Spending Tracker: A Smart Approach to Track Daily Expense

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Abstract— Spending Tracker is a daily expense management system designed to track day-to-day expenses easily and efficiently. It helps the user to track the daily expenses of unpaid and paid transaction through a computerized system which eliminates the need for hardcopy output. It systematically maintains the record of transactions done and easily helps the user to access data stored

by it.

We have tried to compose the window application in such a way that the user does not have to bother using this application without much effort. Users with window running devices and Andriod support device can use this software efficiently. The languages which we use to develop this system are Java (Apache Netbeans 11.3) and MySQL Workbench.This application is a GUI (Graphics User Interface) based application. If you are a Windows user, you can download the application and work accordingly. This system is used by any person to control his income-expenditure from daily to annual basics. And to keep an eye on their spending. This app is very easy to use and have multi-language features. The main feature of this app is that you can track your expense by the mentioning date, month and year. You can use it to maintain your expenses and also enhance your savings.

Keywords: article review, problem formulation, equipment used for implementation, visage, features of the proposed system, architectural design for utility method, deep knowledge of project module, application plan, and references.

I.   INTRODUCTION

Since the inauguration of human civilization, people have exchanged their circumstances for one another to buy or sell goods. Since then, it has become an important and irreplaceable part of our daily lives. Most of us have a fixed income and we get it at a particular time (i.e., daily, monthly, annual, etc.). Besides, all of us follows a strict mindset of spending it. Generally, the budget is assigned according to category. Categories vary for different basic needs, like food, entertainment, transportation, education, health, clothing, and so on. However, spending is limited to budget revenue. For this reason, we need to keep track of our expenses so that theydo not exceed our budget. In the old days, people would track their expenses manually by using pen and paper. It is a very time-consuming and inaccurate process. Due to the rapid emergence of electronicdevices

like smartphones and computers, which have added great comfort to our lives and has made it much easier and more reliable. We can use these devices as a primary component to track our daily expenses using the possible software. These apps use a manual input system from the keyboard, which is a very diligent and time-consuming process. To meet the challenge of avoiding manual input, we come up with the best way to do the

same things in an automated and productive way that takes less time. Under this approach, users can spend, fill and monitor data manually as well as automatically.

II.   COMPARATIVESTUDY

Tracking daily expenses is not so contemporary. Many traditional and technical approaches have been invented to track expenses and budget with its performance. In past and today, we write our amount in the register to calculate harvest or savings. Not only this, many desktop and mobile applications have been developed for this purpose. Quicken and Microsoft Money were the first desktop applications developed many years ago, but can't get fame and name in the digital world. Personal capital and the Dollar Bird app are used to display spending on maps or graphs with acalendar in-build system. QuickBook was an app for the limited business holder to wrap up their consolidated business. The latest applications encapsulated with YNAB and Penny AI are applicable for automatic import. However, mint is widely used andtrusted.

Explaining the latest apps built in this category, YNAB is an amount tracker that automatically tracks our expenses through our bank account or credit card. We can also define future costs and uses.

Don't underestimate this app. The app is mobile-friendly and has been around since 2013. This app is implanted with AI to define and manage our dailymortgage.

This app does not provide any detailed information about exterior costs, but our window application receives that information via text.

III.   PROPOSEDARCHITECTURE

We have expanded the necessary system to work beyond the internet. We need a database, desktop, application, and user to use this system.

System design

System design is the process of defining architecture, components, interfaces, and data for a system to meet demanded needs as per user requirement. System design can be seen as the main factor of systems theory to productdevelopment efficiently.
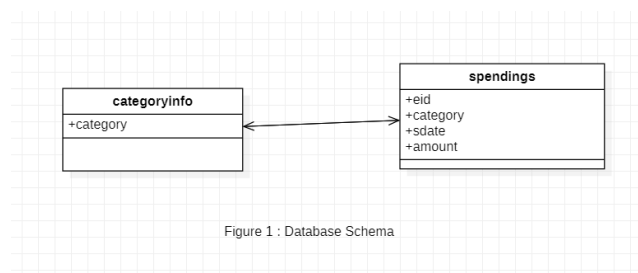
Database Schema:


Figure 1 : Database Schema

There are two tables in our application database called Category and Cost. The tables in the figure above contain all the variables and values defined in the table for the database.

Data Dictionary

A data dictionary, also known as a metadata repository, is a rationalized repository of information about data, implication, relation to other data, source, usage, and format.

| S.N	Entity	Attribute	Data type	Constraints
1	spendings	id	INT	Primary
		category	VARCHAR(50)	
		date	DATE	
		amount	INT	
2	category info	category	VARCHAR(50)	PRIMARY

UML CLASS Diagram: -
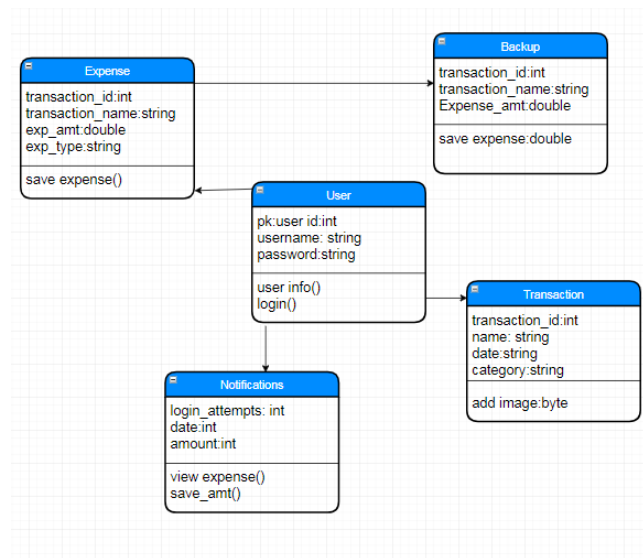
Expense Tracker application has five body: amount spends, user or consumer, database as a backup, notification for any change made in a user account, transactions

which have their data representatives and methods. The above diagram shows the flow of the functionality from entity to entity. Also, the types of data representatives and methods of respective entities are mentioned above.

IV.   FLOW OFARCHITECTURE
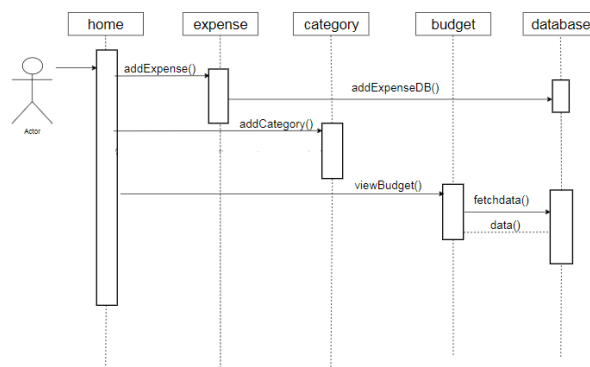
FEATURES OF THE APPLICATION

V.   1)MainWindow

A Starting page with a hello " user name welcome" note appears on the fundamental page and the window where the user can compute the expense.

2)Add Category

The system shall allow the user to add a category as per his/her demand.

3)Category Combo Box

This Combo Box contains all the categories added by the user as per their interest in which they can call the previous entries as well. 4)Remove Button

This Button eliminates any entry of the last 30 days amount entered in it.

5) Add Category Window

This window helps the user to easily interact with the category, where the user can add and remove the category as per his choice.

6)Calender

   The system shall allow users to add the date and time to their   expenses

7)View Expense (Day wise/Category wise) Window

This window allows the user to interact with the expense according to day wise as well as category wise.

8.   Menuoption

9.   This allows users to interact with other pages by just clicking on the menu option.

10.   Searchbutton

This allows user to examine their expenses according to the categories as well as date wise by clicking on the search button.

11.   Refreshbutton

By clicking on this button user can refresh the system when the entry is done and want to have a quick check to update the category.

APPLICATION

VI.   MODULES ANDIMPLEMENTATION

A.   ImplementationOverview

1)   Process Model Used:

A waterfall model is a consecutive approach, where each fundamental activity of an operation is represented as a separate phase, arranged in linear order. In this model, you must plan and schedule all the action before proceeding with working on them (plan-driven process).

The waterfall model is used for the project because all the requirements are clear as this project is not dealing with the clients and hence advanced execution can be made about how to carry out each stage ofdevelopment.

*2)   **Module Description***

A modularization consists of well-defined management units with well-defined interfaces among the units.

A fascinating property of a modular system includes

a)   each module in a well-definedsub-system.

b)   Single, well–defined purpose ofeach module.

c)   Modules can be separately assembledand stored in alibrary.

d)   Modules can use anothermodule.

e)   Modules should be easier to use than tobuild.

f)   Modules should be simpler from theoutside than from theinside.

The project can be broken down into the following modules:

a)   **Welcome note module**: This module isa

the proceeding page of this app.

b)   **Main window module**: This module carry the load of entering the data
and store in thedatabase.

c)   **Add amount**: This module is responsible to enable the user to add an amountto
their required column as per their demand in the database.

d)   **Delete expense**: This module is responsible for eliminating the previous
30 days expenses for updating the data and new entry.

e)   **View Expense**: This module is responsible for examining all the amount
in detail added to the log by the user earlier with proper date and time mentioned.

f)   **Add Module**: This module is responsible for editing the previously entered date
with all the access in amount, date, and time category.

g)   **Categories module**: This module is responsible for various options. In this
app, users have the option of selecting various basic expense categories according to
theirchoice.

h)   **Search module:** This module is responsible for adding notes and dates to
the expenditure of theuser.

Report Organization:

3)   ChapterIV:
This chapter covers all the programs/codes/bugs of all the pages and displaying all the pages.

4)   ChapterV:
This chapter describes or explains the progress plan of this project.

5)   ChapterVI:
Conclusion and future scope of the application are explained as well as references.

**VI.   IMPLEMENTATIONPROCESS**
1)

We created a window in which the user can add their amount as per their choice. There is a category
button in which user can add their category like food, entertainment, clothing, gym, fuels and all
amounts according to the category they want.
Users can also eliminate and update the division according to them.

Users can also delete earlier records as a user wants to deletethem.

2) In this window, the user can add the section according to their choice as it depends on the person who is using it. Here, the user can also remove thecategory and also add/minus amount for adjusting the day-to day expense.
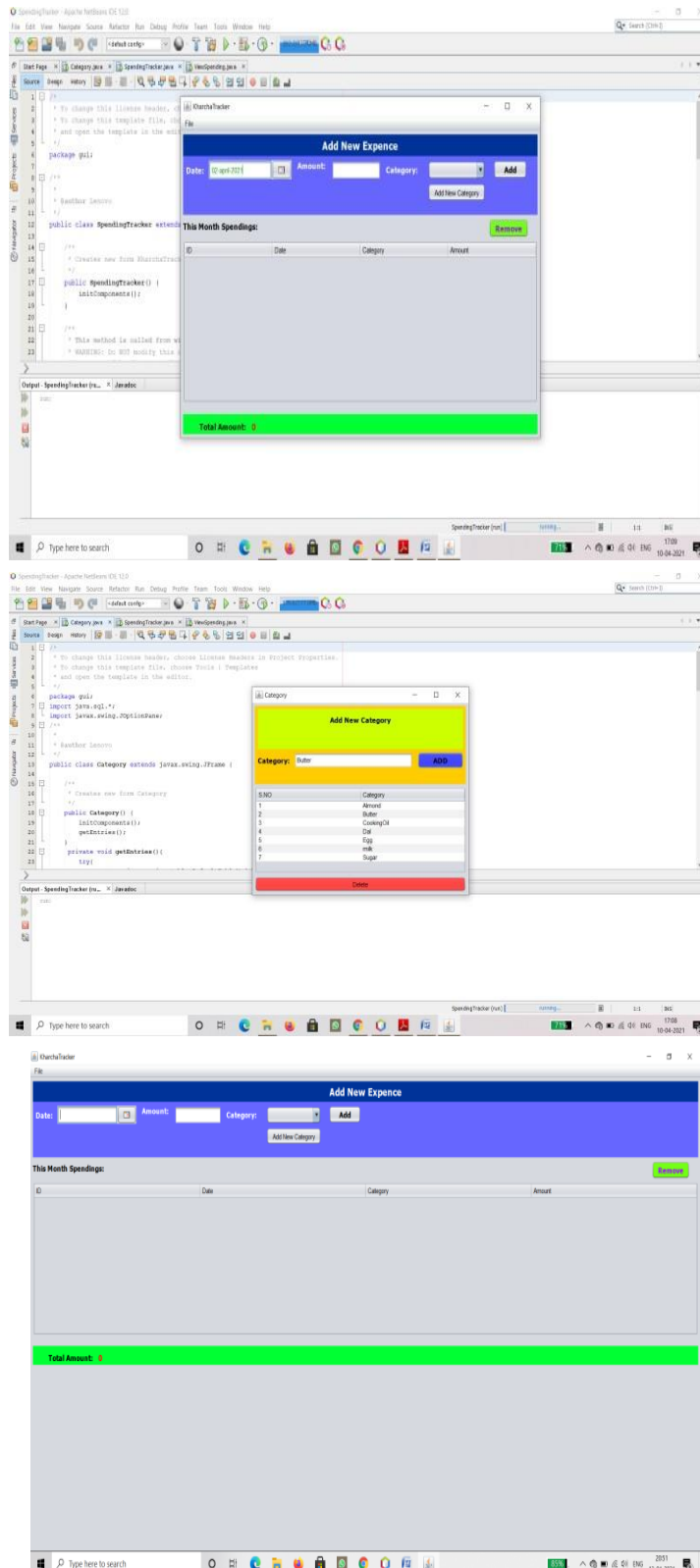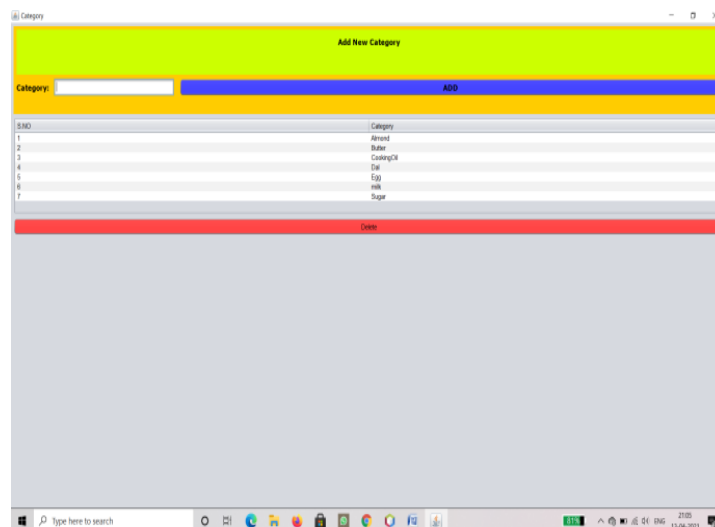
This window is the proceeding screen when the user clicks on the application user directly reaches this window and after reaching user has to click on the next button to proceed further.
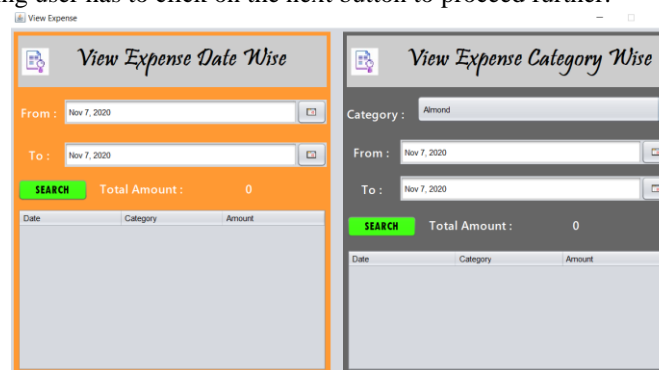
VII.   CONCLUSION

In this paper, Aftermaking this application we assure that this application will help its users to manage the cost of their daily expenditure. It will guide them and aware them of their daily expenses. It will prove to be helpful for the people who are frustrated with their daily budget management, irritated because of the number of expenses and wishes to manage money , and to preserve the record of their daily cost which may be useful to change their way of spendingmoney. In short, this application will help its users to overcome the wastage ofmoney.

B.   Recommendation

Spending Tracker app is usable by anyone willing to manage their expenses and aiming to save for future investments. This app has no range criteria or any kind of profession or gender are focused so it will be used hugely by any other person.

C.   FutureScope

In further days, there will be mails and pay mode embedded with the app. Also, backup details will be recorded on the database.

VIII.   ACKNOWLEDGEMENT

So, in this paper here are some images that show the window screen in which we have created a various activity that is working differently for the specified purpose. In images some activities are main, search activity, etc. also there are modules for this application above the implementation part. allowing me to lead you and this wouldn'thave been possible if you people wouldn't have had my back atstressfultimes.

IX.　　　　REFERENCES

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