UNIVERSITI TEKNOLOGI PETRONAS

TFB1033/TEB1043
OBJECT ORIENTED PROGRAMMING (OOP)

GROUP PROJECT PROPOSAL

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Project Title: Expense Tracker

Objectives:

This project aims to create a reliable and user-friendly application for recording expenses that will enable people to manage and keep an eye on their personal finances effectively. We will use object-oriented programming concepts to implement this project and create scalable and sustainable software.

Target Users:

This application's main target audience consists of people who need an effective tool to assist them in monitoring their day-to-day, weekly, and monthly expenditures, organizing their spending into categories, and efficiently controlling their budgets.

System Overview:

The Expense Tracker application will be created utilizing object-oriented programming principles, guaranteeing modularity, reusability, and maintainability.

User Module: Manages the process of user registration, login, and authentication. Guarantees the protection of data and provides a customized user experience.

Expense Module: Manages all expense-related functionalities, encompassing the tasks of adding, changing, removing, and viewing expenses. Every expense has attributes such as the amount, category, date, and description.

Category Module: Enables users to generate and oversee categories for their expenditures. Every category can be assigned a certain budget limit.

Reporting Module: Offers users comprehensive reports on their expenditures during specific timeframes. Users can access reports directly within the application and also have the option to export them for additional examination.

Budget Module: Assists customers in establishing budgetary constraints for various categories and monitoring their expenditures with relation to these limitations.

Data Management Module: Enables users to easily import and export expense data, allowing them to create backups and analyze the data externally.

The program will utilize a relational database, such as MySQL, to store and manage user data, spending, classifications, and budget information. The user interface will be developed using a GUI framework, such as Tkinter for Python, JavaFX for Java, or Qt for C++.

Benefits:

For Users:

1. Enhanced Financial Control:

Users may effortlessly monitor and evaluate their expenses, acquiring enhanced understanding of their spending patterns. They can also oversee budgetary restrictions for various categories enabling them to adhere to their financial limitations.

2. Improved Decision-Making:

Users have the ability to establish financial objectives and monitor their advancement in attaining them. This also empowers them to make well-informed financial choices by analyzing their spending patterns.

For Developer:

1. Implementation of Object-Oriented Programming (OOP) Principles in Real-World Scenarios:

Creating the Expense Tracker gives us hands-on practice using object-oriented programming ideas like inheritance, polymorphism, and encapsulation. Also, developing a modular application helps us learn how to make software that is easy to manage and can grow as needed.

2. Enhancing Skills:

It helps us improve our expertise in the selected programming language in this case Java and practical knowledge in creating and administrating databases, encompassing SQL queries and schema design. We also get to improve at making graphical user interfaces that are easy for people to use.

Conclusion:

The Expense Tracker application is specifically developed to offer customers an easy and powerful solution for effectively managing their personal finances. The project intends to provide a flexible, stable, and user-friendly solution for spending tracking and budgeting by utilizing object-oriented programming principles. Successfully finishing this project will showcase an extensive understanding of object-oriented design and development, together with practical expertise in software engineering. This project has the dual objective of meeting academic standards and providing practical value to users, enabling them to effectively manage their financial well-being.