

1. Subscription Management and Tracking App

2. Team Members:

Abdulwahab Alnemer - aalnemer2020@my.fit.edu

Yosef Alhedr - yalhedr2020@my.fit.edu

3. **Faculty Advisor:** Khaled Slhoub - kslhoub@fit.edu

4. **Client:** Khaled Slhoub, Ph.D.

Department of Computer Engineering and Sciences

5. **Meeting Date:** 01/21/2024

6. Goal and Motivation:

The overarching goal of our Subscription Management and Tracking App is to enhance the overall well-being and satisfaction of users by simplifying and streamlining the management of their various subscriptions. We understand that today's users are presented with an overwhelming number of subscriptions, ranging from streaming services to utility bills, which often leads to frustration and financial strain. Our motivation stems from the recognition that the current systems for subscription management are often fragmented, lacking in clarity, and prone to oversight. Users frequently forget about active subscriptions, leading to unnecessary expenses and dissatisfaction. Our aim is to alleviate these pains and offer a solution that empowers users to effortlessly manage their subscriptions, achieve greater financial control, and experience a sense of relief and happiness.

7. Key Features:

1. **Comprehensive Subscription Dashboard:** Our app will provide users with a centralized dashboard that presents a comprehensive overview of all their subscriptions in one place. Users can effortlessly visualize their active subscriptions, upcoming billing dates, and the associated costs. By presenting this information clearly and concisely, we eliminate the need for users to manually sift through emails and statements, allowing them to regain a sense of control over their financial commitments. This transparency empowers users to make informed decisions about which subscriptions to keep, modify, or cancel, contributing to a greater sense of happiness through financial clarity.
2. **Smart Subscription Renewal Reminders:** One of the key features that sets our app apart is its intelligent subscription renewal reminder system. Users can set preferences for how they wish to be reminded about upcoming subscription renewals, whether through push notifications, emails, or in-app alerts. This personalized approach ensures that users never miss a renewal deadline, avoiding unexpected charges and reducing the likelihood of frustration due to missed cancellations. By proactively managing renewals, users can optimize their subscriptions according to their evolving needs, leading to a higher level of satisfaction.

3. **Cost Tracking and Budgeting Tools:** Our app goes beyond basic subscription management by offering robust cost tracking and budgeting tools. Users can categorize their subscriptions, monitor historical spending patterns, and set budget thresholds for different subscription categories. The app's analytics provide insights into their subscription-related expenses, empowering users to identify areas where they can save money and allocate resources more efficiently. By promoting financial awareness and control, our app contributes to users' overall sense of happiness and well-being, as they experience a greater mastery over their finances.

8. Algorithms and tools:

Note: These are not finalized, some are not worked on yet and also some of them might be changed.

- **Comprehensive Subscription Dashboard:**
 - Technology:** React for the front end.
 - Tools/Libraries:** Currently Hardcoded, will be decided and implemented this semester.
 - Algorithm:** Use algorithms for sorting and filtering subscription data efficiently.
- **Smart Subscription Renewal Reminders:**
 - Technology:** React Native for cross-platform mobile development.
 - Tools/Libraries:** Firebase Cloud Messaging (FCM) for push notifications, Nodemailer for email reminders.
 - Algorithm:** Implement a scheduling algorithm for timely reminders.
- **Cost Tracking and Budgeting Tools:**
 - Technology:** React for the front end, Node.js for the back end.
 - Tools/Libraries:** Will be decided and implemented this semester.
 - Algorithm:** Implement algorithms for categorizing and tracking spending patterns.
- **Database Schema and Optimization:**
 - Technology:** MongoDB for the local database.
 - Tools/Libraries:** Mongoose (for MongoDB for database modeling and querying).
 - Algorithm:** Optimize database queries for fast performance.
- **User Authentication and Security:**
 - Technology:** Implement Firebase for secure user authentication.
- **Cross-Platform Compatibility:**
 - Technology:** React Native for cross-platform mobile development.
 - Tools/Libraries:** Use responsive design principles for a consistent user interface.

9. Novel Feature:

The "Smart Subscription Renewal Reminders" feature is a groundbreaking addition to our Subscription Management and Tracking App. Unlike traditional apps, it offers users the ability to personalize how they receive reminders for upcoming subscription renewals. This customization enhances user engagement, reducing the likelihood of missed renewal deadlines and unexpected charges. By proactively adapting to users' preferred communication channels, this feature is user-centric and contributes to a higher level of satisfaction. Overall, the novel aspect of this feature lies in its proactive and personalized approach, addressing a common pain point and enhancing users' experience by providing them with greater control over their subscription management.

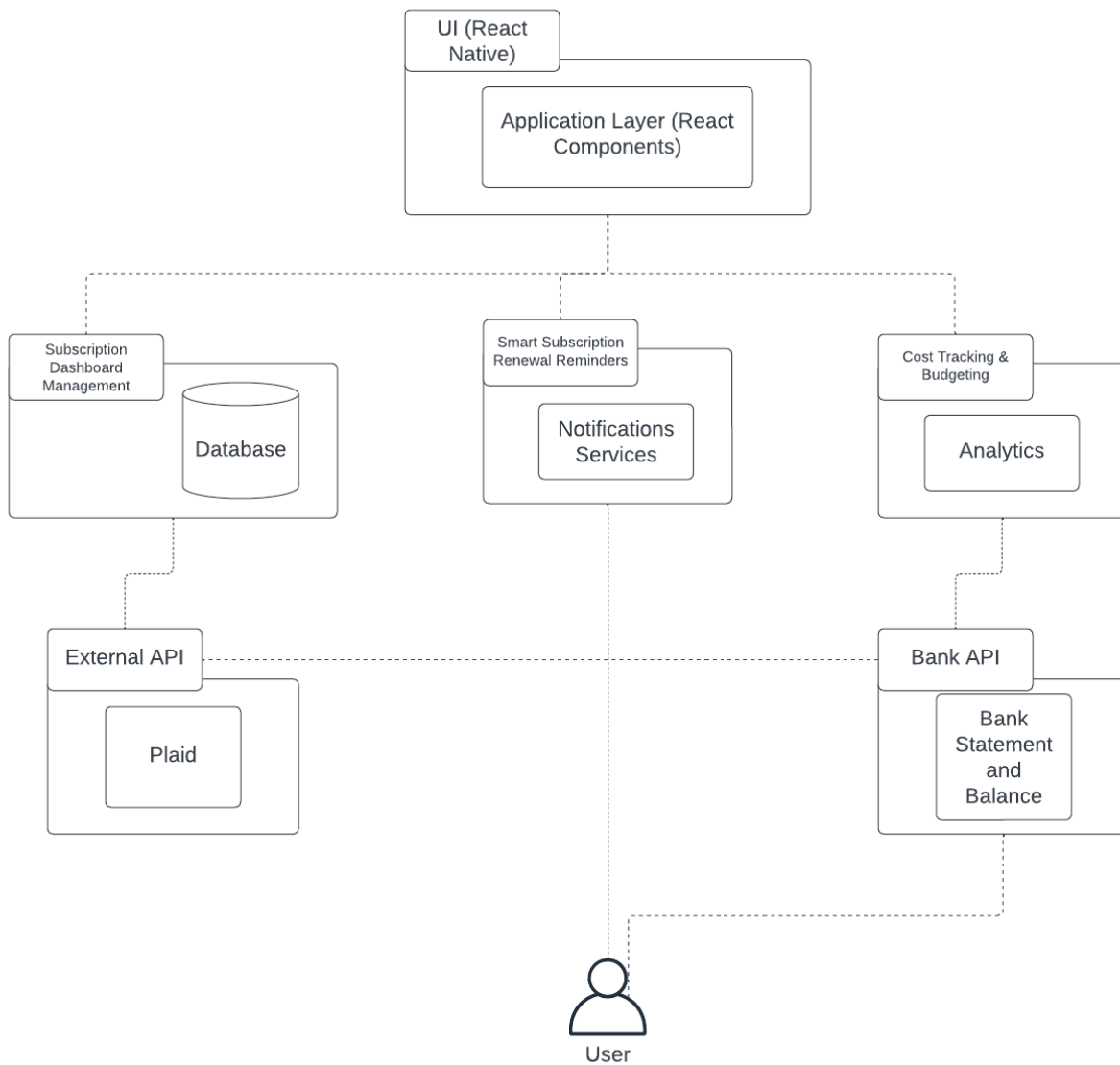
10. Technical Challenges:

The first technical challenge this semester is implementing 'Plaid' to get the user bank data/information to be able to get subscriptions and balance from the user bank statement, it's a challenge since it's the first time for us to work on API's when we have no knowledge at all.

Secondly, We have to ensure that the app functions seamlessly on various platforms and operating systems like Web, IOS, or Android can be challenging. We may need to account for differences in user interfaces, and each device capability.

Lastly, Designing a database schema that efficiently stores and retrieves subscription data while ensuring data consistency and integrity can be challenging. Optimizing database queries for fast performance is crucial.

11. Design:



12. Evaluation:

Note: We need to finish the application to be able to evaluate it, since not all features are implemented.

- **Speed:**
 - Measure the time taken to load the subscription dashboard and retrieve subscription data.
 - Evaluate the response time for push notifications and emails for subscription renewals.
- **Accuracy:**
 - Assess the accuracy of subscription information displayed on the dashboard.
 - Check the accuracy of renewal reminders and notifications.
- **Reliability:**

Conduct tests to determine how often the system successfully sends accurate reminders out of a set number of trials (e.g., 10 times).
 Monitor system uptime and assess reliability over time.

13. Progress Summary:

Module/Feature	Completion	To do
GUI	% 100	none
Database	%80	Convert the database from local to a cloud database, and modify it if need to when advanced features are implemented
User Authentication	% 100	%50
Clickable Prototype	% 100	none
Automation (if possible)	%0	Task 3 in Milestone 4
Cost tracking and budgeting features	%0	Task 1 in Milestone 4
Search and Filter feature	%75	Task 1 in Milestone 5

14.

Milestone 4 (Feb 19): Advanced Features

- Develop the cost tracking and budgeting tools with graphs and analytics.
- Enhance the subscription management by allowing users to categorize subscriptions.
- Adding "Adding subscriptions through bank account" feature if possible

15. Milestone 5 (Mar 18): Advanced Features 2

- Implement more advanced search and filter options for subscriptions.
- Complete the remaining features and functionality if there are any, including any outstanding subscription management and cost tracking features.
- Conduct thorough testing, including security and compatibility testing.
- Poster and e-book page

16. Milestone 6 (Apr 15): Finalization and Deployment

- Address any issues and fix bugs identified during testing.
- Prepare for app store submissions (App Store and Google Play).
- Launch the app on the app stores and promote it.
- Demo video and manual

17. Task matrix for Milestone 4

Task	Abdulwahab	Yosef
Develop the cost tracking and budgeting tools with graphs and analytics.	%50	%50
Enhance the subscription management by allowing users to categorize subscriptions.	%50	%50
Adding "Adding subscriptions through bank account" feature if possible.	%50	%50

18. Description:

- **Task1:** Focus on building advanced tools for cost tracking and budgeting. This includes integrating graphical representations and analytics into the user interface, allowing users to visually interpret their spending patterns, set budget thresholds, and receive insights into their subscription-related expenses. The goal is to provide users with a comprehensive and intuitive toolset for financial management.
- **Task2:** This task involves expanding the subscription management capabilities by introducing a feature that enables users to categorize their subscriptions. Users will have the ability to organize subscriptions into distinct categories, providing a more structured and personalized approach to managing their various services.

- **Task3:** This task explores the feasibility of integrating a feature that allows users to add subscriptions directly through their bank accounts. If implemented, this feature will streamline the process of populating the app with subscription data by leveraging Plaid or a similar service to securely retrieve and add subscription information from users' bank accounts.

19. Approval from Faculty Advisor:

"I have discussed with the team and approved this project plan. I will evaluate the progress and assign a grade for each of the three milestones."

Signature: _____ Dr Khaled Slhoub _____ Date: _01/21/2024_____