Project Proposal: Personal Finance Manager

# Introduction

Effective financial management is crucial for individuals and families to optimize their savings/investments, track expenses, and plan for the future. Therefore, there is a great need for a user-friendly tool that people could easily get familiar with and get insight into spending habits. This proposal outlines the development of Personal Finance Manger (PFM), a Java-based application designed for facilitate users manage their personal/family finances efficiently and effectively.

# Objective

The primary objective of the PFM is to offer users a user-friendly platform to track and manage their finances (income, expenses, investments, and savings). It aims to provide a comprehensive overview of a user’s financial health, offering overview as well as details of incomes, spendings, investments and savings.

# Features and Functionalities

1. **User Interface:** A clean and intuitive Java Swing-based interface that allow users to easily navigate through different sections of the application (dashboard, incomes/expenses, investments, savings).
2. **Log in page:** The default page when opening the application. A user can enter username and password to log in into their account. Only after successfully logged in, financial information in following sections is displayed. If the user is a new user, click the registration button and get directed to the registration page.
3. **Registration page:** The user can enter username and password. Then, click confirm which will redirect user to the log in page.
4. **Dashboard:** Users can view their monthly incomes and expenses, total investment amount, and savings amount. There are buttons leading users to each section allowing users to view details and add new records.
5. **Incomes/expenses section:** Users can view yearly, monthly, and daily net incomes as well as latest four transactions from latest to earliest. Users can add expenses and incomes with optional notes.
6. **Investments section:** Users can view total investment amount (only due date after current date as well as earliest four investments due from earliest to latest. Users can add investment and expected yield as well as due date.
7. **Savings section:** Users can view their total savings amount and latest 4 deposits from latest to earliest. Users can also add deposits.
8. **Database Integration:** Use of relational database to store user profiles as well as incomes and expenses, investments, and savings records. Employ JDBC to interact with database.
9. **Networking:** The PFM will use Java's networking capabilities to communication between the client interface and the server. Through a TCP/IP connection, the client will send requests for financial data which will be processed by the server. The server side will either insert into database or send back financial information from database.

# Advanced Concepts to be Used

1. **Swing and Graphics:** To develop the application’s user interface.
2. **Database:** Integration with a relational database for data storage and management,
3. **Networking:** To handle data exchanges between the client-side application and the server.

# How to run the program

1. Set up mySQL
   1. Install mySQL server on computer and make sure it is running.
   2. For user-friendly purpose, install a database GUI. The one I am using is Navicat.
   3. Create a connection in Navicat: username is “root” and password is empty using port 3306.
   4. Create database under the connection names “FinanceManager”.
   5. Run code in CREATE\_TABLE.sql file to create tables needed in this project.
2. Set up eclipse environment
   1. Open the zip file in Eclipse.
   2. Create a new library under the project folder
   3. Copy and paste mysql-connector-j-8.3.0.jar file (included in the zip) to the library.
3. Program is ready to start!
   1. Start Server.java
   2. Start FinanceManagerUI.java