

INFO 6350 : Smartphone based web development

Project Report : Subscription Manager

Srinivasa Rithik Ghantasala (002334850)

Introduction

This report provides an in-depth look at the INFO 6350 Smartphone-based Web Development project: the Subscription Manager iOS App. Developed by Srinivasa Rithik Ghantasala (NU ID: 002334850), this application addresses the growing need for a centralized tool to manage various recurring subscription payments.

Problem Statement

In today's service-oriented economy, individuals often subscribe to multiple services, including streaming platforms, utility providers, and software memberships. Managing these subscriptions effectively presents a significant challenge. Many users lose track of renewal dates, inadvertently incurring unexpected charges and continuing to pay for services they no longer need, leading to unnecessary expenses.

The absence of a dedicated, centralized system to monitor, analyze, and optimize these recurring payments results in widespread financial inefficiencies and a lack of control over personal finances.

Proposed Solution

The developed Subscription Manager iOS app offers a robust solution by enabling users to efficiently track all their recurring payments in one place. It provides timely renewal reminders to prevent unwanted charges and offers valuable insights into subscription spending patterns.

The core of the app is a centralized dashboard displaying all active subscriptions, allowing users to categorize them and calculate both monthly and yearly expenditures. To further enhance user experience and financial control, the app incorporates advanced features such as customizable billing cycles and AI-powered suggestions for cost optimization.

Customizable notifications give users precise control over when they receive payment reminders. Ultimately, the app aims to empower users to make well-informed financial decisions regarding their subscriptions.

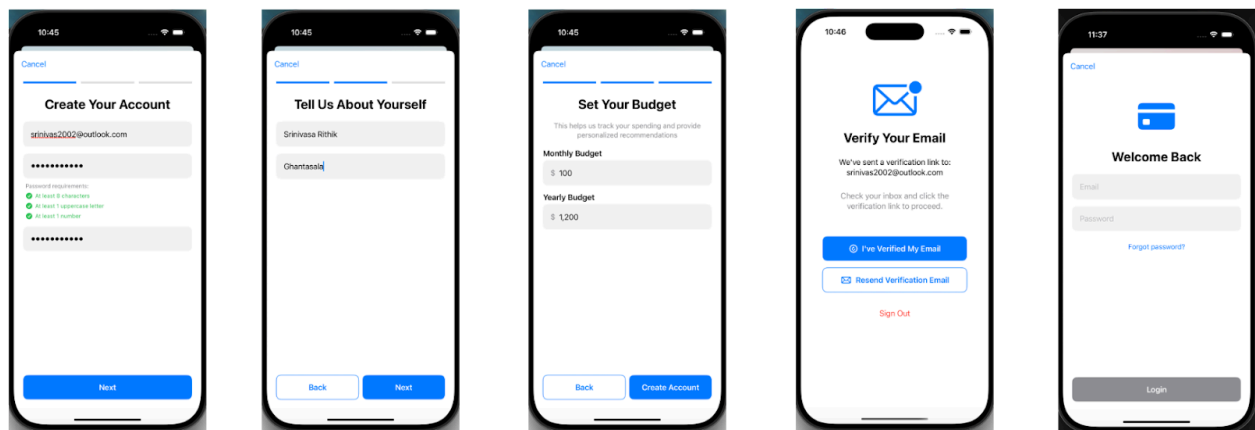
Technology Stack

The application leverages modern technologies to deliver a seamless user experience on iOS:

- **User Interface:** Built natively using Swift UI for a modern and responsive interface.
- **Database & Authentication:** Utilizes Firebase for secure cloud-based data storage and user authentication.
- **Machine Learning:** Integrates CoreML, Apple's framework, to provide intelligent spending analysis and insights.
- **Deployment Target:** Compatible with iOS 16 and newer versions.

Key Features

User Management: Standard Sign Up and Login functionality secured via Firebase Authentication.



The onboarding process for new users of the Subscription Manager app is designed to be straightforward and secure, involving account creation, personalization, and verification. It begins from the initial welcome screen. The sign-up itself is structured as a three-step procedure:

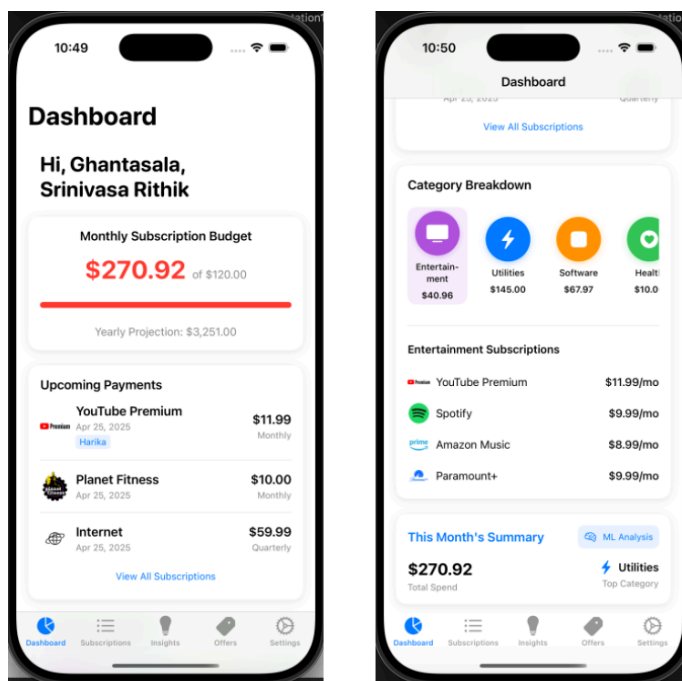
1. **Create Your Account:**
 - Users initiate the process by providing their email address.
 - They must create a password that meets specific security requirements, including minimum length, uppercase letter, and number inclusion, as indicated visually during input.
2. **Tell Us About Yourself:**
 - In this step, users are prompted to enter their first and last names, personalizing their app experience.
3. **Set Your Budget:**
 - Users establish a monthly budget for their subscriptions. This budget serves as a benchmark within the app's dashboard to help users monitor their spending against their financial goals. A corresponding yearly budget is also set at this stage.

Email Verification:

- Following the completion of these three steps and account creation, a crucial verification step occurs.
- An automated verification email is dispatched to the email address provided during sign-up.
- Users must check their inbox and click the verification link within the email. This action confirms the legitimacy of the email address, enhances account security, and activates the account.

Once the email is verified, the user can log in using their newly created credentials to access the app's features.

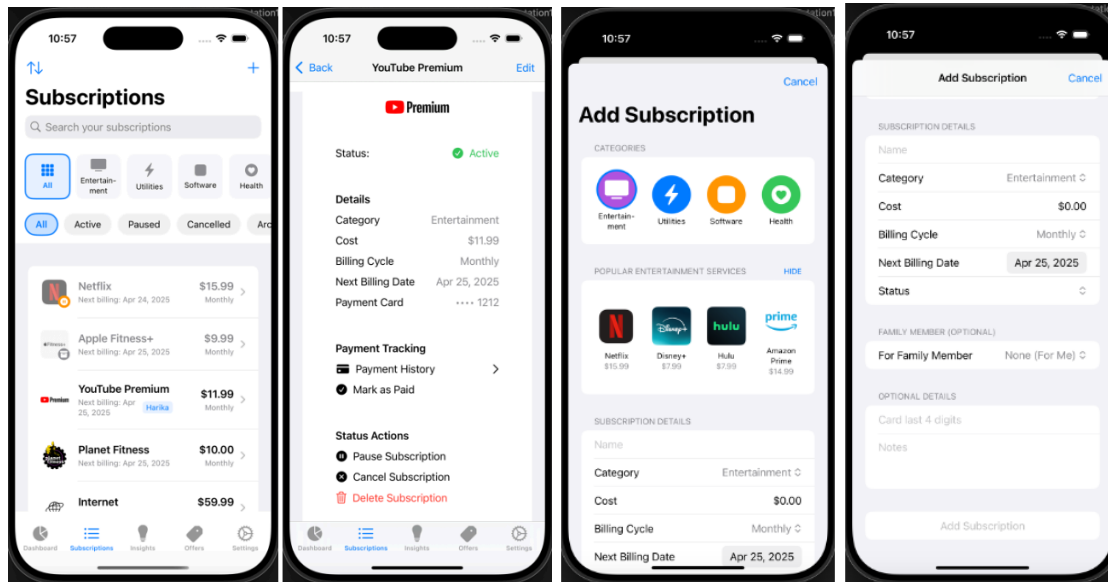
Dashboard & Features :



Dashboard: This central hub provides an immediate overview:

- **Monthly Budget Tracking:** Displays the user's set monthly budget versus actual spending, with the color changing dynamically to indicate budget status. It also shows a yearly spending projection based on current subscriptions.
- **Upcoming Payments:** Lists subscriptions due for payment soon, helping users anticipate expenses.
- **Category Breakdown:** Visualizes spending across different subscription categories.
- **Monthly Summary & Print:** Summarizes payments made within the current month and allows users to generate a printable PDF statement.
- **ML Analysis:** Leverages CoreML for integrated machine learning analysis.

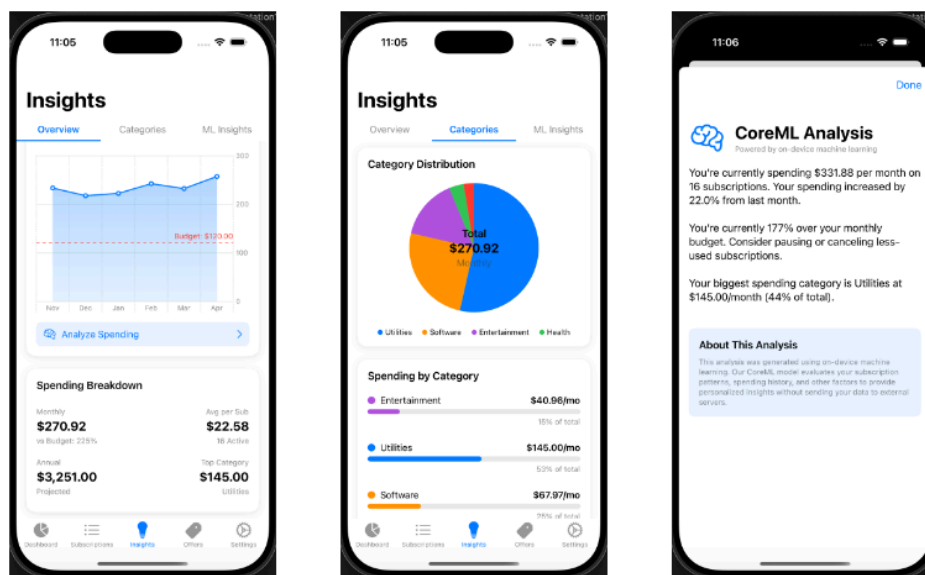
Subscriptions :

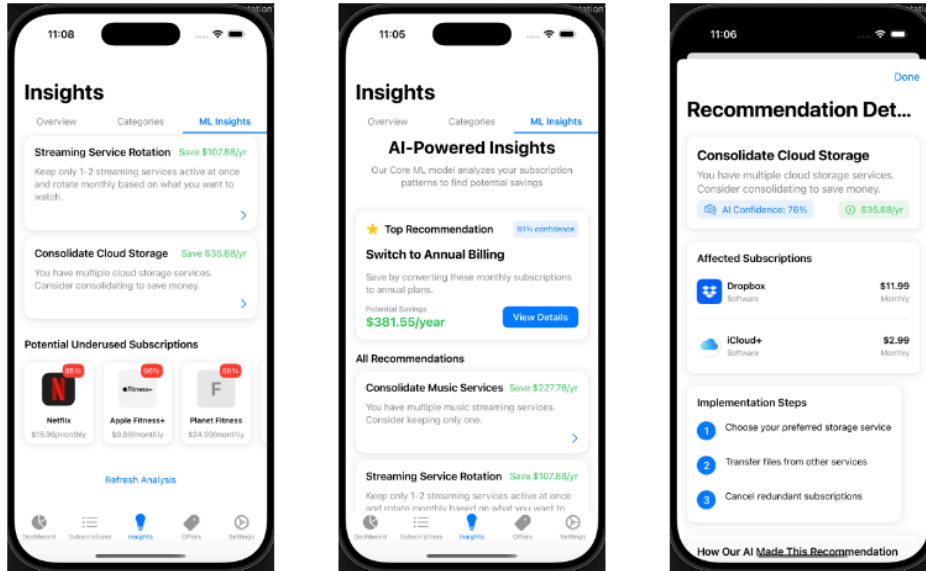


Subscriptions Management: Offers comprehensive tools to manage individual subscriptions:

- **List View:** Displays all subscriptions, featuring robust searching, filtering (by status: active, paused, archived, cancelled), and sorting capabilities.
- **Detail View:** Shows specifics for each subscription, including cost, billing cycle type, the next billing date, and a history of past payments.
- **Add Subscription:** Facilitates adding new subscriptions, offering predefined categories and showcasing popular providers to streamline the process.

Insights & AI :



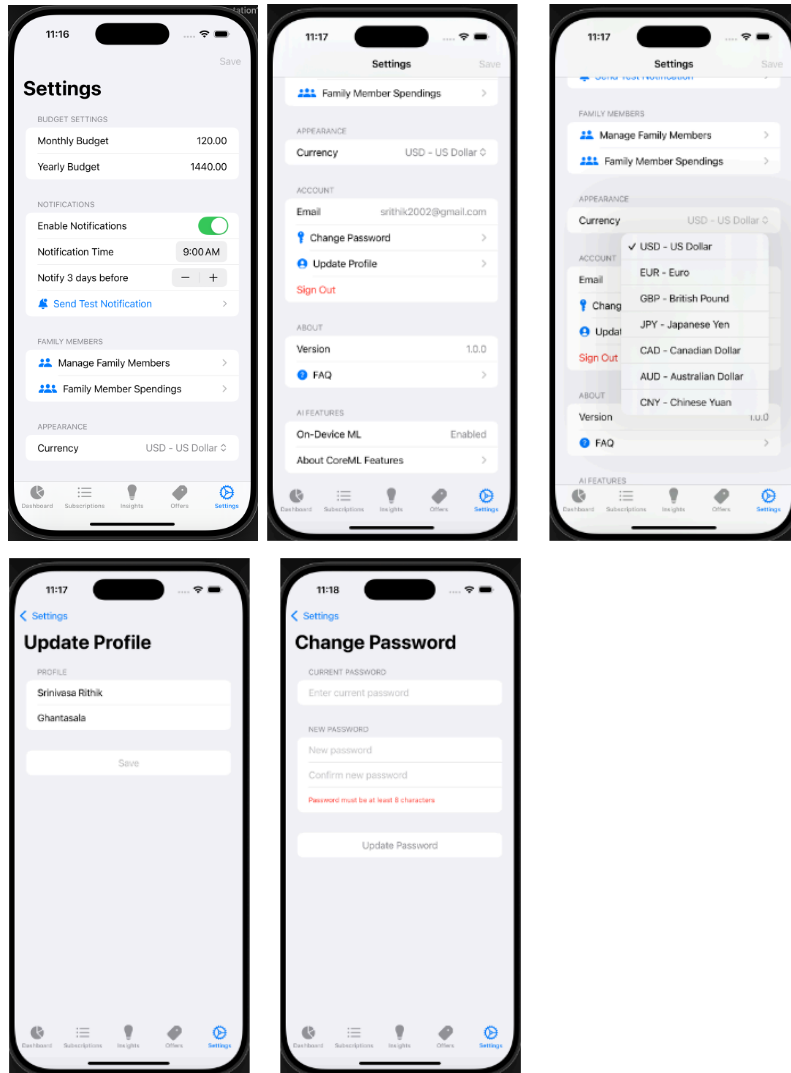


Insights & AI: This section provides deeper financial analysis:

- **Spending Overview:** Visualizes spending trends over the past six months.
- **AI Recommendations:** Users can analyze their spending to receive AI-generated advice on their habits.
- **Category Distribution:** A pie chart illustrates the overall distribution of spending across different categories.
- **ML Insights:** CoreML generates specific insights and suggestions based on spending patterns. This includes identifying potentially unused subscriptions and suggesting cost-saving measures, such as consolidating multiple subscriptions for similar services (e.g., cloud storage).

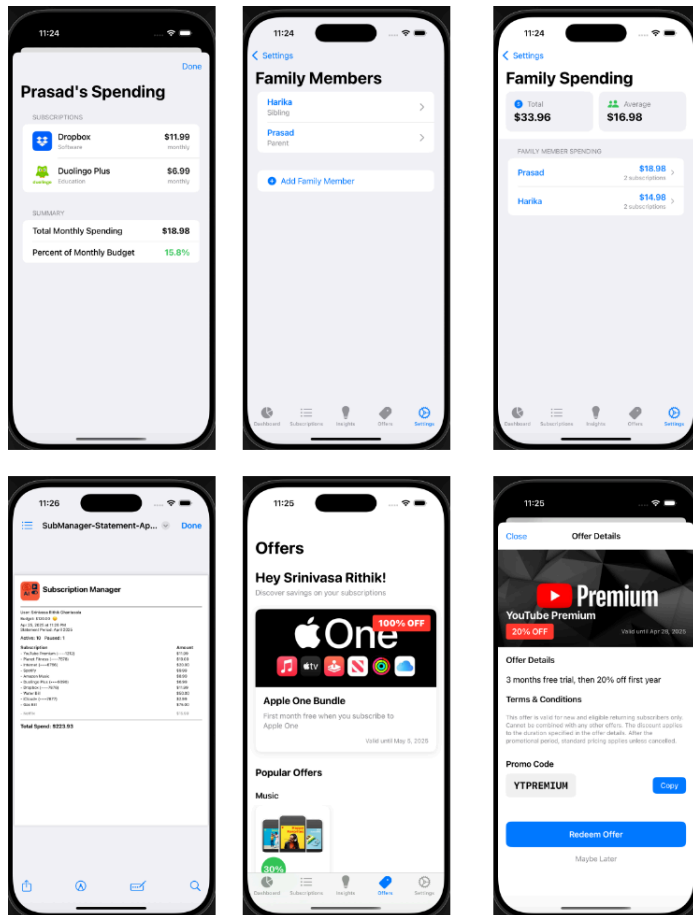
Settings View : Allows users to tailor the app to their needs:

- **Budget Adjustment:** Users can set and modify their monthly and yearly subscription budgets.
- **Notification Customization:** Payment reminder timing can be adjusted according to user preference.
- **Currency Selection:** Users can change the currency displayed throughout the app.
- **Profile Management:** Basic profile information (first/last name) can be updated, and users can change their account password.



Extra Features : Additional functionalities enhance the app's utility:

- **Family Sharing:** Users can add family members and assign specific subscriptions to them, clarifying who uses which service and associated costs. Spending per family member can also be viewed.
- **Offers Tab:** Displays current promotional offers from various subscription providers. If an offer includes a promo code, it's provided with a copy-paste function.
- **Payment Method Hint:** Users can optionally add the last four digits of their credit cards to track which card is used for which subscription.



Future Potential Upgrades

Automated Tracking: Implementing functionality to scan user emails and messages to automatically detect and add subscriptions to their account.

Multilingual Support: Adding different language options based on user nativity.

Enhanced ML Model: Gathering more user data (while respecting privacy) to further train the machine learning model, aiming for more sophisticated and accurate insights.

Conclusion

The Subscription Manager iOS app provides a much-needed, comprehensive tool for managing the complexities of modern subscription services. By consolidating subscription information, offering proactive reminders, providing intelligent spending insights via AI and ML, and including user-centric features like family sharing and offer discovery, it effectively addresses the problem of subscription mismanagement and financial inefficiency. The planned future upgrades indicate a commitment to continuous improvement, further enhancing its value proposition for users seeking greater control over their recurring expenses.