## DECLARATION BY THE CANDIDATE

We hereby declare that the project report entitled “**Money Manager Application**” submitted by us to Devang Patel Institute of Advance Technology And Research, Changa in partial fulfillment of the requirement for the award of the degree of B.Tech in Computer Engineering, from DEPSTAR is a record of bonafide CE356 Software Group Project-III carried out by us under the guidance of Prof. Binal S. Kaka . We further declare that the work carried out and documented in this project report has not been submitted anywhere else either in part or in full and it is the original work, for the award of any other degree in this institute or any other institute or university.

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# ABSTRACT

Money management is an important and unavoidable activity which most people dread. Money management not only involves handling investments but also includes managing multiple accounts and tracking expenses. Each of these activities involves accessing information from different locations and so collecting and consolidating monetary information is not easy.

Currently, there are some stand-alone personal finance applications which address different issues of financial management. There are individual software packages available for portfolio management, budgeting and investment tracking. But each of these applications is limited to only a specific aspect of personal finance. Also, these applications being stand-alone in nature, their usage is limited to the specific system on which they have been installed.

Hence, this application requires very little permission, and never attempts to access the Internet.

# ACKNOWLEDGEMENT

We have great pleasure in acknowledgement the help from all those who favoured me in having shape to the present project. The development of this project has given me wide opportunity to think, implement and interact with various aspects of management skills as well as the new emerging technologies. We take the responsibility to express our sincere and deep sense of gratitude to our head of department **Dr. Dweepna Garg.** Our facility members and all our friends. We pay our thanks to **Prof. Binal S. Kaka** for providing a great support to us. They guided our project team efficient and good working.

We like to pay our wish and love to our all-supporting friends who made their best efforts to help us. Words defeat us in expressing thanks to our family members for providing moral support and encouragement during the tenure of the project.

We hope and wish to be blessed with the blessing and encouragement from all of the above in our future to accomplish all our endeavors.

Thanks,

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# CHAPTER-1: INTRODUCTION

The “Money Manager Application” has been developed to override the problems prevailing in the practicing of the finance problems. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner. Thus this application provides the required information in less time and also helps in quicker decision making.

Now a day’s people are concerned about regularity of their daily expenses. This is done mainly for keep a track of the users’ daily expenses to have a control of users’ monthly expenses. We have developed an android application named as “Expense Tracker Application” and this application is used to manage the user‘s daily expenses in a more coherent and manageable way.

Well this application will help us to reduce the manual calculations for their daily expenses and also keep the track of the expenses. With the help of this application, user can calculate his total expenses per day and these results will stored for unique user. As the traditional methods of budgeting, we need to maintain the Excel sheets, Word Documents, notes, and files for the user daily and monthly expenses. There is no as such full-fledged solution to keep a track of our daily expenses easily. Keeping a log in diary is a very monotonous process and also may sometimes lead into problems due to the manual calculations.

Looking on all the above given conditions, we are trying to satisfy the user requirements by building a mobile application which will help them reduces their burdens. “Expense Tracker Application” is an application where one can enter their daily expenses and end of the day, they know their expenses in charts.

### OBJECTIVE

* + - The main objective of the Project on Money Manager Application is to manage the details of ones finances, Plans, Payments invoice. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work.
    - Money manager application helps create financial stability by tracking expenses and following a plan, a budget makes it easier to pay bills on time, build an emergency fund, and save for major expenses such as a car or home. Overall, a budget puts a person on stronger financial footing for both the day-to-day and the long term
    - Design and develop a user friendly system. Easy to use and efficient system.

To develop an accurate and flexible system, it will eliminate data redundancy. Computerization can be helpful as means of saving time & money.

* + - To provide better graphical user interface.
    - Less chances of information leakage.

### SCOPE

* + - The scope of personal finance is vast. After all, personal finance is all about financial management wherein a person handles his finances by taking into account his budget and savings of the present to stock up resources for the future.
    - Personal budgets are usually created to help an individual or a household of people to control their spending and achieve their financial goals. Having a budget can help people feel more in control of their finances and make it easier for them to not overspend and save money.
    - Be easy to understand by the user.
    - Be easy to operate.
    - Have a good user interface.
    - Be expandable.
    - Delivered on schedule within the budget.

### TOOLS AND TECHNOLOGIES

* + - Fronted: Java, XML file
    - Backend: Sqlitedatabase

### Features of Project

* Maintain spending of money.
* Create and manage plans.
* Overall reports.
* Manage routines.

# CHAPTER-2 PROJECT MANAGEMENT

## 2.1 Project Planning

Agile model believes that every project needs to be handled differently and the existing methods need to be tailored to best suit the project requirements. In Agile, the tasks are divided to time boxes (small time frames) to deliver specific features for a release.

Iterative approach is taken and working software build is delivered after each iteration. Each build is incremental in terms of features; the final build holds all the features required by the customer.

* Planning
* Requirements Analysis
* Design
* Coding
* Unit Testing and
* Acceptance Testing.



Fig. 2.1 Agile Model

# CHAPTER 2: SYSTEM ANALYSIS

### WHAT IS THE PROBLEM?

* + - The finance System is working manually. The current system is time consuming for taking notes, distributing money in different categories (Prioritization of money where to spent and how much amount). To manually handle the system was very difficult task. But now-a-days computerization made easy to work.
    - The following are the reasons why the current system should be computerized:
    - To increase efficiency with reduced cost.
    - To reduce the burden of paper work.
    - To save time management for recording details of each and every member.
    - To generate required reports easily.

### LIMITATIONS

* **Inaccurate and unrealistic:** A budget is based on assumptions and judgments. If there is any change in the business plan or implementation the whole prediction over the budget plan will get affected. The results of a budget plan, therefore, are always unpredictable and can be inaccurate sometimes.
* **Inflexible:** A budget is formed depending on certain policies of an institution or goals of an individual that leads to decision-making. However, if there is any need to review the financial status considering any change in the market there is no way the budget can be altered.
* **Finance oriented:** The budget does not support the interests and requirements of the people. It is more profit-oriented which is more quantitative while the needs of the people are more qualitative in nature.
* **Time-consuming:** The process of planning a budget Or budgeting is a time-consuming affair. It needs to consider all possible aspects of an organization or an individual before ensuring any expenditure or spending towards a particular goal.
* **Conflicts:** The failure of a budget plan can result in a lot of arising tensions and rifts within the company that ultimately get reflected by the inefficient running of the organization

# CHAPTER – 3: SYSTEM REQUIREMENTS STUDY

### USER CHARACTERISTICS

* + - The system requires user to be familiar with the basic operations of mobiles.

### SOFTWARE SPECIFICATION

* Android Operating System.
* Android minimum version Android 5.0 Lollipop.
* For developing application we are use android studio and for database we are use firebase.

#### **3.2.1Android Studio**

Android Studio is the official Integrated Development Environment (IDE) for Android app development, based on IntelliJ IDEA . On top of IntelliJ's powerful code editor and developer tools, Android Studio offers even more features that enhance your productivity when building Android apps, such as:

* A flexible Gradle-based build system
* A fast and feature-rich emulator
* A unified environment where you can develop for all Android devices
* Apply Changes to push code and resource changes to your running app without restarting your app
* Code templates and GitHub integration to help you build common app features and import sample code
* Extensive testing tools and frameworks
* Lint tools to catch performance, usability, version compatibility, and other problems
* C++ and NDK support
* Built-in support for Google Cloud Platform, making it easy to integrate Google Cloud Messaging.



Figure 3 Android Studio Icon

#### **3.2.2. SQLite**

* **SQLite does not require a separate server process or system to operate (serverless).**
* **SQLite comes with zero-configuration, which means no setup or administration needed.**
* **A complete SQLite database is stored in a single cross-platform disk file.**
* **SQLite is very small and light weight, less than 400KiB fully configured or less than 250KiB with optional features omitted.**
* **SQLite is self-contained, which means no external dependencies.**
* **SQLite transactions are fully ACID-compliant, allowing safe access from multiple processes or threads.**

### HARDWARE SPECIFICATIONS

* + - Android Based Smart phone
    - Minimum 2 GB RAM required.
    - App size space required in ROM.

### ASSUMPTIONS AND DEPENDENCIES.

* + - Project will work for a long time and user will adopt it.
    - Project will work with very less maintenance requirement.
    - The database update made by the system will always leave the system in consistent state.
    - There may be some small problems, which will not affect the system performance, and these will be removed easily.
    - This system interface is used to give access to the user for the system, and mean while maintaining the security of the system.

# CHAPTER – 4: SOFTWARE SYSTEM ATTRIBUTES

### USABILITY

The system is fully usable and does not require any pre-specified constraint to work properly.

### EFFICIENCY

Hardware should me min. Android minimum version Android 5.0 Lollipop and minimum 2GB RAM.(Fully efficient in the environments having less memory available and a reasonable speed of execution)

### MAINTAINABILITY

In case of any change in policies and rule of the institution using the system, required changes will be made to the module written by developer.

# CHAPTER – 5: PROJECT MANAGEMENT

## 5.1 Project Planning

Agile model believes that every project needs to be handled differently and the existing methods need to be tailored to best suit the project requirements. In Agile, the tasks are divided to time boxes (small time frames) to deliver specific features for a release.

Iterative approach is taken and working software build is delivered after each iteration. Each build is incremental in terms of features; the final build holds all the features required by the customer.

* Planning
* Requirements Analysis
* Design
* Coding
* Unit Testing and
* Acceptance Testing.



Fig. 5.1 Agile Model

### 5.2 GANTT CHART



Fig. 5.2 Gantt chart

**CHAPTER-4 IMPLEMENTATION AND TESTING**

## 4.1 Implementation Environment

The backbone and the main aspect from the software side of the project was to run the client and server-side code, perform the Android JAVA and making the mobile application more user friendly by XML (Extensible Markup Language). For better expand our idea we draw diagrams and draw a UI design for our project. So, the implementation was carried out in such a way that co-relation of different files would be done easily. Hence, the use of an IDE was a must. We use android studio to build our android application. Implementation of the code was done all together after we researched and sorted the image data that we obtained. Basic approach that we used was the partial compilation method and went on integrating the small amount of the code to larger ones, module by module.

## 4.2 Testing Methods

My team used to write/code the module by module for one each, and we had divided the test cases accordingly to the if else ladders that we had assigned in the code. Method adapted by us was that we would initially check the code for its functional testing. After it successfully passed that test we would add the detailed functions into it. After the functional testing of every module, unit testing was carried out by the developers of the specific module themselves. After the successful completion of than we went with the method of integration testing And successfully cleared the completion of the code and at the end we carried out the quality testing and finally the usability testing.

We have chosen these techniques because of following reasons:

* Easy to find out errors
* Make it efficient for use
* Optimize the code

## 5.3 Test Cases

Throughout the completion of the project, we carried out various testcases of all above mentioned tests. And we even managed to gather successful screenshots of the usability testing that happens at the end of the completion of designing and landed out with successful satisfactory quality results as displayed below:

Table 4. 1 Test Suite for Login(Gmail)

|  |  |
| --- | --- |
| **1** | Test Suite for Budget Plans |
|  | Test Case 1: Verify that Budget Plan is not in negative and zero.  Test Case 2: Verify that deadline date is not of past dates.  Test Case 3: Verify that add plan should not be empty.  Test Case 4: Verify that passed out dates should be in red zone(deadline of plan has passed). |

Table 4. 2Test Suite for Login(Mobile OTP)

|  |  |
| --- | --- |
| **2** | Test Suite for Budget Category |
|  | Test Case 1: Verify that each category should have their name with budget.  Test Case 2: Verify if a user is able to go on next page. |

Table 4. 3Test Suite for choose requirements

|  |  |
| --- | --- |
| **3** | Test Suite for Months Expenses |
|  | Test Case 1: Verify user can select or go ahead with their requirement in application.  Test Case 2: Verify that all button are clickable or not.  Test Case 3: Verify that user can see their category, Product name, product price and the date of product purchased.  Test Case 4: Verify that add product add on in category wise.  Test Case 5: Verify that total expenses should be display at bottom of page. |

Table 4. 4Test Suite for choose date and time slot

|  |  |
| --- | --- |
| **4** | Test Suite for Budget Analysis |
|  | Test Case 1: Verify that pie chart of budget category should be proper.  Test Case 2: Verify that select button are clickable or not.  Test Case 3: Verify that pie chart should be visible by monthly expenses.  Test Case 4: Verify that each section of pie chart should be properly showing total value, percentage wise of category. |

Table 4. 5Test Suite for payment

|  |  |
| --- | --- |
| **5** | Test Suite for Monthly Expenses. |
|  | Test Case 1: A Pay button will appear on your app.  Test Case 2: Verify that click the button and make a test transaction to ensure the integration is working as expected.  . |

# CHAPTER – 6: SYSTEM DESIGN

* 1. FLOW DIAGRAM

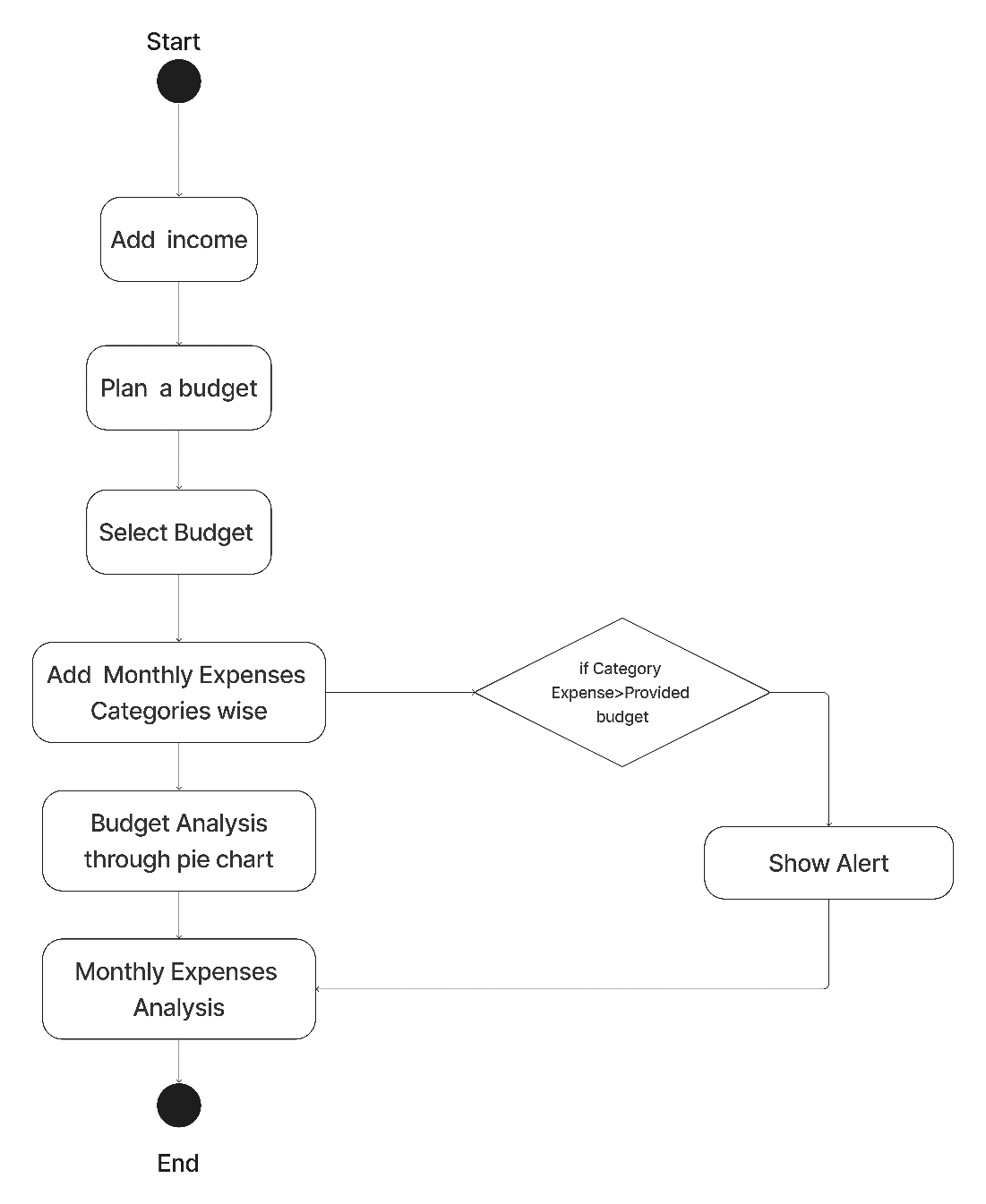


Fig. 6.1 Flow Diagram

6.1.1 FLOW CHART OF BUDGET PLAN

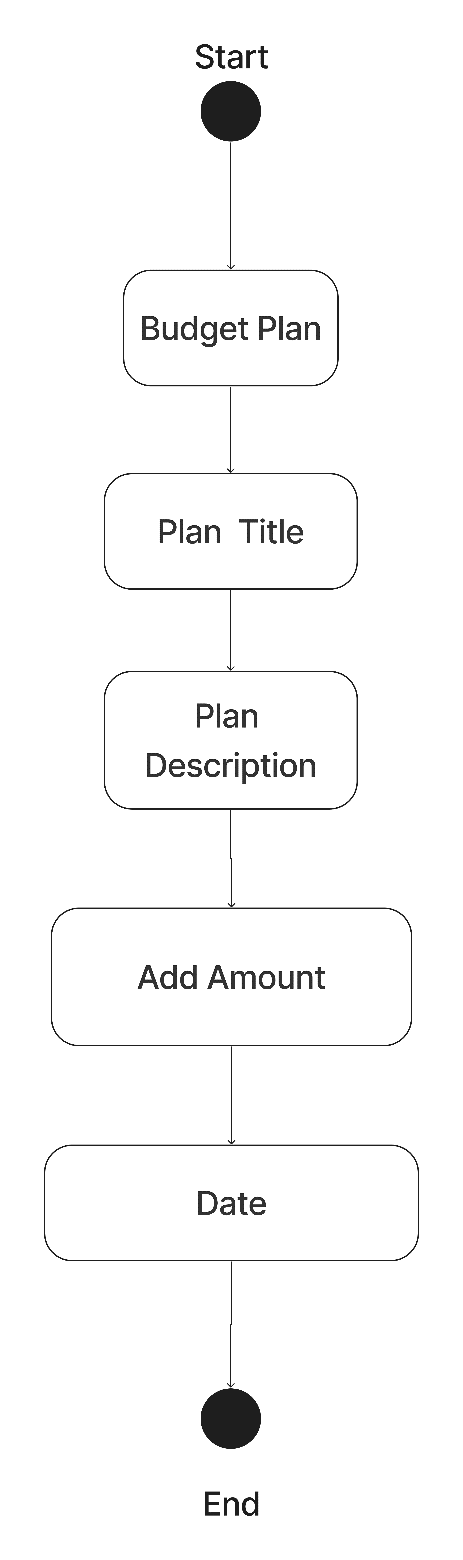


Fig. 6.1.1 Flowchart of Budget Plan

* + 1. FLOW CHART OF BUDGET CATEGORY

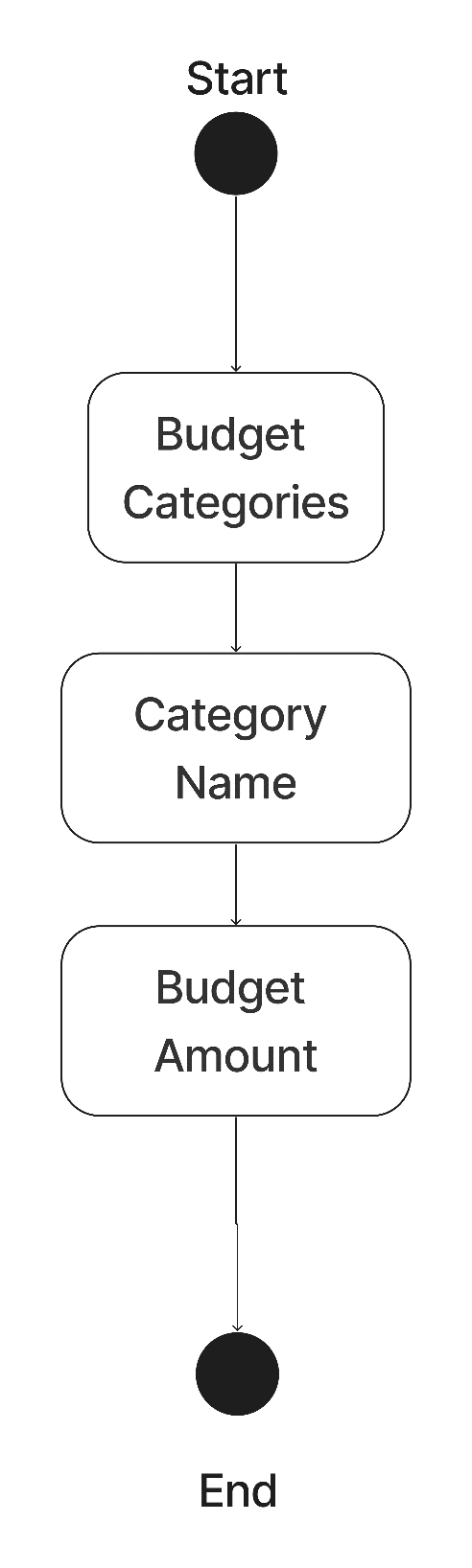


Fig. 6.1.2 Flowchart of Budget Categories

* + 1. FLOW CHART OF MONTHLY EXPENSES

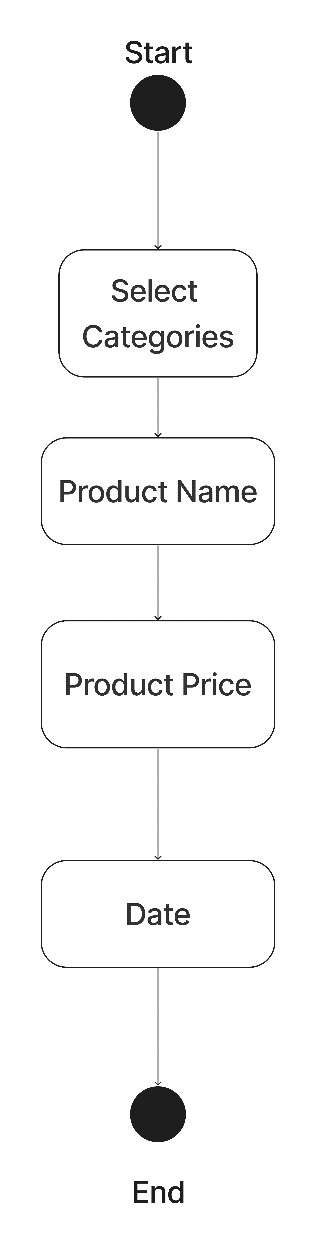


Fig. 6.1.3 Flowchart of Monthly Expenses

* 1. USE CASE DIAGHRAM

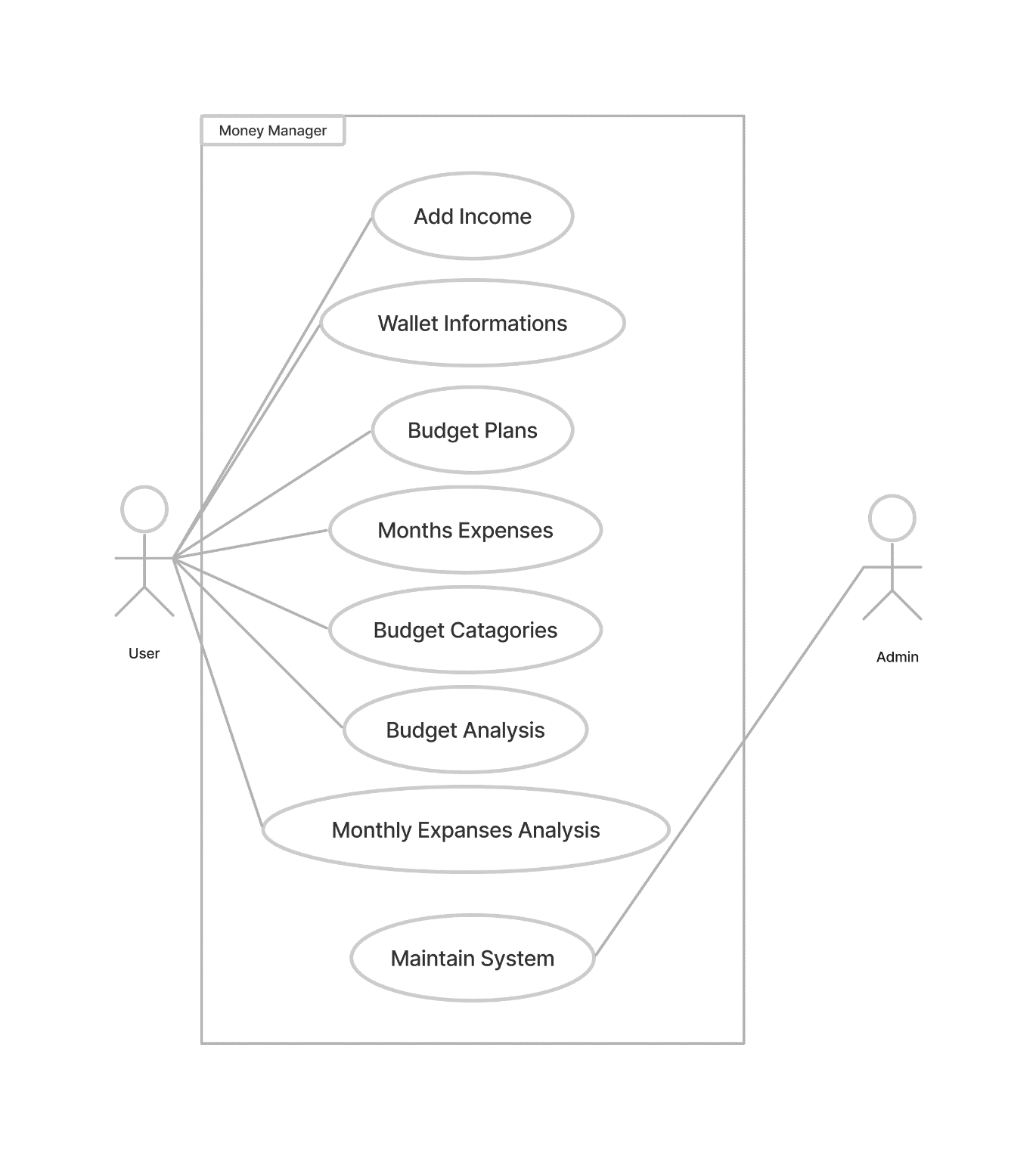


Fig. 6.2 Use Case Diagram

* 1. MENU BAR

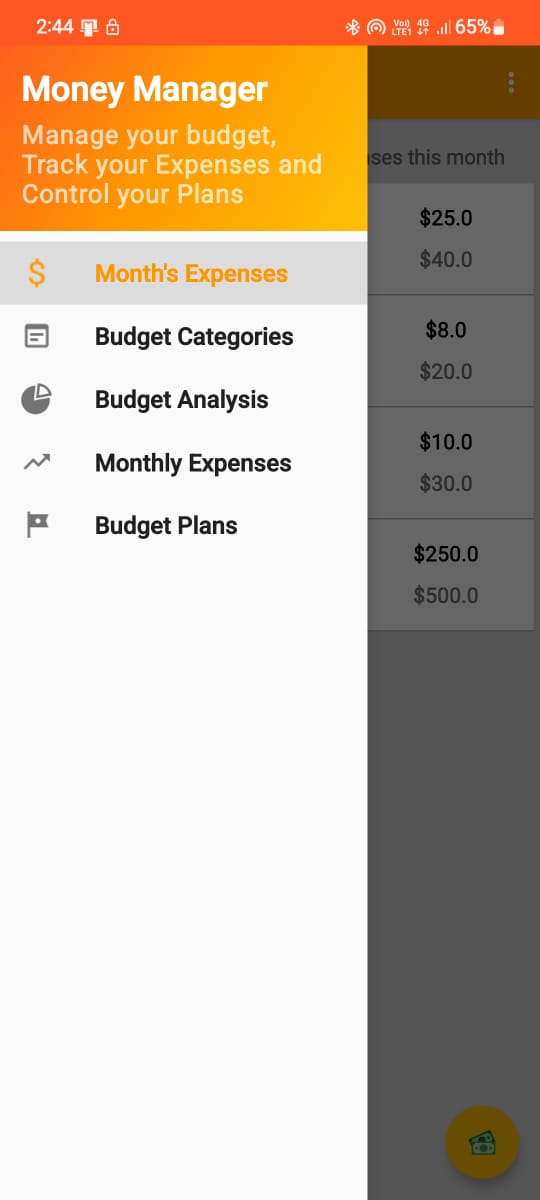


Fig. 6.2 Login Page

* 1. ADD INCOME IN WALLET

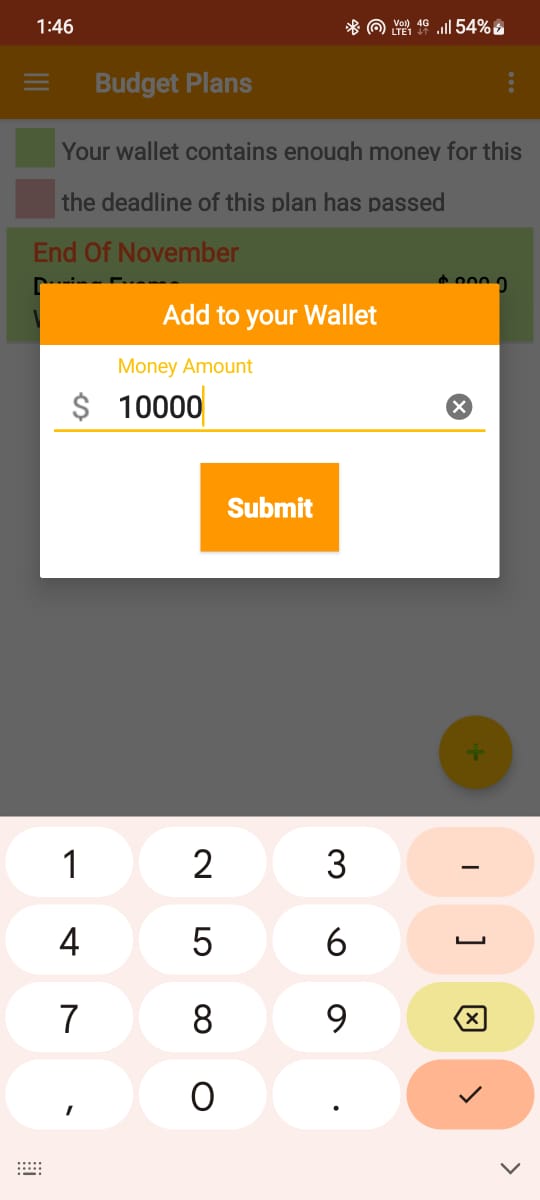


Fig. 6.3 Add Income in Wallet

* 1. WALLET

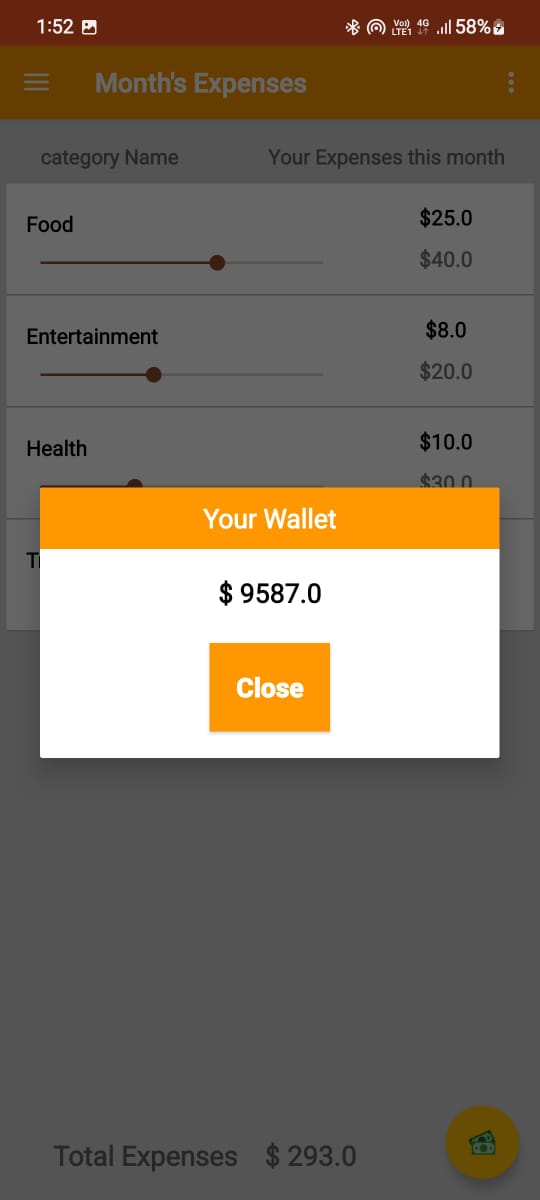


Fig.6.4 Wallet

* 1. ADD PLAN

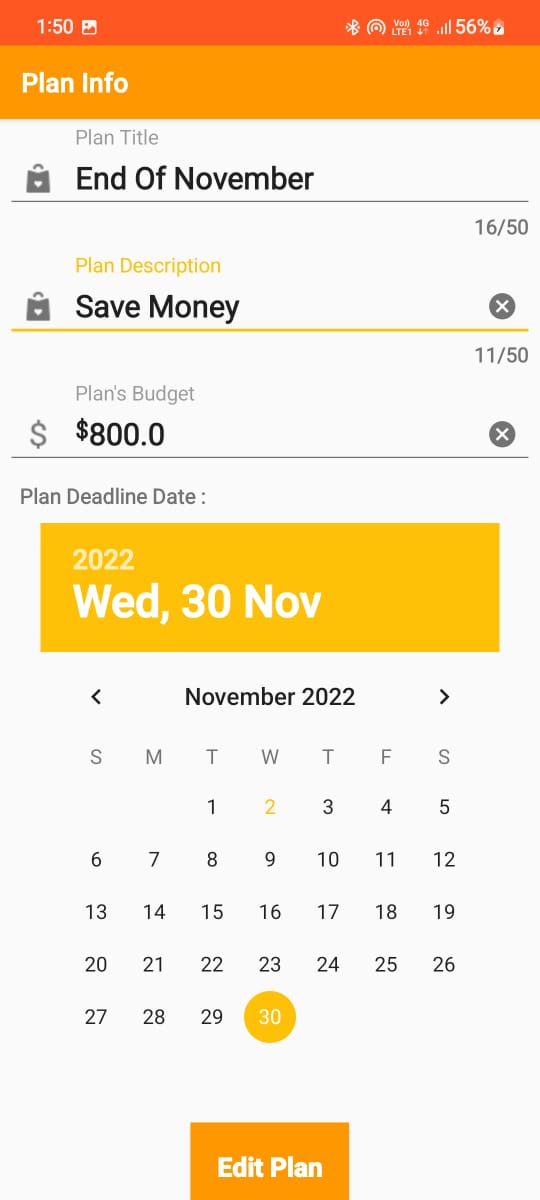


Fig.6.5 Add Plan

* 1. BUDGET CATEGORIES

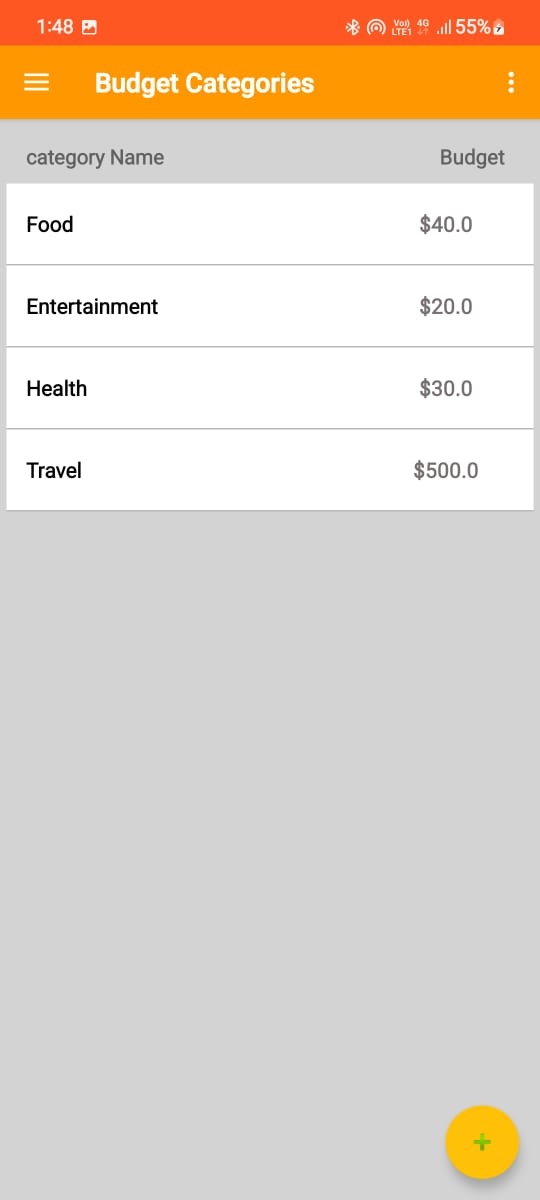


Fig.6.6 Budget Categories

* 1. ADD/EDIT CATEGORIES

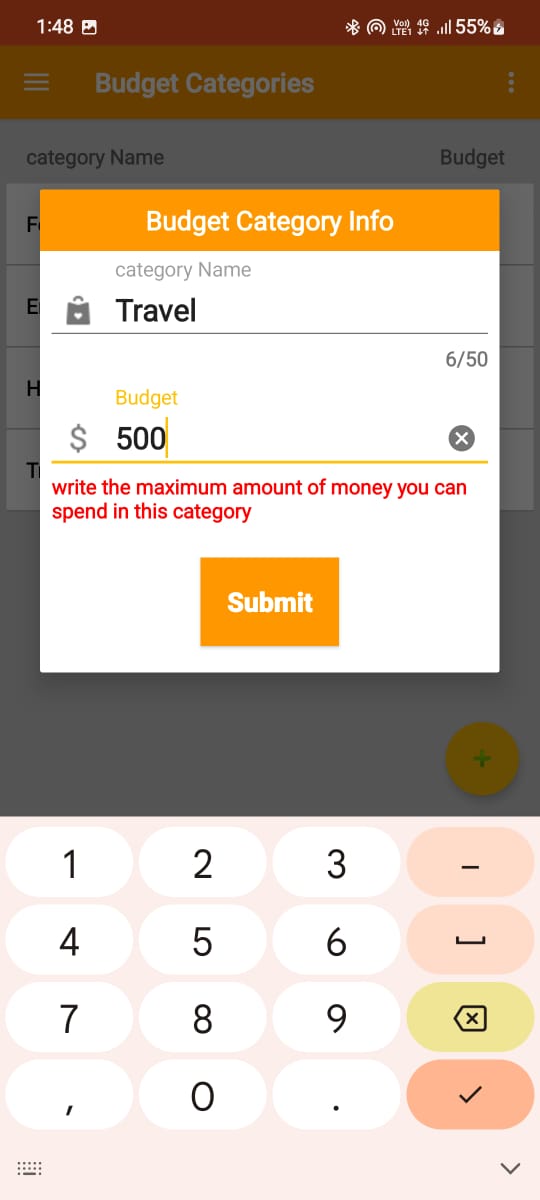


Fig.6.7 Add/Edit Categories

* 1. BUDGET PLANS

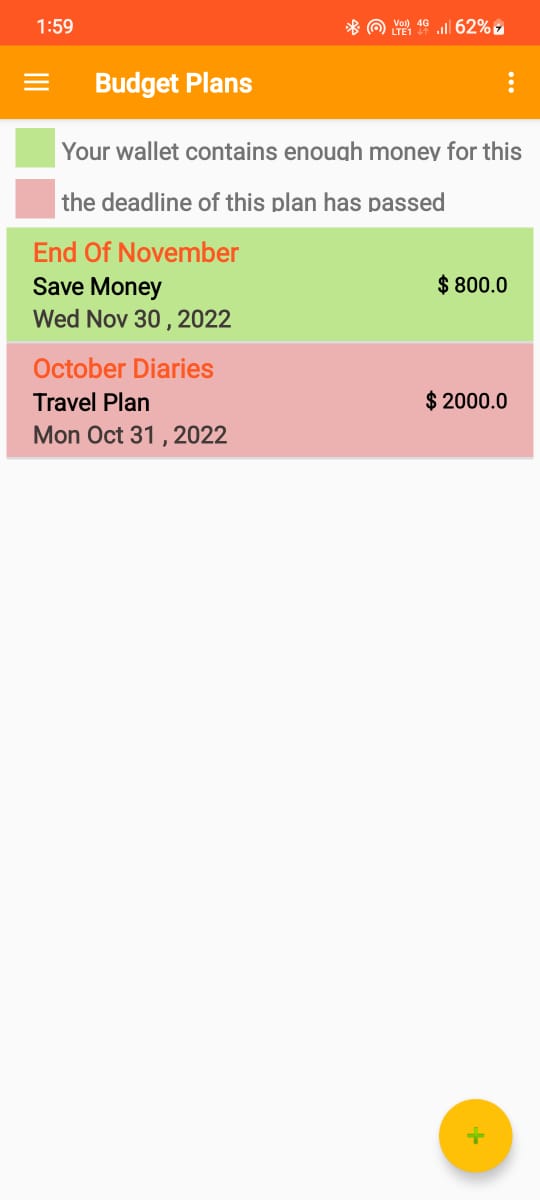


Fig.6.8 Budget Plans

* 1. BUDGET ANALYSIS

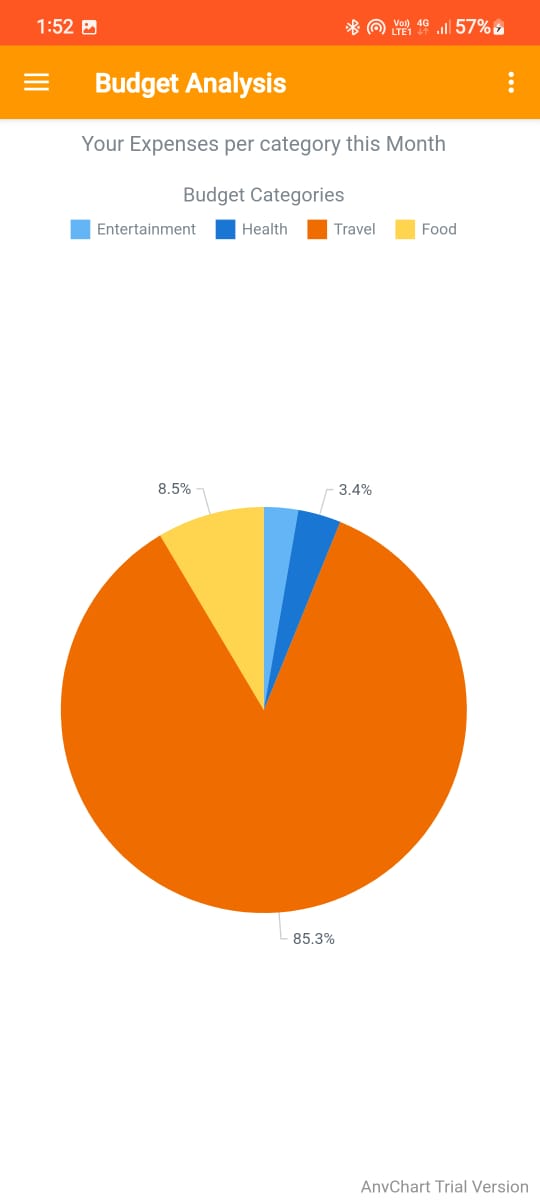


Fig.6.9 Budget Analysis

* 1. CATEGORY WISE MONTHLY EXPENSE

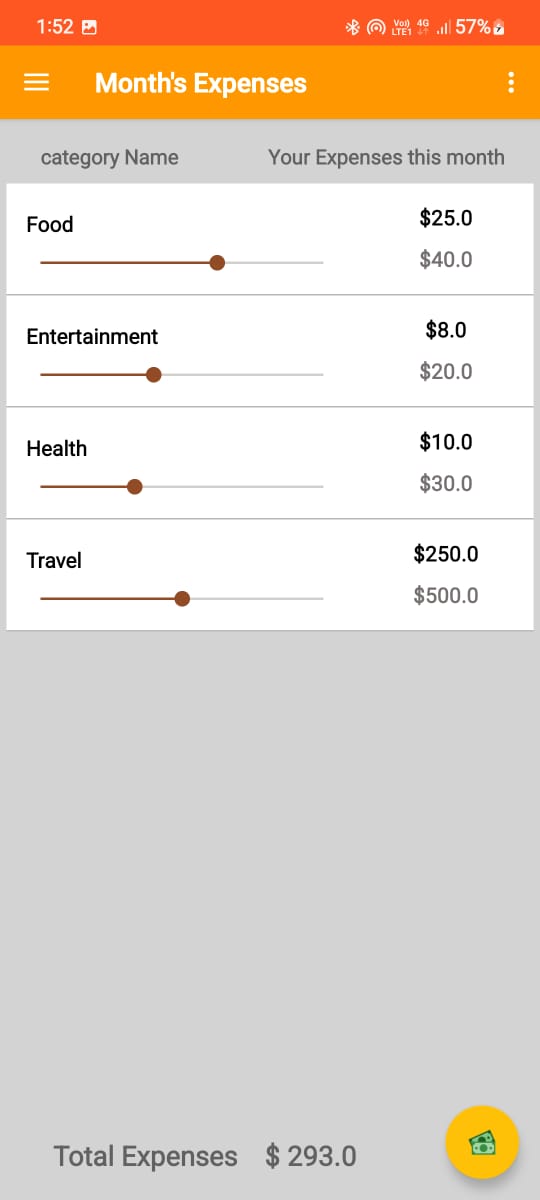


Fig 6.10 Category wise monthly expenses

* 1. MONTHLY EXPENSE

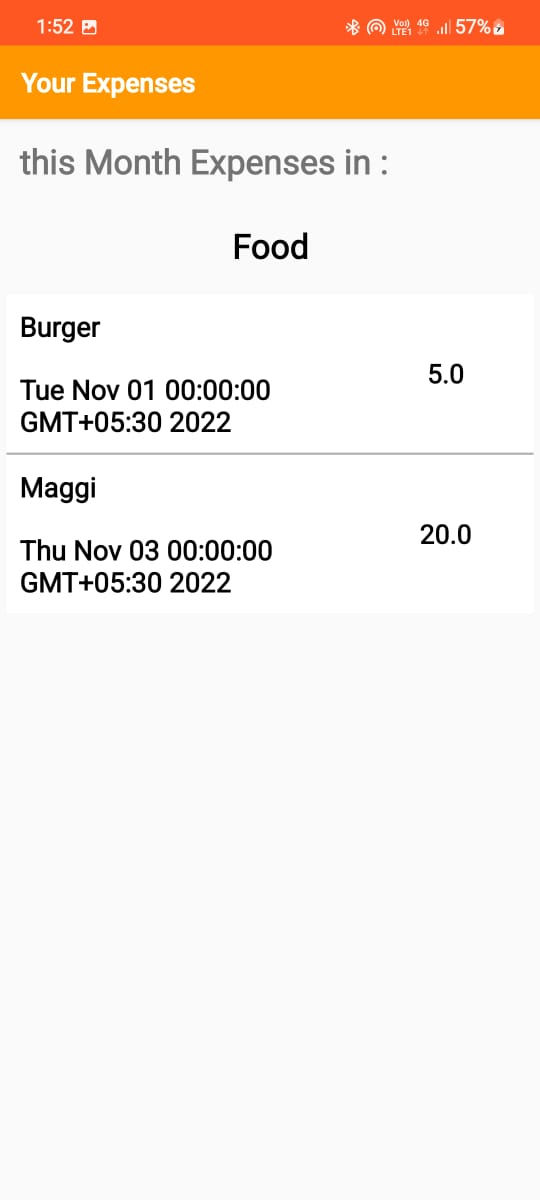


Fig 6.9 Monthly Expenses

# CHAPTER – 7: CONCLUSION

Developing a personal budget and tracking all expenses and spending is a crucial aspect of personal finances. Set aside a fixed amount in a savings account, they say you should always have three months’ work of your living expenses in a savings account in case of emergencies. Lastly, educating the children early in life about personal finances should be a mandatory class in every school. Parents need to proactive in teaching their children about banking, credit card, interest rates, and credit. The importance of actually seeing my spending on my budget sheet was enlightening. Learn management of money and make future bright.

# CHAPTER – 8: REFERENCES

* + - [**https://www.investopedia.com/terms/m/moneymanager.asp**](https://www.investopedia.com/terms/m/moneymanager.asp)
    - [**https://apps.apple.com/us/app/money-manager-expense-budget**](https://apps.apple.com/us/app/money-manager-expense-budget/id560481810)
    - [**https://www.youtube.com/watch?v=dZ5aCGr26Q8**](https://www.youtube.com/watch?v=dZ5aCGr26Q8)
    - [**https://www.gadgets360.com/apps/ money-management-finances-budget**](https://www.gadgets360.com/apps/guide/best-apps-money-management-finances-budget-2293852)
    - [**https://www.google.com/search?q=money+management+app**](https://www.google.com/search?q=money+management+app&ei=NKViY5n7McnmhwOZ9KewCw&oq=money+manag&gs_lp=Egxnd3Mtd2l6LXNlcnC4AQH4AQEaAhgDKgIIBzIHEAAYQxiLAzIHEAAYQxiLAzIHEAAYQxiLAzIIEAAYgAQYiwMyCBAAGIAEGIsDMgcQABhDGIsDMgsQABiABBixAxiLAzIOEAAYgAQYsQMYgwEYiwMyCBAAGIAEGIsDMggQABiABBiLA8ICChAAGEcY1gQYsAPCAgcQABiwAxhDwgIFEAAYgASQBgpIxUBQlQ9YuCBwAXgAyAEAkAEAmAHeAaAByA-qAQUwLjUuNeIDBCBBGADiAwQgRhgAiAYB&sclient=gws-wiz-serp)
    - [**https://play.google.com/store/apps/details.application.wallet**](https://play.google.com/store/apps/details?id=com.droid4you.application.wallet&hl=en_US&gl=US)

**SOURCE CODE-GITHUB LINK**

[**https://github.com/YatharthChauhan2362/Money-Manager-App**](https://github.com/YatharthChauhan2362/Money-Manager-App)