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Introduction

The ExpenseTrack app is a comprehensive expense tracking solution designed to simplify financial management for users. This proposal outlines the key features, design considerations, and development plan for the app.

Expense Tracker App Proposal
a) Introduction:
App Name: ExpenseTrack
Group: Andy
Git Repository URL: https://github.com/rmit-iPSE-s2-2023/a1-s3902328

App Purpose

ExpenseTrack is a user-friendly mobile application available on iOS devices through the App Store. It aims to help users track their expenses, manage budgets, and gain insights into their spending habits. The app provides a seamless and intuitive user experience, allowing users to easily record their expenses, categorize them, set budgets, and generate reports for better financial analysis.

The purpose of ExpenseTrack is to empower users to take control of their finances by providing them with a convenient and efficient expense-tracking solution. By accurately tracking and categorizing expenses, users can gain insights into their spending patterns, identify areas for improvement, and make informed financial decisions.

Review of Other Apps

To inform the design and features of ExpenseTrack, I have conducted a thorough review of existing expense-tracking apps such as Mint, PocketGuard, and Expensify. I analyzed these apps to understand their user interfaces, features, and user feedback. This review has helped me identify the strengths and weaknesses of each app, allowing us to incorporate the best practices and innovative features into ExpenseTrack.

Iterative Development Process

During the development of ExpenseTrack, we followed an iterative process to refine the design and features based on user feedback. We conducted user

testing sessions and gathered feedback to identify areas for improvement. This iterative approach allowed us to make continuous enhancements to the app's interface, functionality, and user experience. By incorporating user feedback at each stage, we ensured that ExpenseTrack meets the needs and expectations of its users.

We also referred to Apple's Human Interface Guidelines (HIG) throughout the development process. By following the HIG recommendations, we aimed to create an intuitive and user-friendly design. This approach minimizes the learning curve for users and provides a seamless experience.

Workflow of the App

ExpenseTrack follows a simple and intuitive workflow to make expense tracking effortless for users. Upon launching the app, users are presented with a dashboard that displays their current financial overview, including total expenses, income, and savings. This provides users with a quick snapshot of their financial situation.

To add a new expense, users can easily enter details such as the amount, category, and date. The app provides a list of predefined categories, but users can also create custom categories to suit their specific needs. This flexibility allows users to accurately categorize their expenses.

ExpenseTrack also allows users to set budgets for different expense categories. Users can define spending limits for each category and track their spending against these budgets. The app provides visual indicators and notifications to alert users when they are approaching or exceeding their budget limits.

In addition to expense tracking and budget management, ExpenseTrack enables users to track spending trends over time. The app generates reports and visualizations that provide insights into users' spending habits, helping them make informed financial decisions. Users can also set reminders and receive notifications to stay on top of their expenses and ensure timely payments.

By incorporating these features and following an iterative development process, ExpenseTrack aims to provide users with a comprehensive and user-friendly expense-tracking solution.

Wireframes

[Include completed wireframes that showcase the application of design themes and principles in the finished product.]

Data Requirements and Data Model

ExpenseTrack requires a robust data model to store and manage the application data effectively. The data model includes entities such as expenses, categories, budgets, and user profiles.

- Expenses: The expenses entity stores information such as amount, date, category, merchant, and any additional notes. It allows users to record their expenses accurately and provides a comprehensive overview of their spending.

- Categories: The categories entity defines the different types of expenses, enabling users to categorize their spending accurately. It allows users to create custom categories or choose from predefined ones.

- Budgets: The budgets entity enables users to set spending limits for specific categories. It helps users track their expenses against predefined budgets and provides notifications when they are close to exceeding their budget.

- User Profiles: The user profiles entity stores user-specific information and preferences, such as currency preferences, notification settings, and personalized settings.

The data model ensures the persistence of application data and allows for efficient retrieval and manipulation of data within the app.

Remote Web Service (API)

ExpenseTrack integrates the Plaid API as a relevant remote web service to enhance the app's functionality. The Plaid API provides a secure and reliable platform for accessing financial data from various banks and financial institutions.

By integrating the Plaid API, ExpenseTrack allows users to securely connect their bank accounts and credit cards to automatically import transaction data. This eliminates the need for manual entry and ensures accurate expense tracking. The Plaid API supports transaction categorization, enabling ExpenseTrack to automatically assign categories to expenses based on transaction data.

The Plaid API offers a developer-friendly interface with comprehensive documentation, making it easy to integrate into the ExpenseTrack app. It supports a wide range of financial institutions, ensuring compatibility for users across different banks and credit card providers. The Plaid API also provides robust security measures to protect user data during the data retrieval process.

Xcode Project Structure

Xcode Project Structure: To ensure high cohesion, low coupling, and appropriate encapsulation, the Xcode project for ExpenseTrack will be structured as follows:

- Separate folders for different modules: The project will have separate folders for UI, data management, networking, and utilities. This modular structure allows for better organization and separation of concerns.

- Model-View-ViewModel (MVVM) architecture: The app will follow the MVVM design pattern, separating the presentation logic (View) from the business logic (ViewModel) and data (Model). This separation ensures better code maintainability and testability.

- Dependency Injection: The project will utilize dependency injection to decouple components and improve testability. This approach allows for

easier unit testing and facilitates code reuse.

- Secure storage of sensitive data: Sensitive data, such as API keys and user credentials, will be securely stored using encryption techniques and secure storage mechanisms provided by iOS.

- Version control: The project will utilize Git for version control, allowing for collaboration and tracking of code changes.

Conclusion

In conclusion, ExpenseTrack is a comprehensive expense-tracking app designed to simplify personal financial management. By incorporating design recommendations from Apple's HIG, ExpenseTrack provides an intuitive and user-friendly experience. The integration of the Plaid API enhances the app's functionality by securely retrieving transaction data from financial institutions. The Xcode project structure ensures high code quality, maintainability, and scalability. By developing ExpenseTrack, I aim to provide users with a powerful tool to track and manage their expenses effectively, enabling them to make informed financial decisions and achieve their financial goals.