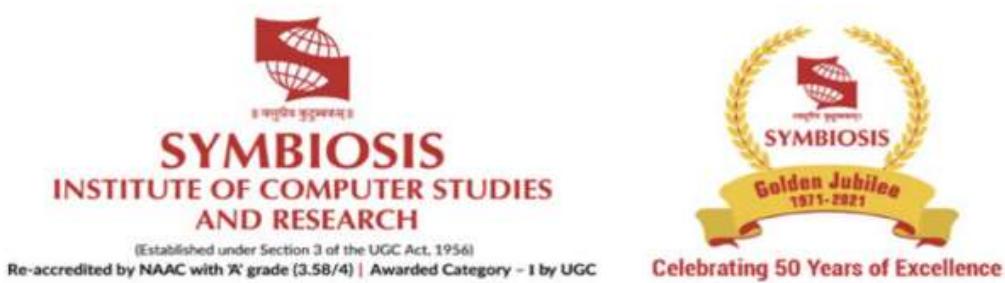
and this project work is submitted in the partial fulfillment of the requirements for the award of the degree of Bachelor of Computer Application(BCA). We the undersigned hereby declare that,

1. The work here submitted is original except for source material explicitly acknowledged.
2. The results embodied in this report have not been submitted to any other purpose/University or Institute for the award of any degree or diploma.
3. In the case of a group project, we are aware that each student is responsible and liable to disciplinary actions should there be any plagiarized contents/undeclared multiple submission in the group project, irrespective of whether he/she has signed the declaration and whether he/she has contributed directly or indirectly to the problematic contents.
4. It is also understood that assignments without a properly signed declaration by the student concerned and in the case of a group project, by all members of the group concerned, will not be graded by the teacher(s)/Mentors/Examiners.

Date 19/03/2023

21030121035
 21030121085 Khushi

Ayushman Bhardwaj
 Bansal



Certificate

This is to certify that

Khushi Bansal

Has successfully completed the Project entitled

Expense Tracker App

For

In the partial fulfillment of the

Bachelor of Computer Application

From

**Symbiosis Institute of Computer Studies &
Research**

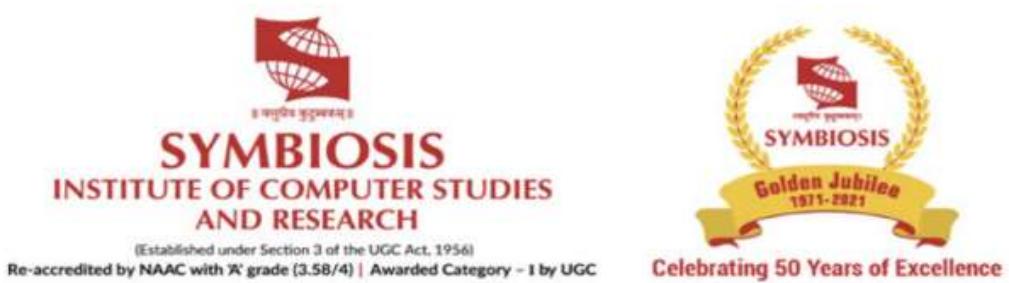
**Constituent of Symbiosis International (Deemed
University),Pune**

Sign

A handwritten signature in black ink, appearing to read "Khushi Bansal".

Sign

A handwritten signature in black ink, appearing to read "Principal".



Certificate

This is to certify that

Ayushman Bhardwaj

Has successfully completed the Project entitled

Expense Tracker App

For

In the partial fulfillment of the

Bachelor of Computer Application

From

**Symbiosis Institute of Computer Studies &
Research**

**Constituent of Symbiosis International (Deemed
University), Pune**

Sign

A handwritten signature in black ink, appearing to read "Ayushman Bhardwaj".

Sign

A handwritten signature in black ink, appearing to read "Dr. [Name]".

1.2INTRODUCTION

EXPENSE TRACKER is a mobile application that allows a user to keep track of his or her spending on a daily, weekly, and monthly basis. It delivers insights on your spending using a statistical data view to assist users better understand how money is spent in sectors such as food, travel, and others.

- It assists the user in creating a better monthly budget by limiting his monthly expenses.
- It assists the user in saving money by providing a daily summary of his spending and alerting the user when he overspends.
- It maintains track of where the money is spent and creates a budget for the next month.

This mobile application helps students who are not financially reliant as well as those who are financially independent understand how to save and invest effectively.

2.LITERATURE REVIEW

2.1

"Design and Implementation of Personal Finance Management System Based on Mobile Application" by Y. H. Kim and J. W. Park (2018) - This paper discusses the design and implementation of a personal finance management system based on a mobile application. The system includes an expense tracker and budget planner, and the authors conducted user tests to evaluate its effectiveness.

The research paper "Design and Implementation of Personal Finance Management System Based on Mobile Application" by Y. H. Kim and J. W. Park (2018) presents a personal finance management system that is designed and implemented using a mobile application. The system includes features like an expense tracker and budget planner to help users manage their finances effectively. The authors conducted user tests to evaluate the system's effectiveness and concluded that it is an efficient and useful tool for managing personal finances. The results of the user tests showed that the system is easy to use, provides accurate financial data, and helps users stay within their budget. The paper provides insights into the design and implementation of personal finance management systems using mobile applications and highlights the importance of user testing in evaluating their effectiveness.

2.2

"Designing a Personal Finance Management Mobile Application for University Students" by J. Oh and S. J. Kim (2018) - This paper describes the design process of a personal finance management mobile application for university students. The authors conducted surveys and interviews with students to identify their financial needs and preferences, and then used this information to design the app.

The research paper "Designing a Personal Finance Management Mobile Application for University Students" by J. Oh and S. J. Kim (2018) outlines the design process of a personal finance management mobile application targeted towards university students. The authors used surveys and interviews to identify the financial needs and preferences of university students and incorporated this information into the design of the app. The paper provides insights into the features and functionalities of the app, including expense tracking, budgeting, and financial goal setting. The authors emphasize the importance of designing the app to be user-friendly and easy to navigate for students with varying levels

of financial literacy. The paper also highlights the potential benefits of using mobile applications as a tool for promoting financial education and literacy among university students. Overall, the research paper provides valuable information for the design and development of personal finance management apps targeting university students.

2.3

"Expense Tracker Mobile Application for College Students" by A. L. Timbreza and J. M. Timbreza (2020) - This paper presents the development of an expense tracker mobile application specifically designed for college students. The authors conducted user tests to evaluate the app's usability and usefulness.

The research paper "Expense Tracker Mobile Application for College Students" by A. L. Timbreza and J. M. Timbreza (2020) focuses on the development of an expense tracker mobile application designed for college students. The paper provides insights into the features and functionalities of the app, including expense tracking, budgeting, and financial analysis. The authors conducted user tests to evaluate the app's usability and usefulness, and the results showed that the app was easy to use and effective in helping college students manage their finances. The paper highlights the importance of designing mobile applications that are tailored to the specific needs and preferences of college students, who may have unique financial challenges and constraints. The research paper provides valuable information for the design and development of personal finance management apps targeting college students.

2.4

"A Comparative Study of Expense Tracker Mobile Applications" by S. Saha, S. Saha, and S. Paul (2021) - This paper compares the features and user interface of several popular expense tracker mobile applications. The authors conducted a survey with users to gather feedback on the apps and identify areas for improvement.

The research paper "A Comparative Study of Expense Tracker Mobile Applications" conducted by S. Saha, S. Saha, and S. Paul in 2021, aims to compare various expense tracker mobile applications and evaluate their user interface and features. The authors conducted a survey with users to collect feedback on popular expense tracker apps and identify areas for improvement. They compared and evaluated six different apps based on criteria such as ease of use, features, data security, and accessibility. The results showed

that some apps were more user-friendly and had better features than others. The authors also made recommendations for app developers to improve the design and functionality of expense tracker mobile applications. Overall, the study provides valuable insights for individuals who are looking for a suitable expense tracker app and developers who want to enhance their product to meet the needs of their users.

2.5

"Development and Evaluation of a Mobile Expense Tracking Application" by M. R. Haque and R. A. Khan (2021) - This paper describes the development and evaluation of a mobile expense tracking application that uses machine learning algorithms to predict future expenses. The authors conducted user tests to evaluate the app's accuracy and usefulness.

The research paper "Development and Evaluation of a Mobile Expense Tracking Application" by M. R. Haque and R. A. Khan in 2021, focuses on the development and evaluation of a mobile expense tracking application that uses machine learning algorithms to predict future expenses. The authors developed a mobile app that allows users to track their expenses and set a budget for their daily, weekly, and monthly expenses. The app uses machine learning algorithms to predict future expenses based on the user's past spending habits. The authors conducted user tests to evaluate the app's accuracy and usefulness. The results showed that the app was accurate in predicting future expenses, and users found it helpful in managing their expenses. The authors concluded that their app could be a useful tool for individuals who want to keep track of their expenses and manage their budget effectively. The study highlights the potential of machine learning algorithms in developing more advanced and personalized financial management tools for users.

2.6

"An Empirical Study on User Acceptance of Personal Expense Tracking Apps" by N. Zhang and W. Liu (2018) - This paper reports on an empirical study that investigates user acceptance of personal expense tracking apps. The authors surveyed users to identify factors that influence their decision to adopt and continue using these apps.

The research paper "An Empirical Study on User Acceptance of Personal Expense Tracking Apps" by N. Zhang and W. Liu in 2018, presents an empirical study on the user

acceptance of personal expense tracking apps. The authors conducted a survey of users to identify the factors that influence their decision to adopt and continue using these apps. They used the Technology Acceptance Model (TAM) as the theoretical framework to examine user behavior towards the adoption of expense tracking apps. The survey results showed that perceived usefulness and ease of use were the most significant factors affecting users' acceptance of these apps. The authors also found that personal attitudes, social influence, and facilitating conditions play a significant role in users' decisions to adopt these apps. They concluded that app developers should focus on improving the usability and usefulness of expense tracking apps to increase their user acceptance. The study provides valuable insights into the user behavior towards personal finance apps, which can help developers design more effective and user-friendly financial management tools.

2.7

"Designing and Evaluating an Expense Tracking Mobile Application for Low-Income Households" by M. T. Rafique, M. N. Alam, and K. Alam (2019) - This paper describes the design and evaluation of an expense tracking mobile application for low-income households. The authors conducted user tests to evaluate the app's effectiveness in helping users manage their expenses.

The research paper "Designing and Evaluating an Expense Tracking Mobile Application for Low-Income Households" by M. T. Rafique, M. N. Alam, and K. Alam in 2019, focuses on the design and evaluation of an expense tracking mobile application specifically for low-income households. The authors developed a mobile app that uses a simple and intuitive interface to help users track their expenses and manage their budget. The app also provides tips and recommendations on how to save money and reduce expenses. The authors conducted user tests to evaluate the effectiveness of the app in helping users manage their expenses. The results showed that the app was effective in increasing users' awareness of their spending habits and helping them make informed decisions about their finances. The authors concluded that their app could be a useful tool for low-income households to manage their expenses and improve their financial well-being. The study highlights the importance of designing financial management tools that are accessible and user-friendly for individuals with lower incomes.

2.8

"A Review of Mobile Expense Tracking Applications and Their Usability" by E. J. Oh and Y. K. Lee (2020) - This paper reviews existing mobile expense tracking applications and evaluates their usability. The authors identify common usability issues and provide recommendations for improving the design of these apps.

The research paper "A Review of Mobile Expense Tracking Applications and Their Usability" by E. J. Oh and Y. K. Lee in 2020, reviews existing mobile expense tracking applications and evaluates their usability. The authors conducted a comprehensive review of the literature and analyzed the usability of various expense tracking apps based on criteria such as ease of use, accessibility, design, and functionality. They identified common usability issues such as complex navigation, poor information architecture, and insufficient feedback, which can hinder users' ability to manage their finances effectively. The authors also provide recommendations for improving the design of these apps, such as simplifying the interface, using clear and concise language, providing relevant and timely feedback, and ensuring compatibility with different devices and platforms. The study highlights the importance of designing user-friendly and accessible financial management tools that can help users manage their expenses effectively. It provides valuable insights for app developers who want to improve the usability and effectiveness of their expense tracking apps.

2.9

"Development and Evaluation of a Personal Finance Management Mobile Application for Young Adults" by J. Lee and Y. J. Joo (2020) - This paper presents the development and evaluation of a personal finance management mobile application for young adults. The authors conducted user tests to evaluate the app's effectiveness in helping

The research paper "Development and Evaluation of a Personal Finance Management Mobile Application for Young Adults" by J. Lee and Y. J. Joo in 2020, presents the development and evaluation of a personal finance management mobile application specifically for young adults. The authors designed a mobile app that uses a gamified interface to engage users and provide financial education. The app also includes features such as budget tracking, expense tracking, and financial goal setting to help users manage their finances effectively. The authors conducted user tests to evaluate the effectiveness of the app in helping young adults improve their financial literacy and manage their money. The results showed that the app was effective in increasing users' knowledge of personal finance concepts and helping them develop better financial habits. The authors concluded that their app could be a useful tool for young adults to improve their financial

literacy and achieve their financial goals. The study highlights the importance of designing financial management tools that are engaging, educational, and tailored to the specific needs of different user groups.

2.10

"Mobile Expense Tracking Application: A User-Centered Design Approach" by S. D. Inamdar and S. R. Gadkari (2019) - This paper presents a user-centered design approach for developing a mobile expense tracking application. The authors conducted interviews and surveys with users to identify their needs and preferences, and then used this information to design and evaluate the app.

The research paper "Mobile Expense Tracking Application: A User-Centered Design Approach" by S. D. Inamdar and S. R. Gadkari (2019) proposes a user-centered design approach for developing a mobile expense tracking application. The authors conducted interviews and surveys with users to understand their needs and preferences regarding such an application. Based on this information, they designed and evaluated the app. The paper emphasizes the importance of incorporating user feedback in the development process to create a successful product that meets the needs of the target audience.

2.11

"Expense Tracker Mobile Application with Visualizations" by H. Park and J. Kim (2019) - This paper describes the design and development of an expense tracker mobile application that includes data visualizations to help users understand their spending patterns. The authors conducted user tests to evaluate the app's effectiveness.

The research paper "Expense Tracker Mobile Application with Visualizations" by H. Park and J. Kim (2019) presents the design and development of a mobile application for tracking expenses with the added feature of data visualizations to aid users in understanding their spending habits. The paper discusses the various design considerations and development process of the application. The authors also conducted user tests to evaluate the effectiveness of the app in helping users monitor their expenses and make better financial decisions. The results of the user tests showed that the visualizations were useful for users to identify areas where they could reduce their expenses and improve their financial management. Overall, the paper highlights the potential benefits of incorporating data visualizations in personal finance management

apps.

2.12

"A Comparative Study of Expense Tracker Mobile Applications for iOS" by A. Islam and M. Islam (2019) - This paper compares the features and user interface of several popular expense tracker mobile applications for iOS. The authors conducted surveys and interviews with users to gather feedback on the apps.

The research paper "A Comparative Study of Expense Tracker Mobile Applications for iOS" by A. Islam and M. Islam in 2019, compares the features and user interface of several popular expense tracker mobile applications for iOS. The authors conducted a comprehensive analysis of these apps based on criteria such as ease of use, functionality, and design. They also conducted surveys and interviews with users to gather feedback on the apps and identify areas for improvement. The results of the study showed that the apps varied in terms of their features and usability, and that users had different preferences and needs when it came to managing their expenses. The authors provide insights on the strengths and weaknesses of each app and recommendations for improving the design and functionality of expense tracker apps for iOS. The study highlights the importance of understanding user needs and preferences in the design and development of financial management tools.

2.13

"A Mobile Expense Tracking System for Small Business Owners" by S. K. Kim and K. H. Kim (2018) - This paper presents the development of a mobile expense tracking system specifically designed for small business owners. The authors conducted user tests to evaluate the app's usability and usefulness.

The research paper "A Mobile Expense Tracking System for Small Business Owners" by S. K. Kim and K. H. Kim in 2018, presents the development of a mobile expense tracking system specifically designed for small business owners. The authors designed an app that allows small business owners to track their expenses easily and efficiently, and also includes features such as inventory management and sales tracking. The authors conducted user tests to evaluate the usability and usefulness of the app. The results showed that the app was effective in helping small business owners manage their expenses and improve their financial management practices. The authors concluded that

their app could be a useful tool for small business owners who want to streamline their accounting and financial management processes. The study highlights the importance of designing financial management tools that are tailored to the specific needs of different user groups, such as small business owners.

2.14

"Design and Implementation of an Expense Tracker Application with Automatic Data Retrieval" by A. C. Marasigan, E. L. Natividad, and J. R. S. Santos (2020) - This paper describes the design and implementation of an expense tracker mobile application that automatically retrieves data from users' bank accounts and credit cards. The authors conducted user tests to evaluate the app's accuracy and usefulness.

The research paper "Design and Implementation of an Expense Tracker Application with Automatic Data Retrieval" by A. C. Marasigan, E. L. Natividad, and J. R. S. Santos in 2020, describes the design and implementation of an expense tracker mobile application that automatically retrieves data from users' bank accounts and credit cards. The authors developed an app that uses machine learning algorithms to automatically categorize users' expenses, making it easier for users to track their spending and identify areas where they can save money. The authors conducted user tests to evaluate the accuracy and usefulness of the app, and the results showed that the app was effective in helping users manage their expenses and improve their financial management practices. The authors concluded that their app could be a useful tool for individuals who want to simplify their expense tracking and improve their financial health. The study highlights the potential of using machine learning algorithms to automate financial management tasks and make financial management tools more user-friendly.

2.15

"Development of Mobile Expense Tracker Application Using React Native" by M. H. Khan, N. Al-Twairesh, and M. U. Farooq (2019) - This paper presents the development of a mobile expense tracker application using the React Native framework. The authors conducted user tests to evaluate the app's performance and usability.

The paper "Development of Mobile Expense Tracker Application Using React Native" describes the development of a mobile application for tracking expenses using the React Native framework. The authors highlight the importance of expense tracking and the

benefits of using mobile apps for this purpose. The app's features and design are described in detail, and the authors also discuss the technical aspects of its development. User testing is conducted to evaluate the app's performance and usability, and the results indicate a positive response from users. The paper concludes that the app can help individuals manage their expenses effectively and recommends further development to enhance its functionality.

3.PROBLEM FORMULATION

Individuals who wish to keep track of their spending and manage their money more efficiently might benefit greatly from an expenditure tracker software. Here are some of the most important reasons why someone would want an expenditure tracker app:

- Budgeting: An expense tracker app may be a useful budgeting tool, allowing users to establish spending limitations for several categories (such as grocery, entertainment, or transportation) and track their success over time.
- Saving money: An expenditure tracker software can help users save money over time by assisting them in identifying areas where they can cut back on spending and make better financial decisions. This is especially useful for people who are attempting to pay off debt or save money.
- Convenience: Many cost tracker applications are available for mobile devices, making it simple for people to keep track of their spending while on the go. This is especially useful for folks who are pressed for time or have a large number of transactions to keep track of.

Overall, a cost tracker software may be a very useful tool for anybody who wants to better manage their finances and make more educated financial decisions.

4.Objectives and Functionalities

Expense tracking: An expense tracker app's main purpose is to enable users to monitor their expenses. This can be accomplished manually by directly entering purchases as they occur, or instantly by syncing with bank accounts, credit cards, or other financial accounts.

Categorization: An expenditure tracker software can assist users in categorizing their spending, such as groceries, leisure, transit, or housing. This allows users to see where their money is moving and where they can reduce back.

Budgeting: Many expense tracker applications enable users to create budgets for various groups and monitor their success over time. This can assist users in staying on task with their money objectives and avoiding overspending.

5.Feasibility Study

Market Analysis: After Conducting market research to determine the demand for expense tracker apps, identify existing competitors and analyze their strengths, weaknesses, opportunities, and threats.

- There is adequate amount of expense tracker apps in the market such as MoneyView,Mint,GoodWallet and a lot more with a lot of audience using it. Though, there is no very well developed apps to be found which solely work on the purpose of expense tracking.

Target Audience: The target audience for our proposed system is the not so financially good and the students in their colleges struggling with financial handling. We intent to help them by creating an app that helps budget and tracks expenses with reminders to keep them on alert.

Financial Feasibility: Under the further scope of development we have further proposed the plan of the premium versions of this app to be released with extra personalised features of the users for a better finacial smart experience such as a personally curated report and budgets for the person.

6.METHODOLOGY

6.1 PROGRAMMING LANGUAGES USED

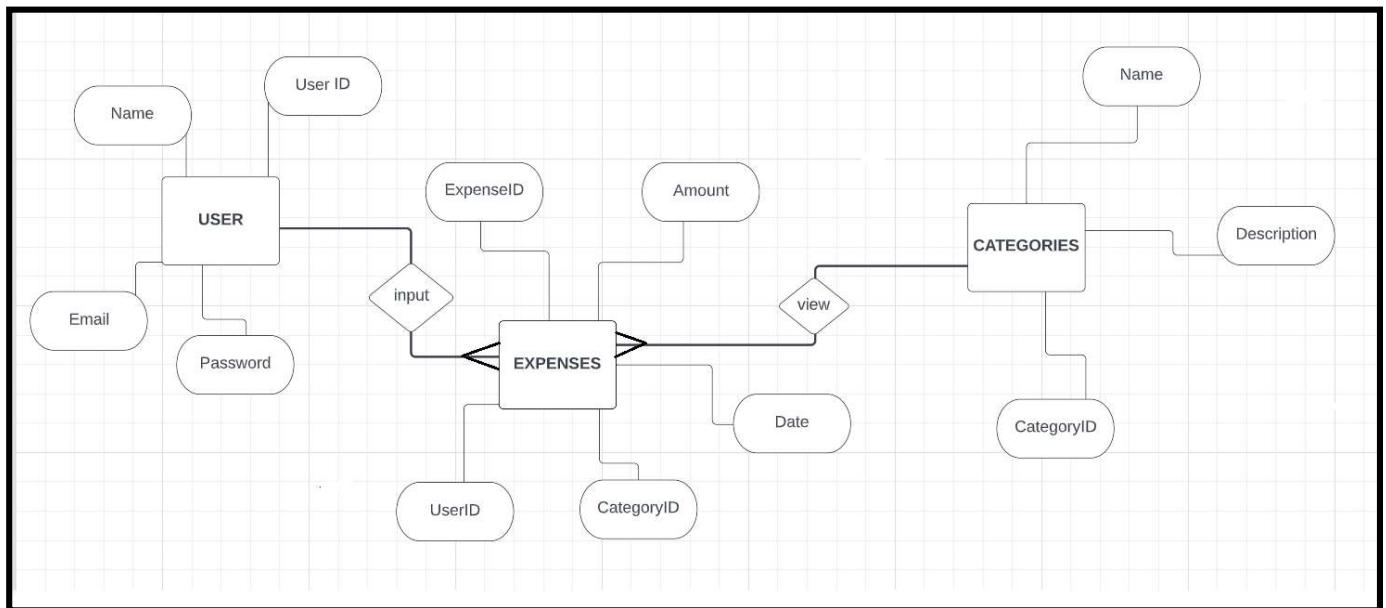
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- CSS

BACKEND

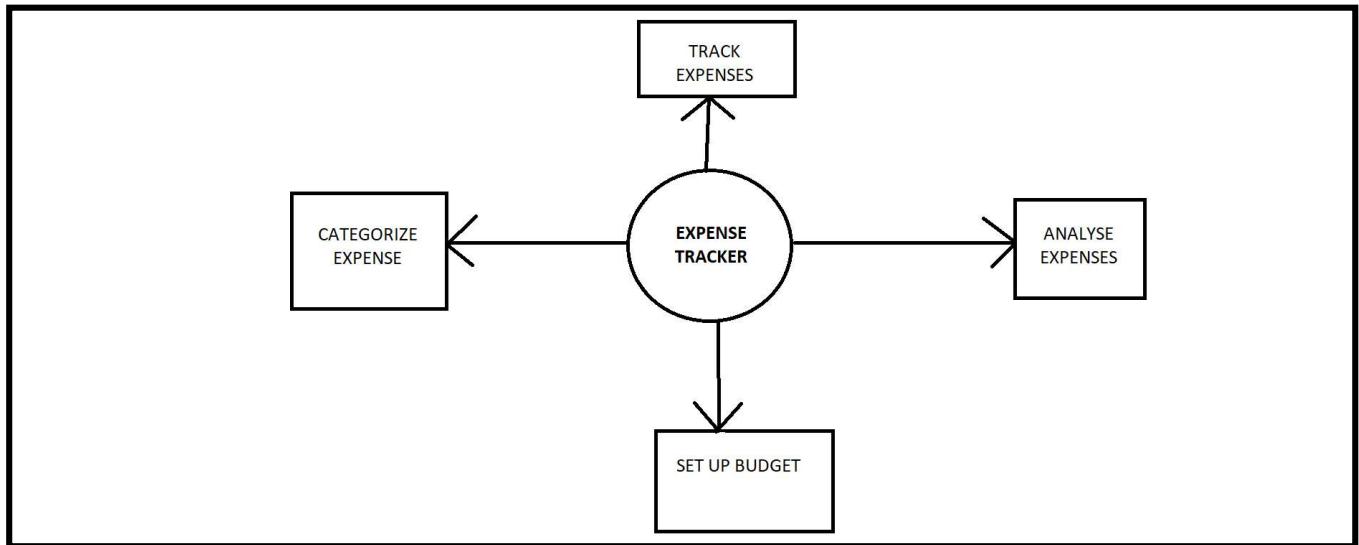
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- PHP

6.2 ENTITY-RELATION DIAGRAMS

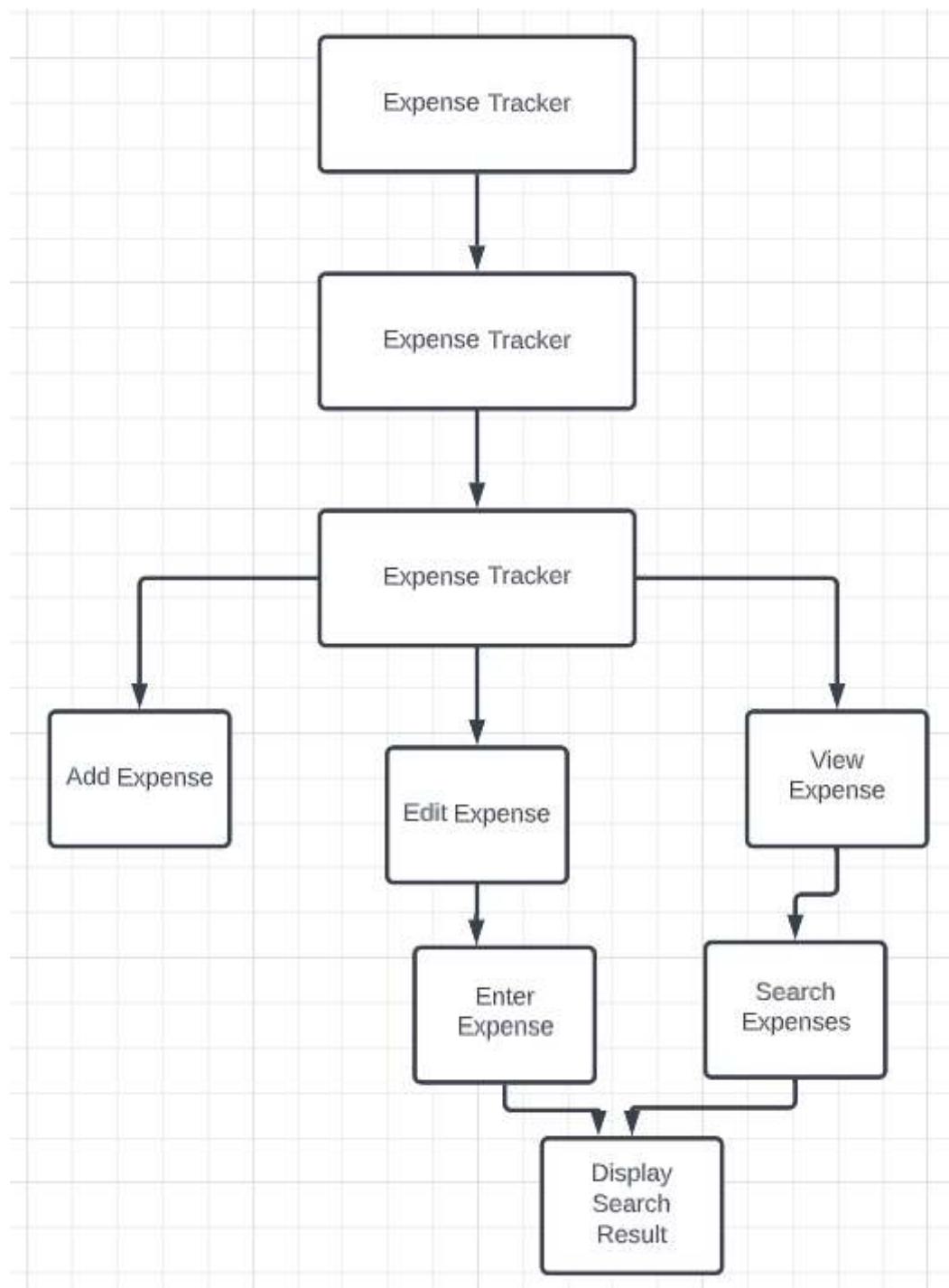


6.3 DATA FLOW DIAGRAMS

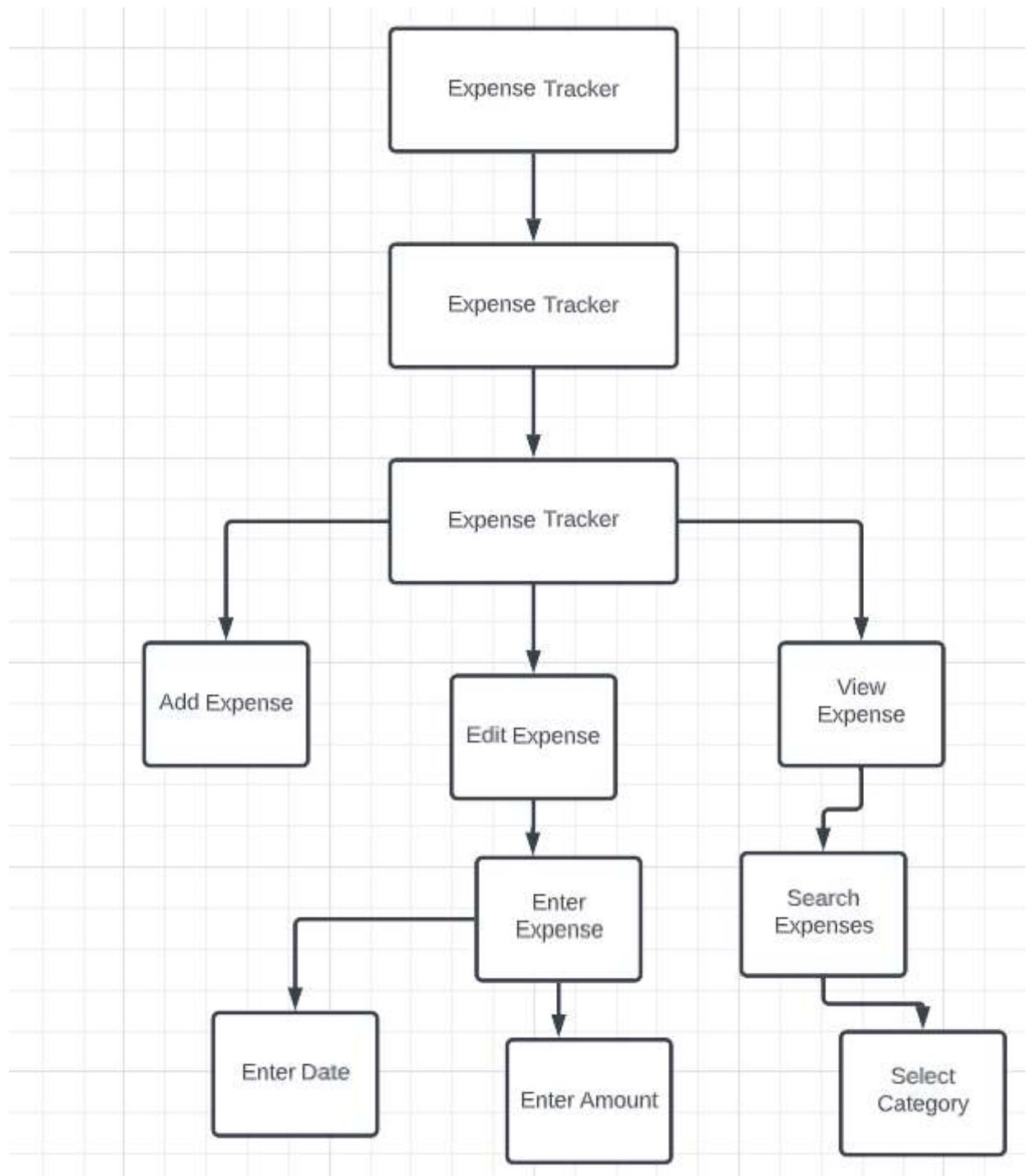
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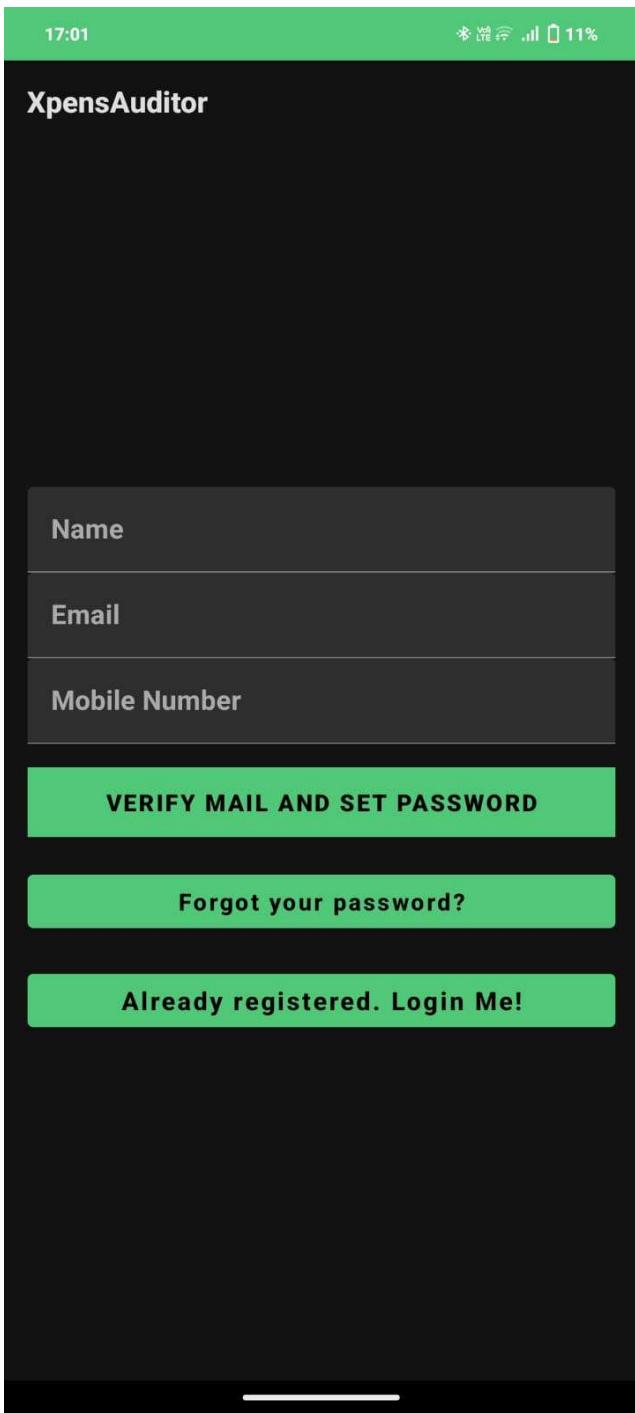
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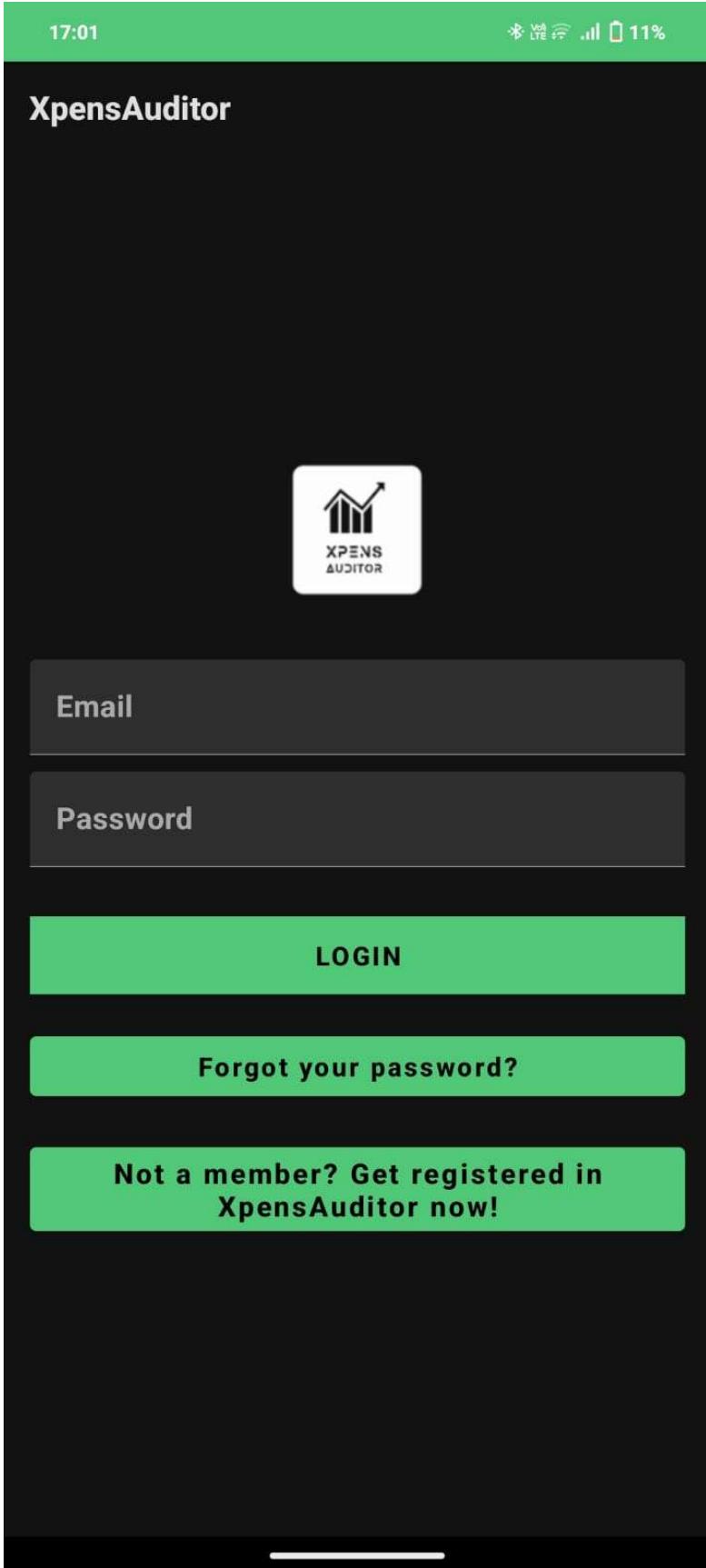


7.FURTHER SCOPE OF DEVELOPMENT

- Accounting software and banking applications, for example, can be integrated with the program. This will provide users with a comprehensive glimpse of their financial info in one location.
- Advanced data analytics: The software has the ability to provide more comprehensive and advanced data analytics capabilities. This could include predictive analytics, which can assist users in predicting future expenditures based on prior spending trends.
- Budgeting tools: The app may include budgeting tools that enable users to create budgets and monitor their expenditures against them. This will assist users in better managing their money and avoiding overpaying.
- Personalization: The software can be customized to meet the requirements of individual users. It can, for example, provide personalized reports and alerts based on individual interests.
- Payment gateway integration: The app can be linked with payment networks so that users can make purchases straight from the app. Users will find it easier to control their expenditures because of this.

8.1 UI DESIGN





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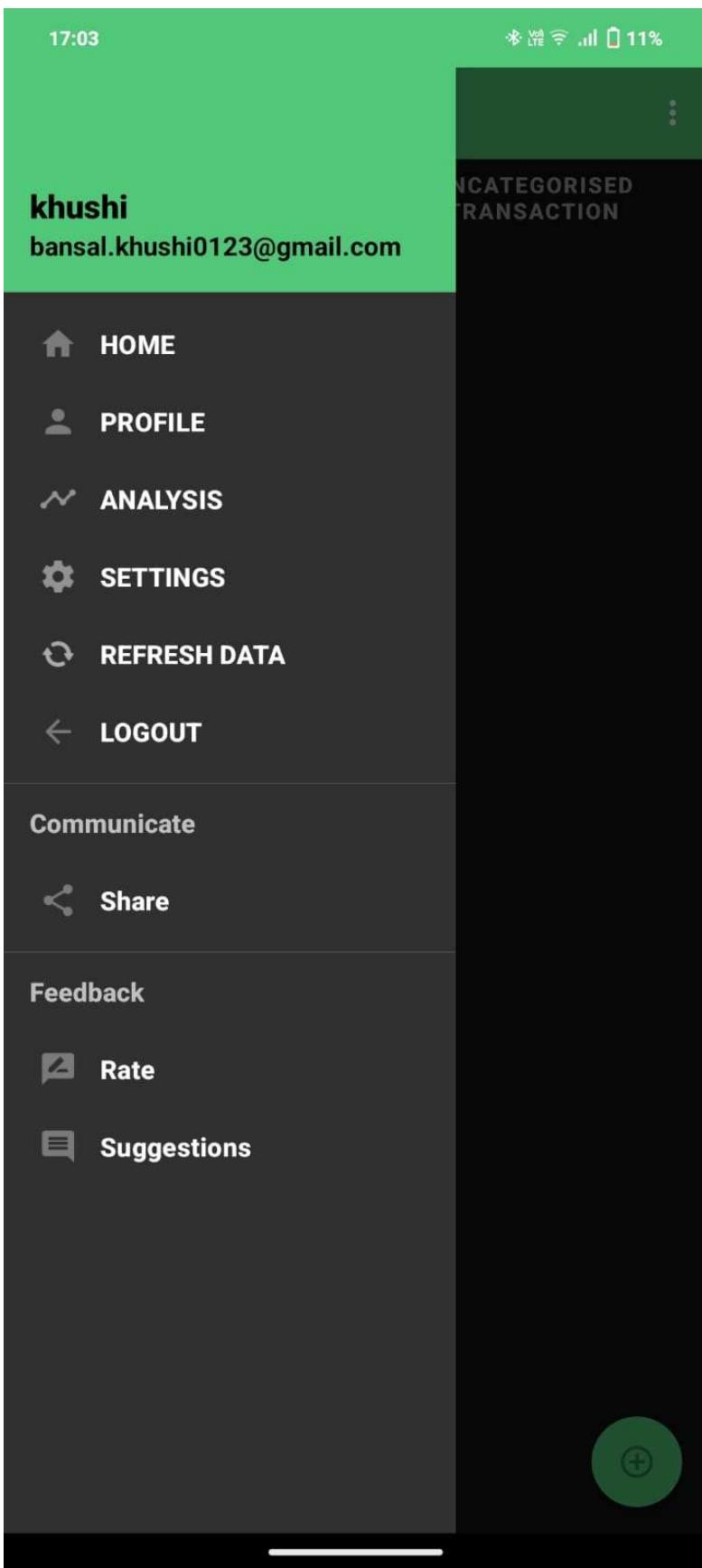
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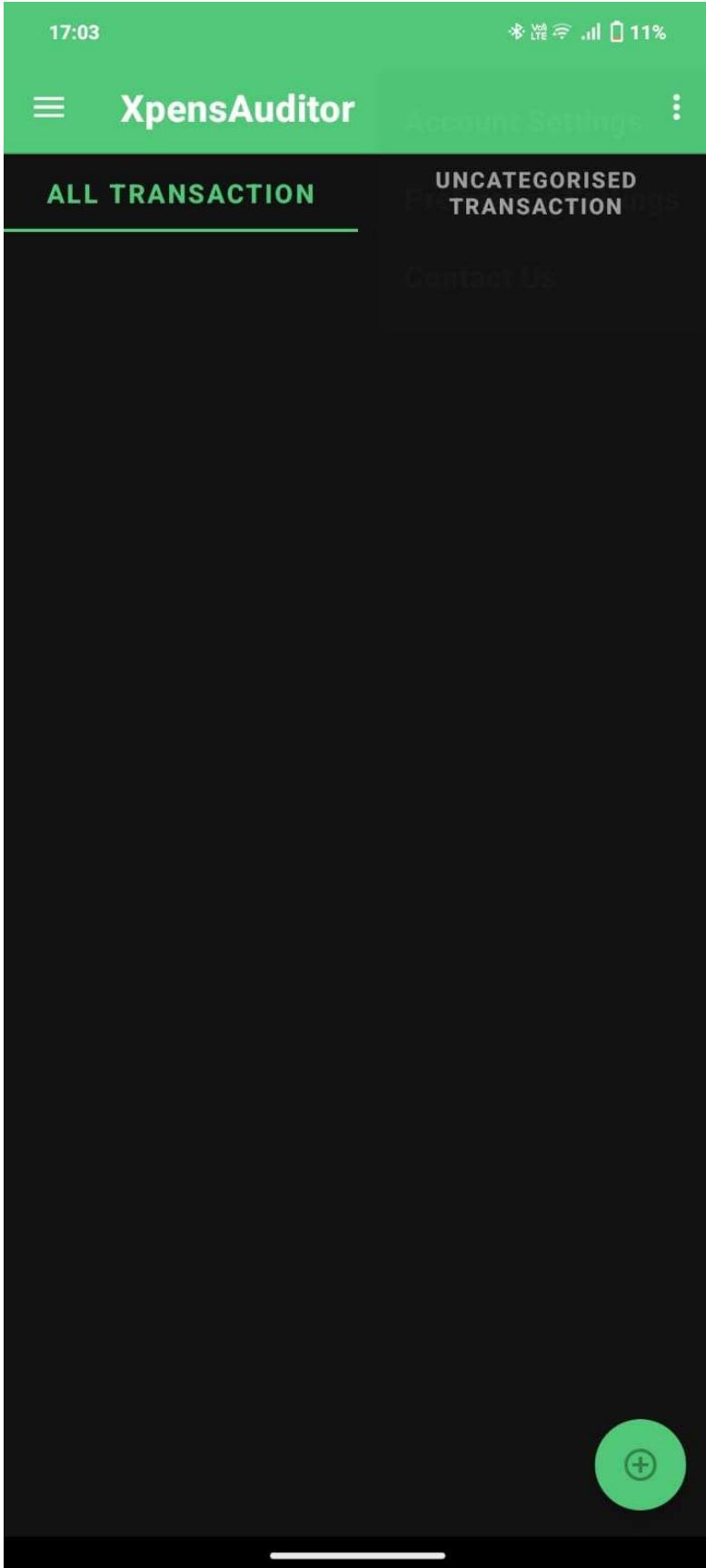
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password reset instructions.

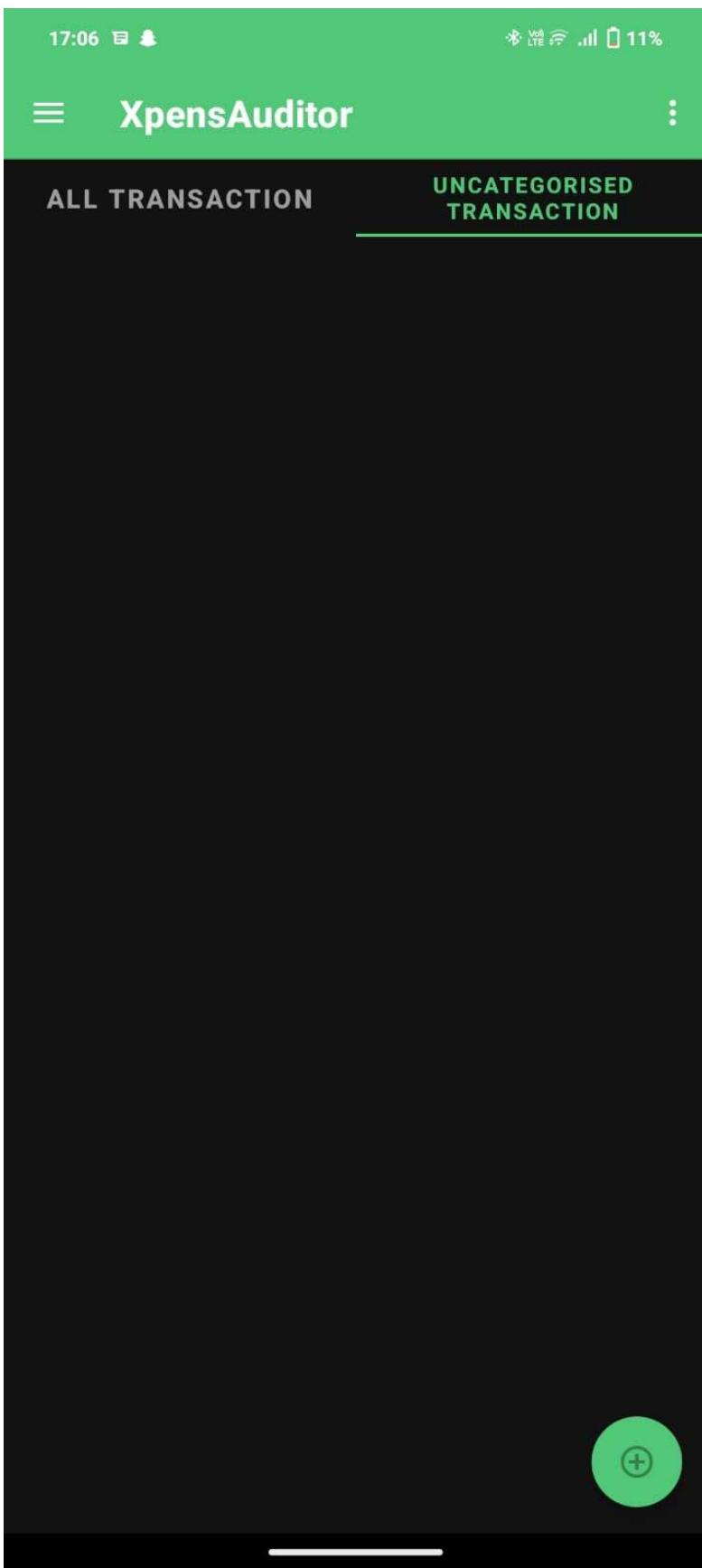
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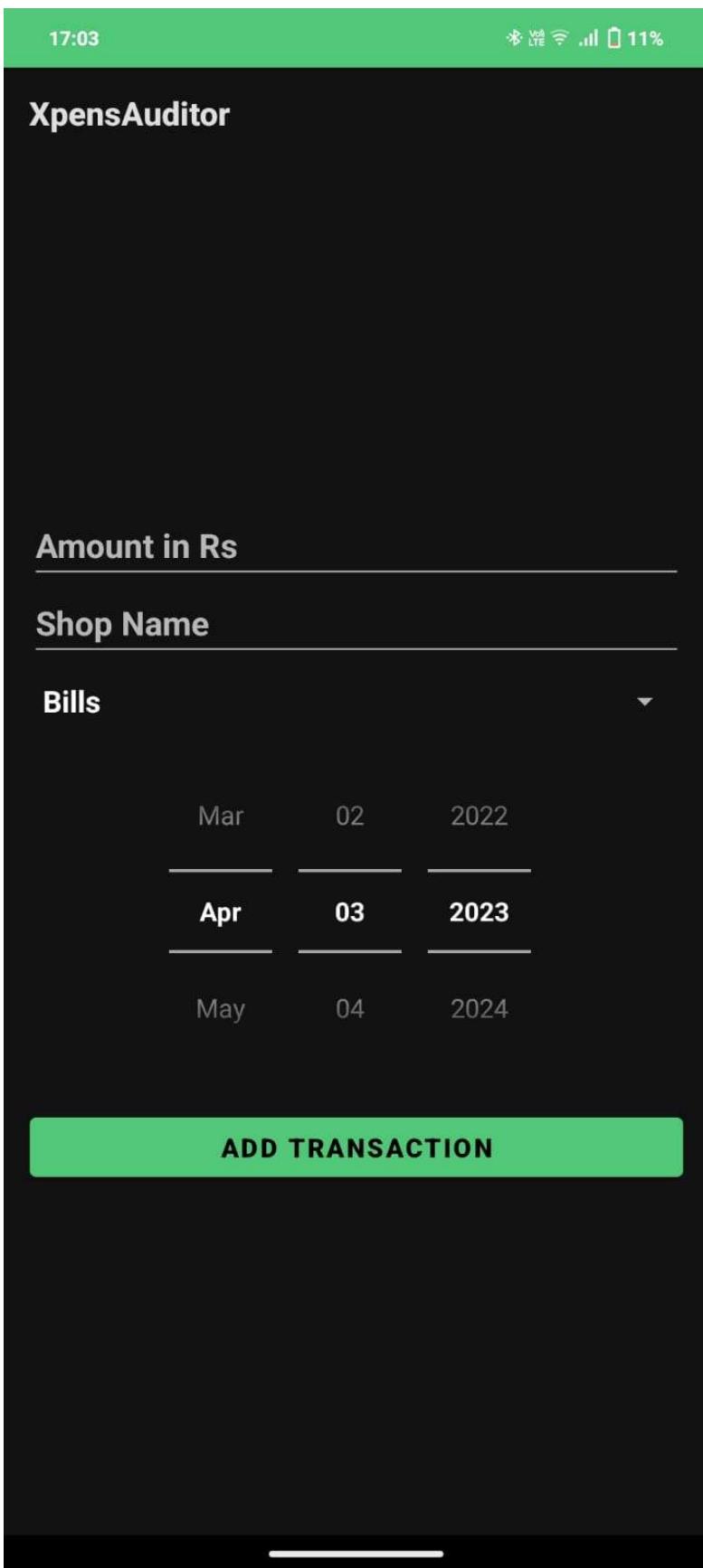
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ALL TRANSACTION

UNCATEGORISED
TRANSACTION

iceberg

Rs25

Home Needs

1 APR 2023

medical

Rs53

Health

3 APR 2023

the boss

Rs258

Bills

3 APR 2023



Add one more transaction or press
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8.2 CODING

The screenshot shows the Android Studio interface with the following details:

- Project Bar:** File, Edit, View, Navigate, Code, Refactor, Build, Run, Tools, VCS, Window, Help.
- Toolbar:** Add Configuration..., Device Manager, Device File explorer.
- Project Tree:** XpensAuditor-main (C:\Users\khushi\Downloads\xpensAuditor-). It includes subfolders like .idea, app, build.gradle, gradle, and various configuration files.
- Code Editor:** ProfileActivityTest.java (XpensAuditor-main - ProfileActivityTest.java). The code is a Java test class for the ProfileActivity.

```
1 package com.xa.xpensauditor;
2
3 import ...
4
5 @LargeTest
6 @RunWith(AndroidJUnit4.class)
7 public class ProfileActivityTest {
8
9     @Rule
10    public ActivityScenarioRule<LoginActivity> mActivityScenarioRule =
11        new ActivityScenarioRule<>((LoginActivity.class));
12
13     @After
14    public void signoutandclear()
15    {
16        FirebaseAuth auth;
17        auth = FirebaseAuth.getInstance();
18        if (auth.getCurrentUser() != null) {
19            auth.signOut();
20        }
21    }
22
23    @Test
24    public void profileActivityTest() {
25        ViewInteraction appCompatEditText = onView(
26            allOf(withId(R.id.email),
27                childAtPosition(
28                    childAtPosition(
29                        withClassName(is("com.google.android.material.textfield.TextInputLayout")),
30                        position: 0)));
31    }
32}
```

- Bottom Bar:** Version Control, TODO, Problems, Terminal, Logcat, App inspection, Event Log, Failed to start monitoring emulator-5554 (30-03-2023 13:47), 58:1 LF, UTF-8, 4 spaces, ENG IN, 10:20, 04-04-2023.

File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpensAuditor-main - ProfileActivityTest.java

Project XpensAuditor-main C:\Users\khush\Downloads\XpensAuditor-> .idea XpensAuditor-main app src androidTest java com xpensauditor ProfileActivityTest

```

    childAtPosition(
        childAtPosition(
            withClassName(is("com.google.android.material.textfield.TextInputLayout")),
            position: 0),
        isDisplayed()));
appCompatEditText.perform(replaceText("mithilareddy1999@gmail.com"), closeSoftKeyboard());
SystemClock.sleep(1000);
ViewInteraction appCompatEditText2 = onView(
    allOf(withId(R.id.password),
        childAtPosition(
            childAtPosition(
                withClassName(is("com.google.android.material.textfield.TextInputLayout")),
                position: 0),
            isDisplayed())));
appCompatEditText2.perform(replaceText("defaultpw9"), closeSoftKeyboard());
SystemClock.sleep(1000);
ViewInteraction materialButton = onView(
    allOf(withId(R.id.btn_login), withText("LOGIN"),
        childAtPosition(
            childAtPosition(
                withClassName(is("androidx.constraintlayout.widget.ConstraintLayout")),
                position: 0),
            isDisplayed())));
materialButton.perform(click());
SystemClock.sleep(3000);
ViewInteraction imageView = onView(
    allOf(withContentDescription("Open navigation drawer"),
        withParent(allOf(withId(R.id.toolbar),
            isDisplayed()))));

```

Version Control TODO Problems Terminal Logcat App inspection

Failed to start monitoring emulator-5554 (30-03-2023 13:47)

28°C Sunny

File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpensAuditor-main - ProfileActivityTest.java

Project XpensAuditor-main C:\Users\khush\Downloads\XpensAuditor-> .idea XpensAuditor-main app src androidTest java com xpensauditor ProfileActivityTest

```

    withParent(allOf(withId(R.id.toolbar),
        withParent(IsInstanceOf.<View>instanceOf(android.widget.LinearLayout.class)))),
isDisplayed());
imageButton.check(matches(isDisplayed()));
SystemClock.sleep(1000);
ViewInteraction appCompatImageButton = onView(
    allOf(withContentDescription("Open navigation drawer"),
        childAtPosition(
            allOf(withId(R.id.toolbar),
                childAtPosition(
                    withClassName(is("com.google.android.material.appbar.AppBarLayout")),
                    position: 0),
            isDisplayed())));
appCompatImageButton.perform(click());
SystemClock.sleep(1000);
ViewInteraction checkedTextView = onView(
    allOf(withId(com.google.android.material.R.id.design_menu_item_text), withText("PROFILE"),
        withParent(allOf(withId(R.id.nav_profile),
            withParent(withId(com.google.android.material.R.id.design_navigation_view)))),
        isDisplayed()));
checkedTextView.check(matches(isDisplayed()));
SystemClock.sleep(1000);
ViewInteraction navigationMenuItemView = onView(
    allOf(withId(R.id.nav_profile),
        childAtPosition(
            allOf(withId(com.google.android.material.R.id.design_navigation_view),
                childAtPosition(
                   (withId(R.id.nav_view),
                    position: 0)),
            isDisplayed())));

```

Version Control TODO Problems Terminal Logcat App inspection

Failed to start monitoring emulator-5554 (30-03-2023 13:47)

28°C Sunny

```
ProfileActivityTest.java
153     isDisplayed());
154     ImageButton2.check(matches(isDisplayed()));
155     SystemClock.sleep(1000);
156     pressBack();
157     SystemClock.sleep(1000);
158     ViewInteraction overflowMenuButton = onView(
159         allOf(withContentDescription("More options"),
160             childAtPosition(
161                 childAtPosition(
162                     withId(R.id.toolbar),
163                     position: 2),
164                     position: 0),
165                     isDisplayed())));
166     overflowMenuButton.perform(click());
167     SystemClock.sleep(1000);
168     ViewInteraction materialTextView = onView(
169         allOf(withId(androidx.recyclerview.R.id.title), withText("Account Settings"),
170             childAtPosition(
171                 childAtPosition(
172                     withId(androidx.constraintlayout.widget.R.id.content),
173                     position: 0),
174                     position: 0),
175                     isDisplayed())));
176     materialTextView.perform(click());
177     SystemClock.sleep(1000);
178     ViewInteraction materialButton3 = onView(
179         allOf(withId(R.id.sign_out), withText("Sign Out"),
180             childAtPosition(
181                 childAtPosition(
182                     withClassName(is("androidx.constraintlayout.widget.ConstraintLayout")),
183                     position: 1),
184                     position: 0),
185                     isDisplayed())));
186     materialButton3.perform(click());
187     SystemClock.sleep(1000);
188 }
```

File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpensAuditor-main - ProfileActivityTest.java

Project XpensAuditor-main C:\Users\khush\Downloads\XpensAuditor-123

```

    position: 2),
        isDisplayed());
navigationMenuItemView.perform(click());
SystemClock.sleep(1000);
ViewInteraction textView = onView(
    allOf(withId(R.id.userName), withText("mithila"),
        withParent(withParent(IsInstanceOf.<View>instanceOf(android.widget.RelativeLayout.class))),
        isDisplayed()));
textView.check(matches(withText("mithila")));
SystemClock.sleep(1000);
ViewInteraction textView2 = onView(
    allOf(withId(R.id.userEmail), withText("mithilarreddy1999@gmail.com"),
        withParent(withParent(IsInstanceOf.<View>instanceOf(android.widget.LinearLayout.class))),
        isDisplayed()));
textView2.check(matches(withText("mithilarreddy1999@gmail.com")));
SystemClock.sleep(1000);
ViewInteraction appCompatImageButton2 = onView(
    allOf(withId(R.id.editProfile),
        childAtPosition(
            childAtPosition(
                withClassName(is("android.widget.LinearLayout")),
                position: 1),
                position: 0),
        isDisplayed()));
appCompatImageButton2.perform(click());
SystemClock.sleep(1000);
pressBack();
ViewInteraction imageView2 = onView(
    allOf(withId(R.id.editProfile),
        withParent(withParent(IsInstanceOf.<View>instanceOf(android.widget.LinearLayout.class))),
        isDisplayed()));

```

Scopes: Failed to start monitoring emulator-5554 (30-03-2023 13:47)

28°C Sunny

File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpensAuditor-main - ProfileActivityTest.java

Project XpensAuditor-main C:\Users\khush\Downloads\XpensAuditor-183

```

    position: 1),
        isDisplayed());
materialButton3.perform(click());
SystemClock.sleep(1000);
ViewInteraction materialButton4 = onView(
    allOf(withId(android.R.id.button1), withText("SignOut"),
        childAtPosition(
            childAtPosition(
                withClassName(is("android.widget.SccrollView")),
                position: 0),
                position: 3)));
materialButton4.perform(scrollTo(), click());
SystemClock.sleep(1000);
ViewInteraction imageView3 = onView(
    allOf(withContentDescription("XpensAuditor"),
        withParent(withParent(IsInstanceOf.<View>instanceOf(android.view.ViewGroup.class))),
        isDisplayed()));
imageView3.check(matches(isDisplayed()));

private static Matcher<View> childAtPosition(
    final Matcher<View> parentMatcher, final int position) {

    return new TypeSafeMatcher<View>() {
        @Override
        public void describeTo(Description description) {
            description.appendText("Child at position " + position + " in parent ");
            parentMatcher.describeTo(description);
        }
    }
}

```

Scopes: Failed to start monitoring emulator-5554 (30-03-2023 13:47)

28°C Sunny

```
ProfileActivityTest.java
198     allOf(withContentDescription("XpensAuditor"),
199             withParent(withParent(isInstanceOf(<View>instanceOf(android.view.ViewGroup.class))),
200                     isDisplayed())));
201     imageView3.check(matches(isDisplayed()));
202 }
203
204     private static Matcher<View> childAtPosition(
205         final Matcher<View> parentMatcher, final int position) {
206
207     return new TypeSafeMatcher<View>() {
208
209         @Override
210         public void describeTo(Description description) {
211             description.appendText("Child at position " + position + " in parent ");
212             parentMatcher.describeTo(description);
213         }
214
215         @Override
216         public boolean matchesSafely(View view) {
217             ViewParent parent = view.getParent();
218             return parent instanceof ViewGroup && parentMatcher.matches(parent)
219                 && view.equals(((ViewGroup) parent).getChildAt(position));
220         }
221     };
222 }
223 }
```

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpensAuditor-main - RateActivityTest.java
XpensAuditor-main > XpensAuditor-main > app > src > androidTest > java > com > xpensauditor > RateActivityTest.java
Project XpensAuditor-main C:\Users\khush\Downloads\XpensAuditor> ProfileActivityTest.java RateActivityTest.java ResetPasswordActivityTest.java SignupActivityTest.java SuggestActivityTest.java UncategorizedAllTransSh...
176     allOf(withContentDescription("XpensAuditor"),
177             withParent(withParent(isInstanceOf(<View>instanceOf(android.view.ViewGroup.class))),
178                     isDisplayed())));
179     imageView.check(matches(isDisplayed()));
180 }
181
182     private static Matcher<View> childAtPosition(
183         final Matcher<View> parentMatcher, final int position) {
184
185     return new TypeSafeMatcher<View>() {
186
187         @Override
188         public void describeTo(Description description) {
189             description.appendText("Child at position " + position + " in parent ");
190             parentMatcher.describeTo(description);
191         }
192
193         @Override
194         public boolean matchesSafely(View view) {
195             ViewParent parent = view.getParent();
196             return parent instanceof ViewGroup && parentMatcher.matches(parent)
197                 && view.equals((ViewGroup) parent).getChildAt(position);
198         }
199     };
200 }
201
202 }
```

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpensAuditor-main - RateActivityTest.java
XpensAuditor-main > XpensAuditor-main > app > src > androidTest > java > com > xpensauditor > RateActivityTest.java
Project XpensAuditor-main C:\Users\khush\Downloads\XpensAuditor> ProfileActivityTest.java RateActivityTest.java ResetPasswordActivityTest.java SignupActivityTest.java SuggestActivityTest.java UncategorizedAllTransSh...
162     materialButton2.perform(click());
163     SystemClock.sleep(2000);
164     ViewInteraction materialButton3 = onView(
165         allOf(withId(android.R.id.button1), withText("SignOut"),
166             childAtPosition(
167                 childAtPosition(
168                     withClassName(is("android.widget.ScrollView")),
169                     position: 0),
170                     position: 3)));
171     materialButton3.perform(scrollTo(), click());
172     SystemClock.sleep(2000);
173     ViewInteraction imageView = onView(
174         allOf(withContentDescription("XpensAuditor"),
175             withParent(withParent(isInstanceOf(<View>instanceOf(android.view.ViewGroup.class))),
176                     isDisplayed())));
177     imageView.check(matches(isDisplayed()));
178 }
179
180     private static Matcher<View> childAtPosition(
181         final Matcher<View> parentMatcher, final int position) {
182
183     return new TypeSafeMatcher<View>() {
184
185         @Override
186         public void describeTo(Description description) {
187             description.appendText("Child at position " + position + " in parent ");
188             parentMatcher.describeTo(description);
189         }
190     };
191
192     @Override
```

File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpensAuditor-main - RateActivityTest.java

Project XpensAuditor-main C:\Users\khush\Downloads\xpensAuditor-132

```

ratingBar.check(matches(isDisplayed()));
SystemClock.sleep(2000);
pressBack();
SystemClock.sleep(2000);
ViewInteraction overflowMenuButton = onView(
    allOf(withId(androidx.recyclerview.R.id.title), withText("Account Settings"),
        childAtPosition(
            childAtPosition(
                withId(R.id.toolbar),
                position: 2),
            position: 0),
        isDisplayed()));
overflowMenuButton.perform(click());
SystemClock.sleep(2000);
ViewInteraction materialTextView = onView(
    allOf(withId(androidx.constraintlayout.widget.R.id.content),
        childAtPosition(
            childAtPosition(
                withId(androidx.constraintlayout.widget.ConstraintLayout),
                position: 0),
            position: 0),
        isDisplayed()));
materialTextView.perform(click());
SystemClock.sleep(2000);
ViewInteraction materialButton2 = onView(
    allOf(withId(R.id.sign_out), withText("Sign Out"),
        childAtPosition(
            childAtPosition(
                withClassname(is("androidx.constraintlayout.widget.ConstraintLayout")),
                position: 1),
            position: 12),
        isDisplayed()));

```

Scatches and Consoles

Version Control TODO Problems Terminal Logcat App inspection

Failed to start monitoring emulator-5554 (30-03-2023 13:47)

28°C Sunny

File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpensAuditor-main - RateActivityTest.java

Project XpensAuditor-main C:\Users\khush\Downloads\xpensAuditor-100

```

ViewInteraction appCompatImageButton = onView(
    allOf(withId(R.id.toolbar),
        childAtPosition(
            allOf(withId(R.id.toolbar),
                childAtPosition(
                    withClassName(is("com.google.android.material.appbar.AppBarLayout")),
                    position: 0),
                isDisplayed())));
appCompatImageButton.perform(click());
SystemClock.sleep(2000);
ViewInteraction checkedTextView = onView(
    allOf(withId(com.google.android.R.id.design_menu_item_text), withText("Rate"),
        withParent(allOf(withId(R.id.nav_rate),
            withParent(withId(com.google.android.material.R.id.design_navigation_view)))),
        isDisplayed()));
checkedTextView.check(matches(isDisplayed()));
SystemClock.sleep(2000);
ViewInteraction navigationMenuItemView = onView(
    allOf(withId(R.id.nav_rate),
        childAtPosition(
            allOf(withId(com.google.android.material.R.id.design_navigation_view),
                childAtPosition(
                    withId(R.id.nav_view),
                    position: 0)),
            position: 12),
        isDisplayed()));
navigationMenuItemView.perform(click());
SystemClock.sleep(2000);
ViewInteraction ratingBar = onView(
    allOf(withId(R.id.ratingBar),
        isDisplayed()));

```

Scatches and Consoles

Version Control TODO Problems Terminal Logcat App inspection

Failed to start monitoring emulator-5554 (30-03-2023 13:47)

28°C Sunny

The screenshot shows the Android Studio interface with the following details:

- File Bar:** File, Edit, View, Navigate, Code, Refactor, Build, Run, Tools, VCS, Window, Help.
- Project Bar:** XpensAuditor-main > XpensAuditor-main > app > src > androidTest > java > com > xa > xpensauditor > RateActivityTest.java
- Add Configuration...:** A button in the top right corner.
- Code Editor:** The main area displays the `RateActivityTest.java` file, which contains test code for the `RateActivity`. The code uses UI Automator to interact with various UI elements like `appCompatEditText`, `materialButton`, and `imageButton`.
- Side Panels:**
 - Project:** Shows the project structure with modules like `XpensAuditor-main` and `app`, and files like `gradle`, `build.gradle`, and `Google-services.json`.
 - Structure:** Shows the package structure: `com.xa.xpensauditor`.
 - Toolbars:** Version Control, TODO, Problems, Terminal, Logcat, App Inspection.
 - Bottom Status Bar:** Failed to start monitoring emulator-5554 (30-03-2023 13:47), Event Log.

The screenshot shows the Android Studio interface with the following details:

- Top Bar:** Shows the date "04-04-2023", time "10:21", and system status like "ENG IN".
- Project Tree:** On the left, it shows the project structure under "XpensAuditor-main".
- Code Editor:** The main area displays the Java code for "RateActivityTest.java".

```
1 package com.xa.xpensauditor;
2
3 import ...
4
5 @LargeTest
6 @RunWith(AndroidJUnit4.class)
7 public class RateActivityTest {
8
9     @Rule
10    public ActivityScenarioRule<LoginActivity> mActivityScenarioRule =
11        new ActivityScenarioRule<>(LoginActivity.class);
12
13     @After
14    public void signoutandclear()
15    {
16        FirebaseAuth auth;
17        auth = FirebaseAuth.getInstance();
18        if (auth.getCurrentUser() != null) {
19            auth.signOut();
20        }
21    }
22
23    @Test
24    public void rateActivityTest() {
25        SystemClock.sleep(5000);
26        ViewInteraction appCompatEditText = onView(
27            allOf(withId(R.id.email),
28                  childAtPosition(
29                      childAtPosition(
30                          withClassName(is("com.google.android.material.textfield.TextInputLayout"))),
31
32
33
34
35
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47
48
49
50
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65
66
```
- Bottom Bar:** Shows tabs for Version Control, TODO, Problems, Terminal, Logcat, and App Inspection. It also indicates "Failed to start monitoring emulator-5554 (30-03-2023 13:47)".

The screenshot shows the Android Studio interface with the following details:

- Project Tree:** The project is named "XpensAuditor-main". It includes a .idea folder, a .github folder, an app module with its own .gitignore, build.gradle, google-services.json, proguard-rules.pro, and various configuration files like CITATION.cff, CODE_OF_CONDUCT.md, CONTRIBUTING.md, gradle.properties, gradlew, gradlew.bat, LICENSE, README.md, requirements.txt, and settings.gradle.
- Code Editor:** The current file is "UncategorisedAllTransShowTest.java" located in the androidTest/java/com/xa/xpensauditor directory. The code is a test for the LoginActivity, specifically for the signout feature. It uses ViewInteraction and FirebaseAuth assertions.
- Status Bar:** The status bar at the bottom shows the weather as 28°C Sunny, the date as 04-04-2023, and the time as 10:21.

This screenshot is nearly identical to the one above, showing the same project structure and code editor content for "UncategorisedAllTransShowTest.java". The only difference is the time displayed in the status bar, which has changed from 10:21 to 10:22.

The screenshot shows the Android Studio interface with the following details:

- File Path:** XpensAuditor-main > XpensAuditor-main > app > src > androidTest > java > com > xa > xpensauditor > UncategorisedAllTransShowTest
- Code Editor:** The main editor window displays the `UncategorisedAllTransShowTest.java` file, which contains Java code for testing UI interactions.
- Project Structure:** The left sidebar shows the project structure with modules like `XpensAuditor-main`, `docs`, `gradle`, `gradlew`, `gradlew.bat`, `LICENSE`, `README.md`, and `requirements.txt`.
- Toolbars:** Standard Android Studio toolbars for File, Edit, View, Navigate, Code, Refactor, Build, Run, Tools, VCS, Window, Help are visible at the top.
- Bottom Bar:** Includes tabs for Version Control, TODO, Problems, Terminal, Logcat, App Inspection, and Event Log, along with status indicators for the emulator and device file explorer.

A screenshot of the Android Studio interface. The top bar shows the title 'XpensAuditor-main - UncategorisedAllTransShowTest.java' and various system icons. The left sidebar includes 'Project', 'Bookmarks', 'Structure', and 'Toolbars'. The main area displays Java test code for 'UncategorisedAllTransShowTest.java'. The code uses Espresso UI automation to interact with a transaction info view and an overflow menu button. The bottom navigation bar includes tabs for Version Control, TODO, Problems, Terminal, Logcat, and App Inspection, along with a status bar at the bottom.

```
    childAtPosition(
        childAtPosition(
            withClassName(is("com.google.android.material.textfield.TextInputLayout")),
            position: 0),
        isDisplayed())));
appCompatEditText.perform(replaceText("xpensauditor@gmail.com"), closeSoftKeyboard());
SystemClock.sleep(1000);
ViewInteraction appCompatEditText2 = onView(
    allOf(withId(R.id.password),
        childAtPosition(
            childAtPosition(
                withClassName(is("com.google.android.material.textfield.TextInputLayout")),
                position: 0),
            isDisplayed())));
appCompatEditText2.perform(replaceText("defaultpwd9"), closeSoftKeyboard());
SystemClock.sleep(1000);
ViewInteraction materialButton = onView(
    allOf(withId(R.id.btn_login), withText("LOGIN"),
        childAtPosition(
            childAtPosition(
                withClassName(is("androidx.constraintlayout.widget.ConstraintLayout")),
                position: 0),
            isDisplayed())));
materialButton.perform(click());
SystemClock.sleep(2000);
ViewInteraction textView = onView(
    allOf(withText("XpensAuditor"),
        withParent(allOf(withId(R.id.toolbar),
            withParent(IsInstanceOf.<View>instanceOf(android.widget.LinearLayout.class)))),
        isDisplayed())));
textView.check(matches(withText("XpensAuditor")));
```

```
    package com.xa.xpensauditor;
import ...
public class AddTransactionActivity extends AppCompatActivity {
    private DatabaseReference mRootRef;
    private String RefUid;
    private DatabaseReference RefTran1, RefCatSum1, RefCat, UnCatTran;
    private String Tid;
    private ArrayList<String> Catg = new ArrayList<>();
    private Button AddTran;
    private EditText Amnt;
    private EditText ShpNm;
    private Spinner catView;
    String Amount, ShopName, SellCat;
    private DatePicker dateTransac;
    String day, month, year;
    int d, m, y;
    Activity activity;
    MultiValueMap<String, String> catgTrans1 = MultiValueMap.multiValueMap(new LinkedHashMap<String, Collection<String>>(), (Class<?>)
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add_transaction);
        activity = this;
        mRootRef = new Firebase("https://xpensauditor-default.firebaseio.com/");
        mRootRef.keepSynced(true);
```

The screenshot shows the Android Studio interface with the following details:

- Project Tree:** The left sidebar displays the project structure under "xpensauditor". It includes Java files like AccountSettingsActivity.java, AddTransactionActivity.java, ContactUs.java, EditProfileActivity.java, HomeActivity.java, LoginActivity.java, ProfileActivity.java, Rate.java, ResetPasswordActivity.java, ShowTransActivity.java, SignupActivity.java, SMSDBFetchActivity.java, SMSReaderActivity.java, SMSTransShowActivity.java, Suggest.java, TabFragment.java, Transaction.java, TransactionAdapter.java, TransactionAdapter.java, UncategorizedFragment.java, and ViewPageAdapter.java. It also shows resources in the res folder and test, docs, gradle, and gitterignore folders.
- Code Editor:** The main area shows the code for `AddTransactionActivity.java`. The code handles transaction addition, including setting up spinners for categories and shop names, and validating input fields. It uses `ArrayAdapter` for spinners and `InputFilter` for decimal point validation.
- Toolbars and Status Bar:** The top bar has standard file menu items (File, Edit, View, Navigate, Code, Refactor, Build, Run, Tools, VCS, Window, Help) and a tab for "XpensAuditor-main - AddTransactionActivity.java". The bottom bar includes tabs for Version Control, TODO, Problems, Terminal, Logcat, and App Inspection, along with system status icons for battery, signal, and network.

The screenshot shows the Android Studio interface with the following details:

- Project Structure:** Shows the XpensAuditor-main project structure with packages like xpensauditor containing various Activity and Adapter classes.
- Code Editor:** Displays the content of `AddTransactionActivity.java`. The code handles the conversion of a string representing a transaction amount into a double. It uses regular expressions to validate the input format and then extracts the digits before and after the decimal point.
- Toolbars and Menus:** Standard Android Studio menus like File, Edit, View, Navigate, Code, Refactor, Build, Run, Tools, VCS, Window, Help are visible.
- Bottom Status Bar:** Shows the message "Failed to start monitoring emulator-5554 (30-03-2023 13:47)".

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window help XpensAuditor-main - AddTransactionActivity.java

XpensAuditor-main > XpensAuditor-main > app > src > main > java > com > xa > xpensauditor > AddTransactionActivity.java

Project > XpensAuditor > AccountSettingsActivity.java 178
Project > XpensAuditor > AddTransactionActivity.java 179
Project > XpensAuditor > ContactUs.java 180
Project > XpensAuditor > EditProfileActivity.java 181
Project > XpensAuditor > HomeActivity.java 182
Project > XpensAuditor > LoginActivity.java 183
Project > XpensAuditor > ProfileActivity.java 184
Project > XpensAuditor > Rate.java 185
Project > XpensAuditor > ResetPasswordActivity.java 186
Project > XpensAuditor > ShowTransActivity.java 187
Project > XpensAuditor > SignupActivity.java 188
Project > XpensAuditor > SMSDBFetchActivity.java 189
Project > XpensAuditor > SMSReaderActivity.java 190
Project > XpensAuditor > SMSTransShowActivity.java 191
Project > XpensAuditor > Suggest.java 192
Project > XpensAuditor > TabFragment.java 193
Project > XpensAuditor > Transaction.java 194
Project > XpensAuditor > TransactionAdapter.java 195
Project > XpensAuditor > TransAdapter.java 196
Project > XpensAuditor > UncategorizedFragment.java 197
Project > XpensAuditor > ViewPagerAdapter.java 198
> res
  AndroidManifest.xml 199
  ic_account-playstore.png 200
  ic_launcher-playstore.png 201
> test
  gitterignore 202
  build.gradle 203
  google-services.json 204
  proguard-rules.pro 205
> docs
> gradle
  gitterignore 206
  207
  208

Add Configuration... > Add TransactionActivity.java > Device Manager > Emulator > Device File Explorer

if (SelCat == "Uncategorised") {
    UnCatTran.child(Tid);
    UnCatTran.child(Tid).child("Amount").setValue(Amount);
    UnCatTran.child(Tid).child("Category").setValue(SelCat);
    UnCatTran.child(Tid).child("Shop Name").setValue(ShopName);
    UnCatTran.child(Tid).child("ZMessage").setValue("Entered Manually...");
    UnCatTran.child(Tid).child("Day").setValue(day);
    UnCatTran.child(Tid).child("Month").setValue(month);
    UnCatTran.child(Tid).child("Year").setValue(year);
} else {
    RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("CatTran").child(SelCat).child(SelCat);
    RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("CatTran").child(SelCat).child(SelCat);
}

RefTran1 = RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("Transactions");

RefCatSum1 = RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("CatSum");

Toast.makeText(getApplicationContext(), "Transaction added", Toast.LENGTH_SHORT).show();
Amnt.setText("");
```

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpnsAuditor-main - AddTransactionActivity.java
XpnsAuditor-main > XpnsAuditor-main > app > src > main > java > com > xa > xpnsauditor > AddTransactionActivity.java
Add Configuration... Project Add TransactionActivity.java
Project
  xpnsauditor
    AccountSettingsActivity.java
    AddTransactionActivity.java
    ContactUs.java
    EditProfileActivity.java
    HomeActivity.java
    LoginActivity.java
    ProfileActivity.java
    Rate.java
    ResetPasswordActivity.java
    ShowTransActivity.java
    SignupActivity.java
    SMSDBFetchActivity.java
    SMSReaderActivity.java
    SMSTransChowActivity.java
    Suggest.java
    TabFragment.java
    Transaction.java
    TransactionAdapter.java
    TransAdapter.java
    UncategorizedFragment.java
    ViewPagerAdapter.java
  res
    AndroidManifest.xml
    ic_account-playstore.png
    ic_launcher-playstore.png
  test
    githignore
    build.gradle
    google-services.json
    proguard-rules.pro
  docs
  gradle
  githignore
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  f = true;
} else {
  if (thisMonth == m) {
    if (thisDay >= d) {
      f = true;
    }
  }
}

if (f) {
  Amount = Amnt.getText().toString().trim().replaceAll(", ", "");
  ShopName = ShpNm.getText().toString().trim();
  if (!Amount.isEmpty() && !ShopName.isEmpty()) {
    Tid = String.valueOf(currentTimeMillis());
    RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("Transactions").child(Tid).child(
      RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("Transactions").child(Tid).child(
        RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("Transactions").child(Tid).child(
          RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("Transactions").child(Tid).child(
            RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("Transactions").child(Tid).child(
              RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("Transactions").child(Tid).child(
                RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("Transactions").child(Tid).child(
                  RefUid.child("DateRange").child(String.valueOf(month + "-" + year)).child("Transactions").child(Tid).child(
                    RefCatTran.child(Tid);
                    UnCatTran.child(Tid).child("Amount").setValue(Amount);
}
if (SelCat == "Uncategorised") {
  UnCatTran.child(Tid);
  UnCatTran.child(Tid).child("Amount").setValue(Amount);
}

```

The screenshot shows the Android Studio interface with the following details:

- Top Bar:** Shows the date "04-04-2023", time "10:23", battery level "28%", and network status "Sunny".
- Toolbar:** Includes icons for File, Edit, View, Navigate, Code, Refactor, Build, Run, Tools, VCS, Window, Help, and a search bar.
- Project Tree:** Displays the project structure under "XpensAuditor-main". The "app" module contains Java files like AccountSettingsActivity.java, AddTransactionActivity.java, ContactUs.java, EditProfileActivity.java, HomeActivity.java, LoginActivity.java, Profile.java, Rate.java, ResetPasswordActivity.java, ShowTransActivity.java, SignupActivity.java, SMSDBFetchActivity.java, SMSReaderActivity.java, SMSTransacShowActivity.java, Suggest.java, TabFragment.java, Transaction.java, TransactionAdapter.java, TransAdapter.java, UncategorizedFragment.java, and ViewPagerAdapter.java. It also includes resources (res), build files (gradle, build.gradle), and documentation (docs).
- Code Editor:** The main window shows the content of AddTransactionActivity.java. The code handles a button click event to show a toast message and set an on-click listener for a calendar-based date selection logic.
- Bottom Bar:** Includes tabs for Version Control, TODO, Problems, Terminal, Logcat, and App Inspection. The status bar at the bottom shows the date "04-04-2023", time "10:23", battery level "28%", and network status "Sunny".

```
Amnt.setText("");
ShopNm.setText("");
Toast.makeText(getApplicationContext(), "Add one more transaction or press back", Toast.LENGTH_LONG).show();

} else {
    Toast.makeText(getApplicationContext(), "Enter valid Amount and Shopname", Toast.LENGTH_LONG).show();
}

} else {
    Toast.makeText(getApplicationContext(), "Enter valid date", Toast.LENGTH_LONG).show();
}

RefTran1.addChildEventListener(new com.firebaseio.client.ChildEventListener() {
    String amount, cat, shname, shDay, shMonth, shYear;

    @Override
    public void onChildAdded(DataSnapshot dataSnapshot, String s) {
        int i = 0;

        for (DataSnapshot S : dataSnapshot.getChildren()) {

            switch (i) {
                case 0:
                    amount = S.getValue().toString().trim();
                    break;
                case 1:
                    cat = S.getValue().toString().trim();
                    break;
            }

            i++;
        }
        catgTrans1.put(cat, amount);
    }

    @Override
    public void onChildChanged(DataSnapshot dataSnapshot, String s) {
    }

    @Override
    public void onChildRemoved(DataSnapshot dataSnapshot) {
    }

    @Override
    public void onChildMoved(DataSnapshot dataSnapshot, String s) {
    }
})
```

```
switch (i) {
    case 0:
        amount = S.getValue().toString().trim();
        break;
    case 1:
        cat = S.getValue().toString().trim();
        break;
}

i++;
}
catgTrans1.put(cat, amount);

@Override
public void onChildChanged(DataSnapshot dataSnapshot, String s) {
}

@Override
public void onChildRemoved(DataSnapshot dataSnapshot) {
}

@Override
public void onChildMoved(DataSnapshot dataSnapshot, String s) {
}
```

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpensAuditor-main - AddTransactionActivity.java
XpensAuditor-main > XpensAuditor-main > app > src > main > java > com > xa > xpensauditor > AddTransactionActivity.java
Add Configuration... Device Manager
Project Structure Device Manager
  xpensauditor
    AccountSettingsActivity.java
    AddTransactionActivity.java
    ContactUs.java
    EditProfileActivity.java
    HomeActivity.java
    LoginActivity.java
    ProfileActivity.java
    Rate.java
    ResetPasswordActivity.java
    ShowTransActivity.java
    SignupActivity.java
    SMSDBFetchActivity.java
    SMSReaderActivity.java
    SMSTransaShowActivity.java
    Suggest.java
    TabFragment.java
    Transaction.java
    TransactionAdapter.java
    TransAdapter.java
    UncategorizedFragment.java
    ViewPageAdapter.java
  res
    AndroidManifest.xml
    ic_account-playstore.png
    ic_launcher-playstore.png
  test
  .gitignore
  build.gradle
  google-services.json
  proguard-rules.pro
  docs
  gradle
    .gitignore
  Version Control TODO Problems Terminal Logcat App inspection
  Failed to start monitoring emulator-5554 (30-03-2023 13:47)
  28°C Sunny
  10:23 04-04-2023
```

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  }
  RefCat.addChildEventListener(new ChildEventListener() {
    @Override
    public void onChildAdded(DataSnapshot dataSnapshot, String s) {
      String value = dataSnapshot.getKey().trim();
      Catg.add(value);
      arrayAdapter.notifyDataSetChanged();
    }

    @Override
    public void onChildChanged(DataSnapshot dataSnapshot, String s) {
    }

    @Override
    public void onChildMoved(DataSnapshot dataSnapshot, String s) {
    }

    @Override
    public void onCancelled(FirebaseError firebaseError) {
    }
  });

  @Override
  public void onBackPressed() {
    Intent i = new Intent(AddTransactionActivity.this, HomeActivity.class);
    startActivity(i);
  }
}
```

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help XpensAuditor-main - AddTransactionActivity.java
XpensAuditor-main > XpensAuditor-main > app > src > main > java > com > xa > xpensauditor > AddTransactionActivity.java
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Project Structure Device Manager
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    AccountSettingsActivity.java
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    ContactUs.java
    EditProfileActivity.java
    HomeActivity.java
    LoginActivity.java
    ProfileActivity.java
    Rate.java
    ResetPasswordActivity.java
    ShowTransActivity.java
    SignupActivity.java
    SMSDBFetchActivity.java
    SMSReaderActivity.java
    SMSTransaShowActivity.java
    Suggest.java
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    Transaction.java
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    TransAdapter.java
    UncategorizedFragment.java
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  res
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  build.gradle
  google-services.json
  proguard-rules.pro
  docs
  gradle
    .gitignore
  Version Control TODO Problems Terminal Logcat App inspection
  Failed to start monitoring emulator-5554 (30-03-2023 13:47)
  28°C Sunny
  10:23 04-04-2023
```

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  @Override
  public void onChildRemoved(DataSnapshot dataSnapshot) {
  }

  @Override
  public void onChildMoved(DataSnapshot dataSnapshot, String s) {
  }

  @Override
  public void onCancelled(FirebaseError firebaseError) {
  };

  public void onBackPressed() {
    Intent i = new Intent(AddTransactionActivity.this, HomeActivity.class);
    startActivity(i);
  }
}
```

9. TESTING

9.1 Creating an account

| S.No. | Test Case | Expected Result | Actual Result | Test Status |
|-------|--|--|---------------|-------------|
| a. | Verify that a user can create a new account with valid credentials | The user should be able to successfully create a new account with valid credentials, such as a unique email address and a password that meets the requirements. | Yes | Pass |
| b. | Verify that a user cannot create an account with invalid credentials, such as an already used email or password that doesn't meet the requirements | The user should not be able to create an account with invalid credentials, such as an email address that is already in use or a password that doesn't meet the minimum requirements. | Yes | Pass |
| c. | Verify that a user is prompted to verify their email before being able to use the app | After creating a new account, the user should receive an email containing a verification link. | Yes | Pass |

9.2 Logging in

| S.No | Test Case | Expected Result | Actual Result | Test Status |
|------|---|---|---------------|-------------|
| a. | Verify that a user can log in with valid credentials. | The user should be able to successfully log in with valid credentials, such as a registered email address and a password that matches the one associated with the account. | Yes | Pass |

| | | | | |
|-----------|--|---|------------|-------------|
| b. | Verify that a user cannot log in with invalid credentials, such as an incorrect email or password. | If the user enters an incorrect email address or password, the system should display an error message indicating that the login attempt has failed. | Yes | Pass |
| c. | Verify that a user can reset their password if they forget it | The user should be able to access a "Forgot password" feature, which prompts them to enter their email address. | Yes | Pass |

9.3 Adding an expense

| S.No | Test Case | Expected Result | Actual Result | Test Status |
|-----------|--|---|---------------|-------------|
| a. | Verify that a user can add a new expense with valid details, such as date, category, amount, and notes | The user should be able to access the expense tracking feature of the app and click on the "Add Expense" button. | Yes | Pass |
| b. | Verify that a user cannot add an expense with missing or invalid details | If the user attempts to add an expense with missing or invalid details, such as leaving the amount field blank or entering a non-numeric value, the system should display an error message indicating that the expense cannot be added. | Yes | Pass |
| c. | Verify that a user can edit or delete an expense they previously added | The user should be able to access their expense list or dashboard and select the expense they wish to edit or delete. | Yes | Pass |

9.4 Viewing expense

| S.No | Test Case | Expected Result | Actual Result | Test Status |
|------|---|---|---------------|-------------|
| a. | Verify that a user can view their expenses for a specific period, such as the current month or a custom range | The user should be able to access the expense tracking feature of the app and select the period they wish to view expenses for, such as the current month or a custom range of dates. | Yes | Pass |
| b. | Verify that expenses are displayed in a clear and organized way, such as by category or date | The expenses should be displayed in a clear and organized way, such as by date, category, or other criteria. | Yes | Pass |
| c. | Verify that a user can filter expenses by category or other criteria | The user should be able to apply filters to their expense list or dashboard, such as by category or other criteria. | Yes | Pass |

10.CONCLUSION

In conclusion, an expense tracker software can be a very helpful tool for people who want to keep track of their spending and better handle their money. Users can quickly see where their money is moving and make adjustments as required by entering expenses and categorising them. Furthermore, tools such as budget monitoring, alerts, and goal setting can assist users in staying on schedule and meeting their financial objectives. Overall, an expenditure tracking software can be a useful resource for anyone seeking to better their financial management skills and achieve greater financial control.

First and foremost, an expenditure tracker software makes it easy for people to keep track of their expenses. Users can simply enter their expenses into the programme as they appear, rather than manually writing them down or attempting to recall them at the end of the day. This not only saves time, but it also improves accuracy because users are less likely to neglect or overlook expenditures.

An expense tracker software also enables users to categorise their costs. This feature allows you to easily see where your money is going, which is particularly useful for finding areas where expenditure can be decreased or removed.

Many expense tracker apps, in addition to budget monitoring, include other features that can help users handle their money more effectively. Some apps, for example, may send alerts when spending in a specific area surpasses a predefined level, or they may provide insights into spending trends over time. Others may enable users to establish financial objectives and monitor their progress towards them.

Overall, an expenditure tracking software can be an extremely useful tool for anyone seeking to gain financial control. These applications can help users make more educated financial choices and achieve greater financial security by offering a handy and organised way to manage expenditures, establish budgets, and watch progress towards financial objectives.

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Date : 15th Dec 2022

Permission Letter

Dear Ayushman Bhardwaj 21030121035

With reference to the project topic idea discussion with regards to fulfilling the requirement of Bachelor of Computer Application batch 2021-2024, Sem IV Project, you have been given the permission to undertake a project from Dec 2022 to April 2023 with the topic Expense Tracker App. On successful completion of the project, you will receive a certificate from the SICSR. We approve the above-mentioned project title.

We wish you all the best for your project work.

A handwritten signature in black ink, appearing to read "Gaikwad".

Ms. Hema Gaikwad

Project Mentor

A handwritten signature in black ink, appearing to read "Kulkarni".

Dr. Priti Kulkarni
BCA Program Coordinator

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Founder: Prof. Dr. S. B. Mujumdar, M. Sc., Ph. D. (Awarded Padma Bhushan and Padma Shri by President of India)



Date : 15th Dec 2022

Permission Letter

Dear Khushi Bansal 21030121085

With reference to the project topic idea discussion with regards to fulfilling the requirement of Bachelor of Computer Application batch 2021-2024, Sem IV Project, you have been given the permission to undertake a project from Dec 2022 to April 2023 with the topic Expense Tracker App. On successful completion of the project, you will receive a certificate from the SICSR. We approve the above-mentioned project title.

We wish you all the best for your project work.

A handwritten signature in black ink, which appears to read "Gaikwad".

A handwritten signature in black ink, which appears to read "Kulkarni".

Dr. Priti Kulkarni
BCA Program Coordinator

Ms. Hema Gaikwad

Mentor

Proforma 4

Undertaking from the UG/PG student(s) while submitting his/her final dissertation to his respective institute

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| 5. | The material (adopted text, tables, figures, graphs, etc.) as has been | No |

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| | |
|---|--|
| <p>Full Name & Signature of all the student(s)</p> <p>Khushi Bansal</p>  | |
| <p>Ayushman Bhardwaj</p>  | <p>Ms. Hema Gaikwad</p> <p>Mentor Name and sign Name & Signature of SIU Guide/Mentor</p> |
| <p>Date: <u>01/04/2023</u></p> <p>Place: <u>Pune</u></p> | <p>Endorsement by Academic Integrity Committee (AIC)</p> |

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expense tracker

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