

LITERATURE SURVEY ON PERSONAL EXPENSE TRACKER

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Problem Statement:

A Personal Expense Tracker is a kind of digital diary that helps keep an eye on our money-related transitions. It provides all financial activities report daily, weekly, monthly and yearly. Users get notifications to record expenses and incomes that are helpful to the tracking system of the application. The user interface of the Personal Expense Tracker is straightforward and attractive, so it is easy to understand and the best way to record our financial data.

All the financial decisions and activities you make cannot keep track of. This app makes your life easier by helping you to manage your finances efficiently. A personal finance app will help you with budgeting and accounting and give you helpful insights about financial management.

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User Registration and Creation

This application, like the vast majority of the applications, will have a user login screen and alternatives for enlistment. The user should enlist in this application when the person in question is using it for the first time. Nonetheless, the client who has enrolled can log into the application utilising their login accreditations made by the user at the enrolment.

Adding Income and Expenses

This application will provide to choose the categories or types of income or expenses. Every user of the application has the option to add payments and costs accordingly. Each record should have details of the date of occurrence of the item, details of things etc

Category Master

This module relies on SQLite to put away classification details, expense subtleties, and income. The class exchange is put away in an SQLite database.

Management View- Date Wise

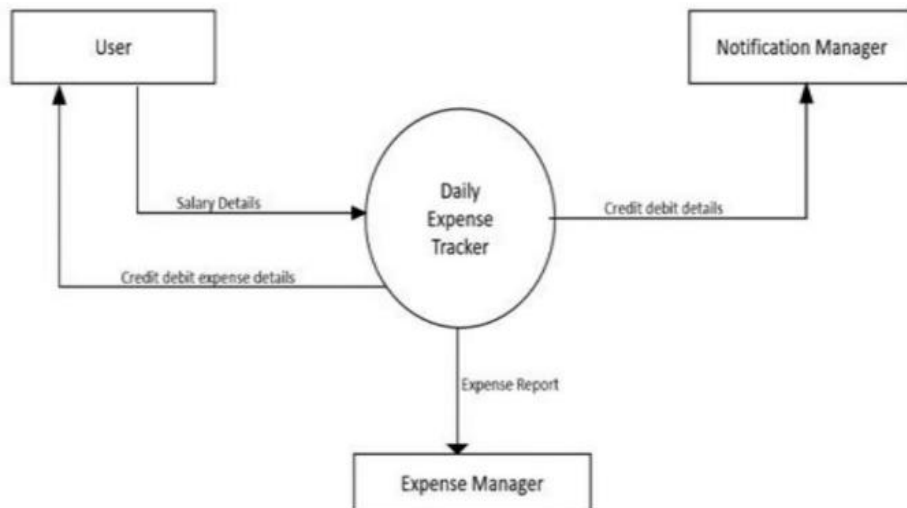
The Expenses are recorded dependent on the Predetermined date insightful in this module. Recovering all the income and expense subtleties are seen as a rundown of exchange classes by our various costs. The income and expenses are recovered using SQLite queries and seen in advanced cells.

Remainder

The Rest is a caution generator module for user recognition; the alert/ready will review the user to add the Income or Expenses Day by day or Certain Period based on user need.

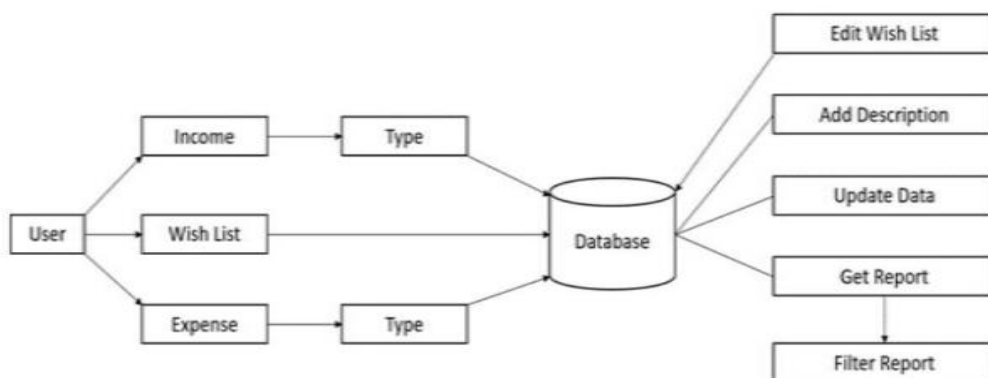
In this Existing System,

When a gets their salary, they can add that to the daily expense manager. Then after adding their salary details, the user can expense manager store all the details. If the user wants all the credit and debit details, they can get it through the Expense Tracker. The notification Manager also reminds us about credit and debit points after updating the salary.



In this proposed System,

Users are provided with three data entry options: Income, expenses and Wish List. If you select income or payment, you will be supplied with its types and subtypes. For the wish list, only items can be inserted. This information would be saved into the database by their particular classification. The saved data can later be changed if the user needs to do as such. Altering here means adding descriptions, changing wish lists, updating data etc. Users can also view the result. They can also filter to see the required content only.



Future Scope

- 1) It will have various options to keep records (for example Food, Travelling Fuel, Salary etc.).
- 2) Automatically, it will keep sending notifications for our daily expenditures.
- 3) In today's busy and expensive life, we are in a great rush to make money, but we break off at the end of the month as we unknowingly spend money on titles and unwanted things. So, we have come up with a plan to follow our profit.
- 4) Here, users can define their categories for expense types like food, clothing, rent and bills, where they have to enter the money that has been spent and add some extra data to indicate the expense.

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FEATURES OF THE APPLICATION

1. Main Window

A Starting page with a welcome note appears on the first page, and the window where users can add the expense.

2. Add Category

The system shall allow the user to add categories as per their choice.

3. Category Combo Box

This Combo Box contains all the categories added by the user.

4. Remove the Button

This Button deletes any entry of the last 20 days' expenses.

5. Add Category Window

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

6. Calendar

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

7. View Expense Day wise/Category wise Window

This window allows the user to interact with the expense according to day and category.

8. Menu option

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

9. Search button

This allows users to search their expenses according to category and date by clicking on the search button.

10. Refresh button

By clicking on this button, users have to update the category

MODULES AND IMPLEMENTATION

1) Process Model Used

A waterfall model is a sequential approach, where each fundamental activity of a process is represented as a separate phase, arranged in linear order. In the waterfall model, you must plan and schedule all activities before starting to work (plan-driven process). The waterfall model is used for the project because all the requirements are precise as this project is not dealing with the clients, so beforehand, planning can be done about how to carry out each phase of development.

2) Module Description

Modularisation consists of well-defined manageable units with well-defined interfaces among the teams. A desirable property of modular systems include

- a) Each module is a well-defined sub-system.
- b) Single, well-defined purpose of each module.
- c) Modules can be separately compiled and stored in a library.
- d) Modules can use another module.
- e) Modules should be easier to use than to build.

f) Modules should be more straightforward from the outside than from the inside.

The project can be decomposed into the following modules:

- a) Welcome module: This module is the starting page of this application.
- b) Main window module: This module is responsible for inputting and storing the data in the database.
- c) Add amount: This module enables users to add the amount to the database.
- d) Delete expense: This module is responsible for deleting the previous 20 days' costs.
- e) View Expense: This module is responsible for viewing all the expenses in detail added to the log by the user earlier.
- f) Add Module: This module is responsible for editing the pre-defined category.
- g) Categories module: This module is responsible for various options. This app allows users to select multiple basic expense categories according to their choice.
- h) Search module: This module is responsible for adding notes and dates to the user's expenditure.

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A. Intelligent Online Budget Tracker

The development of this application has been conducted in a stepwise manner using the well-defined methodology, RUP, customised according to the system's requirements. Most of the goals set at the start of the development phase have been met. Security problems like web security or network security have also been treated in the design and development of the system, thus increasing its reliability. Quality management issues have also been handled satisfactorily.

B. Online Income and Expense Tracker

This project works more efficient than the other income and expense trackers. The project successfully avoids the manual calculation of monthly

income and expenses. The modules are developed efficiently and also in an attractive manner.

C. Family Expense Manager Application

As a result, the user can use this application in their daily life. After being used, it can be a part of everyday life to update and view daily expenses and family expenses. This helps to keep track of costs & manage it for the user as they are busy in their daily routine and cannot keep track of their incomes & expenses.

D. Personalized Expense Managing Assistant

Some features enable users to register to the application using an existing email or social network account; it will synchronise the user's profile information to the application. Apart from this, the application can gather samples of data related to the user's expenses with consent and use those sample data as parameters to assess spending patterns. Using some data mining tec, techniques expenses can be classified and used in market analysis and planning.

E. Mobikwik Expense Tracking Application

Mobikwik came up with a new feature in their app called Expense Manager. With this feature, you can track and manage your expenditures(expenses), savings, reminders and bill payments. This personal budget management app tracks your expenses and income and gives nations to make you economically strong. The main idea of developing this feature is to give users a clear picture of how much they are spending, where, and when. We remind them to pay their utilities and card bills before the due date by using the same platform in just one tap instead of going any other way. Also, serve them by giving saving tips for their good future investment.

Ramasamy (2004)

Identify the significant activities in an organisation: Assign costs to that activity. Select appropriate cost drivers. Assign the cost of the activities to products - 7 - Traditional costaccounting systems maintain all overhead costs in one pool and give equal weight to all activities and expenses in that pool (Babad and Balachandran, 1993). Some firms can track every activity while others group everything. Each firm must find the most efficient and optimal number of cost drivers.

Ittner et al. (2002)

Identified both strategic benefits and operational benefits of adopting an ABC system. The strategic benefits are improved information on make versus buy, product mix, outsourcing, and other strategic decisions. On the other hand, the operational benefits arise from a better understanding of the production economics and cost drivers, which include lower costs, improved quality, and reduced manufacturing time (Ittner et al., 2002). An ABC system can help identify areas of improvement by distinguishing value-added and non-value-added processes and the cost associated with these activities. By playing these activities, the ABC system can indicate where improvements can be made and how many resources to allocate for the upgrades (Ittner et al., 2002).

Datar and Gupta (1994)

Acknowledge that there are many studies written that focus on ABC, but they argue that there has been little analysis as to why an ABC system leads to more accurate product costs. Multiple cost pools and drivers may better illustrate a cause-and-effect relationship between resource consumption and product cost. Still, more detailed costing systems such as ABC may lead to other errors, thus making its adoption less beneficial (Datar and Gupta, 1994)

When dealing with ABC, it may be helpful to define aggregation and specification. Aggregation is defined as a group or mass of distinct or varied things; collected into an unorganised whole and the state of being so collected (Datar and Gupta, 1994). The specification is defined as an act of making specific. Cost allocation includes both aggregation and specification. Costs are first aggregated into an unorganised group of things such as rent, - 8 - property taxes, building maintenance, and utilities. Because it is subjective, estimation is subject to errors. If the resources to produce a product, do not vary with the volume of products made, allocating costs in this manner will not accurately portray the demands an individual product's production may have on the overhead resources (Datar and Gupta, 1994).

According to Ittner et al. (2002)

ABC adoption is associated with higher quality and manufacturing efficiency while reducing manufacturing costs, but there is no significant association with return on assets. The objectives of costing systems sometimes require different approaches, techniques, and philosophies (Beckett, 1951). Many companies realise their cost systems are inadequate for today's competition

(Kaplan, 1998). Cost systems now need to concentrate on three different functions.

(R N Rajprabha, 2017)

An android version of family budget manager with later evolved in PDA and tablet features. (Ravi Sharma, 2017) stated users sometimes feels uncomfortable in sharing their personal information with an app and he suggested security and usability are two major concerns. Even the advanced UI needs to maintain retention. Researchers of Mother Teresa university, Andhra Pradesh (2019) also stated an online income and budget tracker in a website mode but that project using csv mode to store data but that project had a drawback in its existing model as it can't handle the data efficiently in addition to that it wasn't user-friendly and an unpopulated data project.

All these researches above suggest some of the modern way of dealing with expense tracking. Many of the researches like these actually represents the evolution in ideas with time "evolution is not a necessity it's more like change in thinking and time" in which we analyze estimate and evaluate the things according to new requirements. But still the kind of technology used in it is kind of projects were used in previous days there are certain android apps as well still they too also have different consequences as well as drawbacks in itself.

(Kaplan, 1998)

Inventory valuation for financial and tax statements operational control - providing managers information on labour and resources used in a production period Individual product cost measurement Activity-based costing is an effective cost-allocating method that has been expanded to a practice called activity-based management.

(Babad and Balachandran, 1993)

It states that traditional cost accounting systems maintain all overheads in one pool and give equal weight to all activities and costs. We always have known that "pen is mightier than the word", but that thing doesn't fit with every specific task. It varies from need-to-need or tasks-to-tasks when the amount of data is enormous. It becomes way more challenging to handle them.

(Girish Bekaroo, 2007)

Research on an intelligent online budget that manages the expenses and is used to give the graphical analysis of data. It uses a Rational Unified Method (RUP), which was way more efficient and advantageous in the way it was used to promote code reuse and encapsulation. Which CSS and XML technologies have been used?

Researchers of Nandha and Anna university (2016)

They created an android version of expense manager in which they used to post and remark techniques for underlining the expenses and some data mining features for analysing the market value well.

Scope of Further Developments

Now in our application, we covered almost all features, but in the future, we will add some more features. The parts are below.

- Multiple account support.
- Include currency converter.
- Reports are created in category-wise format.

(Carvalho and Basso, 2014)

Expense is an outflow of money to another person or group to pay for an item or service, or for a category of costs. It is a cost that is "paid", usually in exchange for something of value. Many of the researches like these actually represents the evolution in ideas with time "evolution is not a necessity it's more like change in thinking and time" in which we analyze estimate and evaluate the things according to new requirements.

But still the kind of technology used in it is kind of projects were used in previous days there are certain android apps as well still they too also have different consequences as well as drawbacks in itself. And I also feel like these should be way easier to handle to a desktop device. As sometimes android apps will provide in accurate results if the information is incorrect and many of the times, we almost got forget to enter details too and most them don't even provide notification for that as well. Based on the literature review. This study shows the evolution as well as the comparison from selected researches according to the adopted knowledge in it.

Personal Expense Tracker can be accessed from a web browser, such as Google Chrome or Mozilla Firefox, allowing for a portable work environment. The application contains all the features of digitally maintaining the records with some eye-catching visual representation and graphics of your spending and even eliminating the need for physical entries by providing voice instructions.

This web application is usually developed using React Js as the framework and libraries like material Ui and chart.js to add and create the functionalities.

ReactJS is a declarative, efficient, and flexible JavaScript frontend library for building reusable UI components. It is a component-based front-end library and is available freely to everyone responsible only for how the application looks or the view layer of the application. ReactJS aims to make it feasible for developers to develop User Interfaces (UI) easily by dividing them into various components and creating fast systems. It uses virtual DOM (JavaScript object), which enhances the efficiency and performance of the app. The JavaScript virtual DOM is shorter than the conventional DOM.

We can use ReactJS on both the client and server sides and other available frameworks. It uses components and data patterns that improve readability and helps to maintain and regulate larger apps.

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