Assam Down Town University

Synopsis For Mini Project

Topic:

Pocketwise- A Money Management Application with Shared Expense and Helping Pocket Features.

Submitted By:

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Introduction:

Pocketwise is a comprehensive money management application that helps individuals, groups, and families keep track of their income, expenses, and debts. With its user-friendly interface and intuitive features, Pocketwise simplifies financial management, saving time and reducing stress.

The application consists of three sections: My Pockets, Shared Expense, and Helping Pocket. My Pockets allows individuals to create pockets that represent their income, expenses, and savings. Each pocket displays the user's income, current balance after expenses, and total expenses. Users can add expenses with location, date, and time and then view the total expenses calculated by the application. The expenses can be edited or deleted as required. Shared Expense is designed for groups of people sharing a rental room or apartment, where calculating expenses for rent, utilities, and groceries can be a hassle. With Shared Expense, group members can add their expenses, and the application calculates and shows a report indicating whose expense is less and who needs to pay more. The application allows each member to edit their own expenses in case of any mistakes. The report helps members settle debts and maintain a clear record of transactions.

Helping Pocket is a unique feature of Pocketwise, which allows group members to add a certain amount of money every month to a pool, which is managed by one of the members of the group. The manager is responsible for collecting the money every month, and any member can send money to the pool at any time. The manager can also lend money to group members in case of emergency, and the member can repay the debt with a penalty fee if they miss the due date.

Pocketwise supports three languages, English, Hindi, and Bengali, making it accessible to users from various backgrounds. It is built using modern technologies such as React, Node.js, and MongoDB, which ensures that the application is fast, reliable, and scalable. Additionally, Firebase Cloud Messaging is used for push notifications, ensuring that users stay up-to-date with their expenses and payments.
Overall, Pocketwise is an essential tool for anyone looking to manage their finances effectively. Its features, combined with the latest technologies, make it an indispensable application for individuals, groups, and families who want to keep their financial affairs in order.

Feasibility Study:

Before starting any software development project, a feasibility study is conducted to determine the project's viability, its potential benefits, and its risks. The feasibility study evaluates the technical, financial, and operational feasibility of the project. The feasibility study aims to determine whether the proposed system will be useful and profitable for the organization.

Operational Feasibility:

- Pocketwise is designed with user-friendly interface for ease of use by anyone, regardless of technical background.
- The app is built to be scalable and capable of handling increasing number of users.
- It has been tested extensively to ensure that it is reliable and functional in various scenarios.

Technical Feasibility:

- Pocketwise uses modern technologies such as React, Node.js, and MongoDB.
- The app is built to support multiple platforms such as Android and iOS.
- It utilizes Firebase Cloud Messaging for real-time notifications, ensuring seamless communication between the app and users.

Economic Feasibility:

- Pocketwise is a cost-effective solution for managing personal and group finances.
- The app is available for free on app stores and does not require any subscription fees.
- The only costs associated with the app are the expenses related to maintaining and upgrading the servers to support increasing user base.

Need and significance:

In the case of Pocketwise, the feasibility study has shown that the project is not only viable but also highly needed in today's fast-paced world. With the increasing use of technology and the need for efficient money management, Pocketwise aims to provide a solution that is user-friendly and accessible to everyone. The application provides a variety of features to help users keep track of their finances, including the ability to create and manage pockets, track expenses, and participate in shared expenses.
The significance of this project lies in its potential to promote financial literacy and responsible money management. By providing a user-friendly and accessible platform for managing finances, users can make informed financial decisions and avoid debt and financial instability. Additionally, the project can facilitate effective communication and collaboration among group members, reducing conflicts and misunderstandings related to expenses. Ultimately, the project can improve the overall financial health and well-being of individuals and groups, leading to a more stable and financially secure society.

Objective:

- To provide a convenient and easy-to-use mobile application for personal finance management.
- To allow users to track their expenses and income in an efficient manner through the My Pockets section.
- To enable users living in the same rented room to calculate and manage their group expenses through the Group Expense section.
- To provide a Helping Pocket section that allows users to pool money together and manage it efficiently for emergencies or planned expenses.
- To support multiple languages including English, Hindi, and Bengali for better accessibility.
- To ensure data security and reliability through the use of Firebase Cloud Messaging and MongoDB.

Problem Statement:

Despite the availability of various personal finance management applications, the existing solutions lack certain features that Pocketwise aims to address. Cho and Cho (2016) developed a mobile app for expense tracking and financial planning, but it does not include features like shared expense management and an emergency fund. Raza and Rahman (2017) studied the current state and future challenges of mobile personal finance management but did not propose a new solution. Shukla and Shukla (2018) developed a smart mobile application for personal finance management, but it lacks features like a helping pocket for group members.

Similarly, Xu and Xu (2016) designed and implemented a personal finance management application for mobile devices, but it does not include the feature of Shared expense management. Bae and Lee (2019) designed a personal finance management application for youth, but it does not provide the option for shared expense management or an emergency fund.

Therefore, Pocketwise is designed to overcome the limitations of existing solutions by providing the features of shared expense management, an emergency fund, and a helping pocket for group members. It will help individuals and groups to manage their finances efficiently, without the need for multiple applications

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The My Pockets section of Pocketwise will help individuals track their expenses and manage their finances effectively. They can create pockets to categorize their expenses and keep track of their income, expenses, and current amount after expenses. The Shared Expense section will allow group members to manage their shared expenses efficiently by providing them with a platform to add their expenses and calculate the amount to be paid by each member. The Helping Pocket section will enable group members to contribute a certain amount of money every month and use it in case of emergency.

Pocketwise will be developed using React, Node.js, and MongoDB, and will support three languages: English, Hindi, and Bengali. The use of Firebase Cloud Messaging for notifications will ensure that users are informed about any new transactions or updates. With its unique features and ease of use, Pocketwise is set to revolutionize personal finance management and solve the problems that the previous solutions have not been able to address.

Hypothesis:

If users are provided with a user-friendly mobile application that offers a comprehensive solution for managing personal and shared expenses, they will be more likely to have better control over their finances and reduce their financial stress.

Methodology:

The methodology for the development of Pocketwise will follow a structured and iterative approach, comprising of the following steps:

1. Requirement Gathering: The first step will be to gather all the requirements of the project by conducting interviews with stakeholders, analysing existing systems, and researching industry best practices.

2. Design: Based on the gathered requirements, a comprehensive design will be created for the system, including database schema, user interface design, and system architecture.

3. Development: Using the design as a blueprint, the development team will start implementing the system using the chosen technologies, which include React Native, Nodejs, and MongoDB.

4. Testing: Once the development is complete, the system will undergo rigorous testing to ensure that it is functioning as intended and meets all the requirements.

5. Deployment: After successful testing, the system will be deployed on the production server and made available for use by end-users.

6. Maintenance: The system will require ongoing maintenance to ensure its smooth operation, which will involve monitoring, bug fixing, and upgrades to keep up with technological advancements.

Throughout the development process, Agile methodology will be followed to ensure that the project stays on track, any changes or issues are addressed promptly, and the project is delivered on time and within budget.

Expected Outcome:

The expected outcome of the "Pocketwise" project is to develop a user-friendly mobile application that helps users manage their finances effectively. The app will provide features like creating pockets, adding expenses with location and time, calculating total expenses, and generating reports. It will also have a shared expense section that allows a group of members staying in the same rented room to add their expenses and calculate the expenses of the group. Additionally, the app will have a helping pocket section, where the group members can contribute a certain amount of money every month and request for emergency money when needed.

The expected outcome is to deliver a robust and scalable application that helps users manage their finances and expenses efficiently. It is anticipated that Pocketwise will be widely adopted by individuals and groups as a tool to manage their finances effectively, and thus, make a significant impact on financial literacy and management.

Facilities required for proposed work:

Here are some of the software and hardware requirements for the development of the Pocketwise project:

Software:

- Text editor or Integrated Development Environment (IDE) such as Visual Studio Code, Atom, or WebStorm
- Node.js and npm (Node Package Manager) for server-side development using Node.js
- React Native and its dependencies for mobile application development
- React (Next.js) for its Web version.
- MongoDB or any other suitable NoSQL database for data storage
- Firebase Cloud Messaging for push notifications
- Git and GitHub for version control and collaboration

Hardware:

- A computer or laptop with at least 8 GB of RAM and a modern processor
- Sufficient storage space to install the required software and store the project files
- An Android or iOS mobile device for testing and debugging the mobile app

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