**Software Engineering Lab – 1**

**Harini L**

**22BCE5233**

**Your own financial assistant**

Objective:

Monitor and manage personal finances effectively by providing college students and struggling families with tools to track expenses, set budgets, receive bill reminders, and connect with financial mentors. The app aims to enhance financial decision-making, optimize budgeting, and improve overall financial well-being by offering real-time insights, automated bill tracking, and personalized guidance.

**WATERFALL MODEL**

**1. Requirement Gathering and Analysis:**

**Objective:** Understand the financial needs of college students and struggling families.

- Collect data on user needs for budgeting, expense tracking, mentorship, and family budgeting features.

- Define system requirements including features like automated bill tracking, payment reminders, shared accounts, and parental controls.

- Identify technical requirements such as security, scalability, and integration with Firebase.

**2. System Design:**

**Objective:** Create a blueprint for the financial management app.

- Develop a high-level design (HLD) that outlines the system architecture, including frontend and backend components.

- Specify components such as the user interface, backend server, database, and integration with financial APIs and Firebase.

- Detail data flow, including how financial data will be collected, processed, and displayed to users.

**3. Implementation:**

**Objective:** Build the financial management app based on the design.

- Code the frontend interface using frameworks like React Native or Flutter.

- Develop backend functionalities using Node.js and integrate with Firebase for authentication and data management.

- Implement features such as automated bill tracking, payment reminders, shared accounts, and parental controls.

- Integrate with external services (e.g., bank APIs) as needed.

**4. Testing:**

**Objective:** Ensure the app functions correctly and meets user requirements.

- Conduct unit testing for individual modules and features.

- Perform integration testing to ensure all components work together seamlessly.

- Conduct system testing to validate overall functionality, accuracy of financial calculations, responsiveness, and reliability.

- Execute user acceptance testing (UAT) with target users (college students and families) to gather feedback and make adjustments.

**5. Deployment:**

**Objective:** Launch the app to users and ensure its proper functioning.

- Deploy the app to app stores (Google Play, Apple App Store) and/or web servers.

- Provide training and support materials for users on how to use the app’s features.

- Monitor the app’s performance in real-world conditions and address any issues that arise.

**6. Maintenance:**

**Objective:** Keep the app updated and address any issues post-launch.

- Regularly update financial data, algorithms, and features based on user feedback and changing requirements.

- Fix bugs, optimize performance, and ensure ongoing compatibility with external services and APIs.

- Provide continuous support and updates to enhance user experience and address emerging needs.

This outline follows the Waterfall model, ensuring a structured approach to developing, deploying, and maintaining financial management app and website.

Requirement gathering & analysis

Maintenance

Deployment of System

Testing

Implementation

System Design