

SpendWise - An Intelligent Expense Manager App

CSC 544 2.0 Mobile and Web Computing

Project proposal

Index numbers:

1. Team Member: Kavindu Nuwan Jayakodi
2. Team Member: Kasun Buddika

1. Brief Introduction to the Project:

The objective of this project is to develop **SpendWise**, an intelligent expense manager app that empowers users to track and manage their expenses effectively. The app will provide users with valuable insights, predictions, and visualizations to support their financial decision-making and help them achieve their budgeting goals.

2. List of Features to be Implemented:

a) User-friendly interface with intuitive navigation:

SpendWise will have a clean and user-friendly interface designed to provide a seamless user experience. The app will incorporate intuitive navigation, allowing users to easily access various features and functionalities with minimal effort.

b) Expense categorization for better organization:

To enhance expense management, SpendWise will enable users to categorize their expenses into different categories such as food, transportation, entertainment, and more. This categorization feature will provide users with a clear overview of their spending patterns and allow them to identify areas where they can cut back and save.

c) Budget tracking and notifications for expense limits:

SpendWise will allow users to set monthly budgets for different expense categories. The app will provide real-time notifications to app users when they approach or exceed their budget limits. These notifications will help users stay on track and make informed financial decisions.

d) Income tracking for a comprehensive financial overview:

In addition to expense tracking, SpendWise will provide users with the ability to track their income. By allowing users to input their income details, the app will offer a comprehensive financial overview that takes both expenses and income into account. This feature will help users gain a holistic understanding of their financial situation.

e) Expense analytics with visualizations, charts, and graphs:

SpendWise will provide detailed expense analytics using visually appealing and interactive visualizations, charts, and graphs. Users will be able to analyze their spending habits over time, identify trends, and gain insights into their financial behavior. Visual effects such as animated charts, color-coded graphs, and interactive elements will enhance the user experience and make data interpretation more engaging.

f) Predictive analytics using linear regression for expense forecasting:

To assist users in planning their finances, SpendWise will incorporate predictive analytics using linear regression models. These models will analyze past spending patterns and provide predictions for future expenses. SpendWise will present these predictions using visually appealing graphics and informative visuals, helping users make informed financial decisions and anticipate potential budget constraints.

g) Multi-channel notifications (SMS, email, and mobile popup):

SpendWise will provide users with multiple notification channels to keep them informed about their expenses. Users will have the option to receive notifications via SMS, email, and mobile popups. Visual effects such as eye-catching notification banners, animated icons, and sound effects will be utilized to grab users' attention and enhance the notification experience.

h) Exporting expense data and generating comprehensive reports:

SpendWise will allow users to export their expense data in various formats such as PDF and CSV. Additionally, the app will provide the functionality to generate comprehensive reports based on the user's expense history. Visual effects such as progress bars, loading animations, and visually pleasing report layouts will be incorporated to provide users with a visually pleasing and interactive report generation process.

3. Future Enhancements:

a) OCR-based receipt scanning for digital record-keeping:

As a future enhancement, SpendWise will incorporate OCR (Optical Character Recognition) technology to enable users to scan and store receipts digitally. This feature will eliminate the need for manual data entry, making it easier for users to track and manage their expenses. Visual effects such as highlighting the recognized text and providing visual feedback during the scanning process will ensure accurate and efficient receipt capture.

b) Cloud synchronization for seamless access across devices:

As a future enhancement for user convenience, SpendWise will offer cloud synchronization functionality. This feature will allow users to access their expense data from multiple devices, ensuring real-time access to their financial information. SpendWise will incorporate visual effects such as smooth transitions, progress indicators, and visually pleasing interface elements to provide users with a seamless and visually engaging synchronization experience.

4. Technologies to be Used:

- Programming Language: Java
- Android Development: Android Studio
- Machine Learning: Linear Regression
- OCR Integration: Tesseract OCR Library
- Cloud Synchronization: Firebase
- Version Control: Git

5. Timeline:

- Week 1: Project planning and requirements gathering
- Week 2: UI/UX design and initial app layout
- Week 3: Implementing expense categorization and budget tracking
- Week 4: Integrating income tracking and expense analytics
- Week 5/6: Implementing predictive analytics using linear regression
- Week 7/8: Finalizing UI improvements and testing
- Week 9: Exporting data and generating reports
- Week 10: Final testing, bug fixing, and documentation
- Future Enhancements: Integrating OCR-based receipt scanning and cloud synchronization

By dividing the tasks, the team members will collaborate and contribute equally to complete the project within the specified timeline.

We expect to deliver a powerful and user-friendly expense management tool that will empower users to make informed financial decisions and achieve their budgeting goals effectively. The combination of intuitive features, insightful analytics, and predictive capabilities will provide users with a comprehensive solution for managing their expenses and improving their financial well-being.