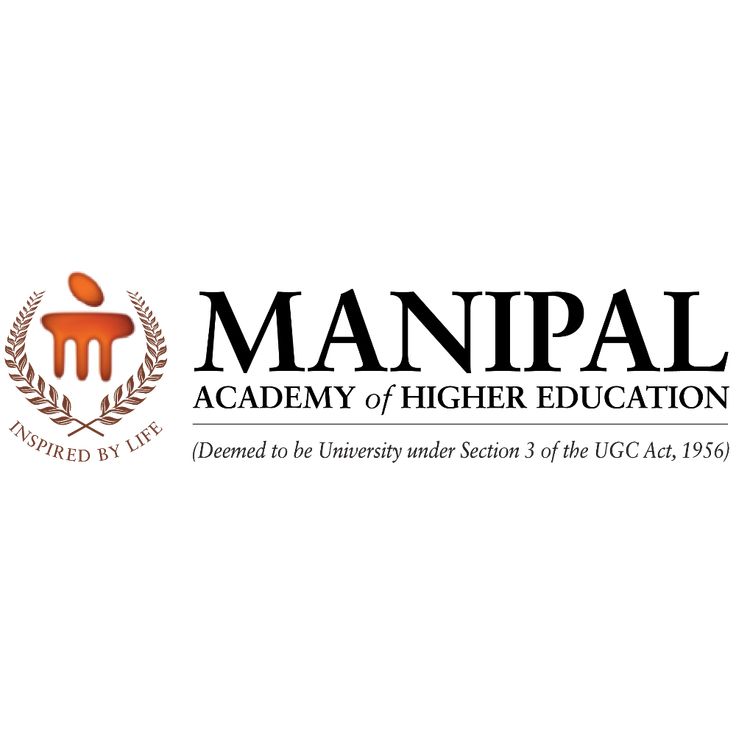
A Synopsis Project Report on

**Daily Expense Tracker**

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**Chapter 1**

**INTRODUCTION**

**1.1 Introduction**

In order to manage and facilitate reporting of a Housewife’s Daily Income-Expense, the Daily Expense Tracker System has been developed. This system allocates resources according to the day’s needs. As an example, if one does not pay his/her expenses for the day, the system will allow him/her that amount as allowances for future days which futures days. If not, that means he/she did not use up his/her allowance for that specific day; hence, that amount would be earmarked for savings instead. When a Daily Expense monitoring or checking system is employed, it in a way, will report the income and expense trend at the month end. This will also allow you to offset the expenditure against the income in this case any reserves created in anticipation of certain Celebrations including different Indian Festivals, Birthday or an Anniversary.

The system for monitoring daily expenses is aimed at women who are interested in monitoring the income and expenditure patterns for a household on a daily basis. Such a system would require a housewife to input

her income and preset a daily expense limit which can be recalled using that day’s word. In case the amount reduces at the end of the day, the tracking system would increase her savings by the remaining

borrowing the next day while in terms of reducing, the amount would be donated for the benefit of the continuous improvement Program. The daily expense monitoring system would provide a monthly report

**1.2 Objective**

The household income and expenditure can be measured on a regular basis using the Daily Expense Tracker System with the aid of the system. However, sometimes people forget that the income earned is not always meant to be submitted as income, as the daily expenses are divided as allowance. In case if people do spend more than the allowance then the payment system will credit the daily wage and distribute the required allowance. After that any surplus of funds that was created by the expenditure amount being less than what was allowed will be put in a sub-reserve. There are all records kept and reports generated at the end of the month that deal with the expenses curves and income curves to allow making a report of the Daily Cost following System. You will also be able to add the money that you saved for special occasions such as holidays, or a wedding anniversary.

**Chapter 2**

**Literature Review**

**2.1 Objective**

The expense tracking theme has originated as one of the most debated subjects in both academia and technology. Several applications and studies have been developed to fulfill the requirements for financial management particularly by the individuals and families. Due to the increasing use of mobile technology, the expense tracking applications have gone through significant transformations and now offer solutions in smartphone management of personal finances.

One of the influential research works in personal finance management states that in order to maintain financial stability over the long-term, it is necessary for people to do budgeting at the beginning and make a day’s record of their expenditures. Smith & Cooper (2020) claim that people who consciously control their expenditure and track their everyday spending are more likely to reach their saving targets by up to 30% than those that do not. This further proves the relevance of instruments like Daily Expense Tracker (DET) in promoting responsible spending behaviour.

Mint, YNAB (you need a budget), and pocket guard are among the apps that include features of expense management like budgets and pie or bar graphs for expenditure visualization and keeping tabs on monetary health. But, a majority of these applications are general in orientation and do not consider certain types of end users, such as housewives, new job holders or teenagers, who might have special requirements in the management of their finances. Moreover, these applications sometimes lack the degree of sophistication that is essential for individuals who are not accustomed to using technology as well as making financial plans.

Language models like GPT-3 and clustering algorithms are particularly interesting when one considers the landscape of modern expense tracking systems which implement AI technology. The apriori algorithm for example has a great following in financial applications which seek to understand better spending habits and activities and provide insights into clusters of the expenses such as administrative and personal expenses. Research has indicated that these analytic tools are useful to the users of the application as they assist in looking for expensively expended areas and use them to forecast possible cuts.

With the availability of more sophisticated tools there are still challenges in developing applications that are user appealing and yet, address the challenge of effective financial management. For instance, the definition of some savings target that is culturally applicable like saving funds for festivals, and family gatherings is usually ignored.

**2.2 Problem Statement**

Financial literacy and management is indeed necessary for individuals and families, but managing finances is a problem that many people experience, especially housewives, new workers, and adolescents. Existing expense management applications however rarely address their requirements, such as:

* Non-technical users’ easy-to-understand interfaces.
* Integrating such severe cultural constraints that require an element of system customization, such as savings for holidays or celebrations.
* Systems that provide instant feedback to modify daily spending allowances based on previous spending behavior.
* Tools that allow the user to report on trends and precipitous changes of income and expenses, including graphic aids such as pie charts and graphs of income against expense.
* Active capable segmentation for segregation of personal expense and administrative expenses to enhance envisagement of the activity.

**Chapter 3**

**Research Methodology**

**3.1 RESEARCH METHODOLOGY**

For the project of Daily Expense Tracker (DET) the methodology followed for development of a user-friendly application includes planning, collecting, and analyzing data in a systematic way which is well arranged. Given below are the key steps which were followed in the methodology:

1. Problem Definition

* Identifying the problems people (mainly housewives) face in tracking their daily expenses and savings.
* Learning what is wrong with the offered solutions for managing expenses, for example - inability to personalize expenses, poor analytics or design that is not user-friendly.

2. Objective Setting

* The goal is to design now a mobile app called as Daily Expense Tracker that helps people to keep a record of their daily expenditures as well as oversee their savings while feeding analytical reports of spending to help in the planning.
* To provide functionalities like expense classification, clustering and other visualization tools to enhance money control.

3. Requirements Elicitation

Primary Data Gathering:

* The target group includes women, recent graduations, interns, and adolescents. Targeted groups will be surveyed through questionnaires or interviews to collect their involvement in tracking finances.

Secondary Data Gathering:

* Analysis on the selected track with expense control applications like spending monitoring and pattern analysis to determine the merits and demerits.
* The use of algorithms including Apriori in the clustering of expenditures.

**4. System Design**

* **User Interface Design**:
  + Examine the application’s user interface structure by creating wireframes and prototypes for easy navigation by users.
  + Develop several kinds of interactive displays such as pie charts or break down reports.
* **Functional Design**:
  + Outline the core business processes to be automated where responsibilities for income, savings, expenses, clustering and reporting are proposed to be dealt with.

**5. Development Methodology**

* **Platform Selection**:
  + Utilize the features of Android Studio that are powerful enough for the development of the DET application..
* **Programming Languages**:
  + Java or Kotlin for application logic.
* **Database Management**:
  + Use SQLite for storing user data such as income, expenses, and savings.
* **Algorithm Implementation**:
  + Employment of Apriori algorithm to find clusters in personal and business expenses.
* **Testing Framework**:
  + Adopt Agile development practices with iterative testing and feedback cycles.

**6. Data Analysis and Visualization**

* Use collected expense data to generate reports and visualizations, including:
  + Pie charts for category-wise expense distribution.
  + Monthly income-expense curves to analyze financial trends.

**7. Testing and Validation**

* **Functional Testing**:
  + Verify that all functionalities, such as adding expenses, generating reports, and clustering, work as intended.
* **Usability Testing**:
  + Conduct user testing sessions to ensure the app is intuitive and user-friendly.
* **Performance Testing**:
  + Test app performance under various conditions to ensure reliability and responsiveness.

**8. Deployment and Feedback Collection**

* Deploy the app to a small group of target users to gather feedback.
* Use feedback to refine features, fix bugs, and enhance the app’s usability.

**9. Final Implementation**

* Release the fully functional DET app for public use.
* Provide documentation, tutorials, and customer support for smooth adoption.

**10. Evaluation and Improvement**

* Continuously monitor user feedback and app performance.
* Regularly update the app with new features or improvements based on user suggestions and advancements in technology.

**Chapter 4**

**IMPLEMENTATION DETAILS**

**4.1: FRONT END**

**4.1.1 HTML**

HTML (Hypertext Markup Language) is a standard markup language used for creating web pages and other information that can be displayed on the web. HTML was first introduced in the early 1990s by Tim Berners-Lee, a researcher at the European Organization for Nuclear Research (CERN). The language has since evolved and is now in its fifth iteration, HTML5, which was officially released in 2014. HTML is the foundation of all websites and is the backbone of the internet.

HTML consists of a series of elements and tags that are used to define the structure and content of a web page. The elements include headings, paragraphs, links, images, lists, tables, and more. The tags are used to wrap around these elements to indicate how they should be displayed in a web browser. For example, the <p> tag is used to define a paragraph, while the <img> tag is used to insert an image. HTML also supports the use of CSS (Cascading Style Sheets) and JavaScript, which can be used to add styling and interactivity to a website.

HTML5 has greatly improved the functionality of the web, making it easier for developers to create dynamic and engaging websites. One of the biggest changes in HTML5 is the addition of new elements and tags, such as the , , , and tags. These new tags allow developers to define the structure of a web page more semantically, making it easier for search engines and assistive technologies to understand the content. HTML5 also supports multimedia content, such as audio and video, without the need for additional plugins. Another important feature of HTML5 is the integration of HTML, CSS, and JavaScript, allowing developers to create rich and dynamic user interfaces without the need for additional tools.

HTML is also used in conjunction with other technologies such as CSS (Cascading Style Sheets) and JavaScript to create dynamic and interactive web pages. CSS is used to control the presentation of web pages, including the font size, color, background and layout. JavaScript is used to create dynamic effects, such as animations and interactive forms, on web pages. HTML, CSS and JavaScript work together to create web pages that are not only visually appealing, but also functional and user-friendly. HTML has come a long way since its introduction, and it continues to evolve and adapt to new technologies and user needs. HTML5, the latest version of HTML, includes new features such as video and audio playback, geolocation and offline storage, making it easier for developers to create dynamic and interactive web pages.

**4.1.2 Vue.js**

Vue.js is a progressive JavaScript framework that is used for building user interfaces. It was created by Evan You in 2014 and has gained popularity among web developers due to its simplicity and versatility. The framework has a small size, and it is easily adaptable to different types of applications, whether they are single-page applications or complex user interfaces.

One of the primary benefits of Vue.js is its simplicity. The framework uses a template-based syntax, making it easy for developers to create dynamic user interfaces. Vue.js templates are HTML-based, which makes it easier for developers to understand and use the framework. Additionally, the framework is reactive, meaning that it updates the view automatically when the data changes. This helps developers avoid having to manually update the view when data changes, which saves time and increases productivity.

Another benefit of Vue.js is its flexibility. The framework provides a modular architecture, which means that developers can easily add, remove, and replace components in their applications. This makes it easier to manage complex applications and to reuse code. Additionally, Vue.js provides a component-based architecture, which makes it possible to build reusable UI components that can be shared across multiple applications. This not only saves time but also helps to ensure consistency in the design and functionality of an application.Vue.js is also highly performant. The framework uses a virtual DOM, which is a lightweight representation of the actual DOM, to update the view. This means that updates to the view are much faster than if the real DOM were being updated. Additionally, Vue.js provides a lazy-loading mechanism for components, which means that components are only loaded when they are needed. This helps to keep the application lightweight and improves performance.

In conclusion, Vue.js is a popular and versatile JavaScript framework that is well suited for building dynamic user interfaces. Its simplicity, flexibility, and performance make it an attractive option for web developers, especially for those working on small- to medium-sized applications. Whether you're a beginner or an experienced developer, Vue.js offers a great solution for building modern and dynamic web applications.

**4.1.3 Flutter**

Flutter is an open-source mobile application development framework created by Google. It is used for building high-performance, high-fidelity, and beautiful applications for both Android and iOS platforms. Flutter uses Dart programming language, which is known for its simplicity and easy to learn syntax. It allows developers to build applications quickly and efficiently without having to worry about platform compatibility issues.

One of the key features of Flutter is its hot reload feature, which allows developers to instantly see changes they make to the code reflected in the app. This greatly improves the development speed and productivity, as developers can iterate quickly and test changes without having to wait for a full rebuild. Flutter also has a rich set of customizable widgets, which allows for a highly-responsive and smooth user interface. This, combined with its fast performance, has made it a popular choice for building high-end apps for iOS and Android

Another key advantage of Flutter is its ability to create high-quality, visually-appealing apps. It has a modern, flexible architecture that allows for easy customization and animation, making it possible to create visually-stunning apps that stand out from the crowd. In addition, Flutter has a large and active community of developers, meaning that there is a wealth of resources and support available for those looking to learn or use the framework. This includes a wide range of third-party packages and plugins, which can be easily integrated into an app to add new functionality and improve the overall user experience

In conclusion, Flutter is a game-changer in the world of mobile application development. Its ease of use, fast performance, and rich features make it an ideal choice for developers. The framework also has a growing community of developers and a rich library of tutorials, plugins, and tools, making it easier for developers to find solutions to their problems. With Flutter, developers can create stunning and performant applications for both Android and iOS platforms, which will run smoothly on both high-end and low-end devices. In the near future, it is expected to become a major player in the mobile application development world, and developers are encouraged to learn this powerful framework and create amazing applications with it.

**4.2: BACK END**

**4.2.1 JAVA**

Java is a high-level programming language that was created by James Gosling and developed by Sun Microsystems in the early 1990s. Today, it is one of the most widely used programming languages in the world, and is commonly used for creating desktop applications, web-based applications, and mobile applications. Java is considered an object-oriented programming language, meaning that it uses objects and classes to define and manipulate data. This is what makes Java so flexible and powerful.

One of the main reasons Java is so popular is because of its platform independence. This means that Java code can run on any operating system or device that has a Java Virtual Machine (JVM) installed. This makes it much easier for developers to create applications that can run on multiple platforms, such as Windows, Mac, Linux, and Android. This also makes it easier for businesses to deploy applications to their employees, regardless of what type of computer they use. Java is also known for its security features, making it a popular choice for financial and e-commerce applications.

Another reason Java is so popular is because of its rich libraries and frameworks. Java has a large number of libraries that are available to developers, which can greatly increase the speed and efficiency of development. Some of these libraries include the Java Development Kit (JDK), the Java Standard Library, and JavaFX. Additionally, there are many frameworks available for Java that can help developers build applications more quickly and easily. Some popular Java frameworks include Spring, Hibernate, and JavaServer Faces (JSF). These libraries and frameworks provide a lot of pre-built code and tools, which can save developers a significant amount of time and effort.

In conclusion, Java is a high-level programming language that is widely used and has a number of benefits. Its platform independence and security features make it a popular choice for developing desktop, web-based, and mobile applications. Additionally, Java's rich libraries and frameworks provide developers with a lot of pre-built code and tools, which can greatly increase the speed and efficiency of development. Whether you're a seasoned developer or just starting out, Java is a programming language that is definitely worth exploring.

**Chapter 5**

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