Assam Down Town University



Synopsis For Mini Project

**Topic:**

Design and Development of a Pocketwise Application

**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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