

SubBot UX Design: A Case Study

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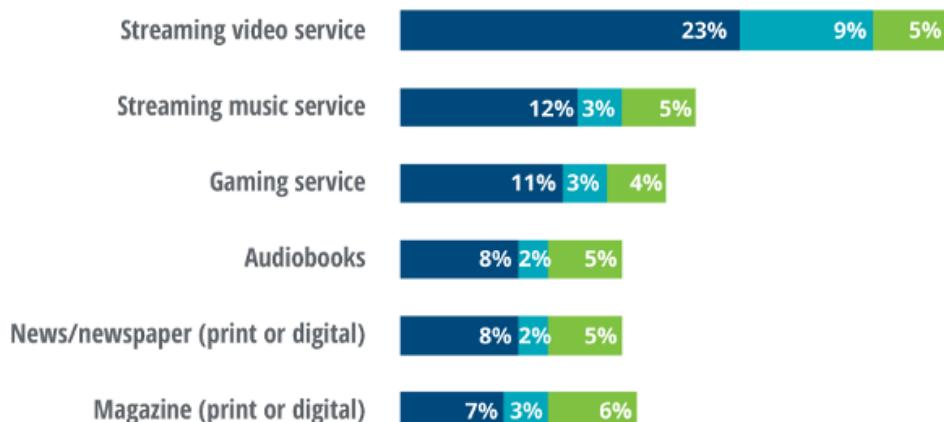
Introduction

From Netflix, Spotify and Amazon Prime to Blue Apron, Chewy and beer of the month, our debit or credit card statements are likely littered with subscriptions that are costing us dearly. In addition, a dozen free trials can soon morph into mainstays on our Mastercards, eating away our wealth even when we do not value the product or service anymore. Especially during the COVID-19 pandemic, we have seen a rising number of entertainment goods and services being subscribed which can overwhelm customers if not managed in an efficient manner.

Addition and subtraction

Changes made to paid subscriptions since the COVID-19 pandemic began

■ Added ■ Both added and cancelled ■ Cancelled



Source: Digital media trends, 14th edition (COVID-19 survey).

Deloitte Insights | deloitte.com/insights

Statistics on Paid Subscription Rise During COVID-19

Problem Statement

There are a gazillion subscription-based services or content that we subscribe to and it is not uncommon to forget about a few, especially since they may have different renewal dates and payment methods. Meanwhile, subscription-sharing becomes more prevalent as consumers search for ways to enjoy the same benefits of subscriptions with lower costs, making it even harder for individuals to track and control their spendings. In the era of online subscription, SubBot is introduced to help people better control their recurrent spendings.

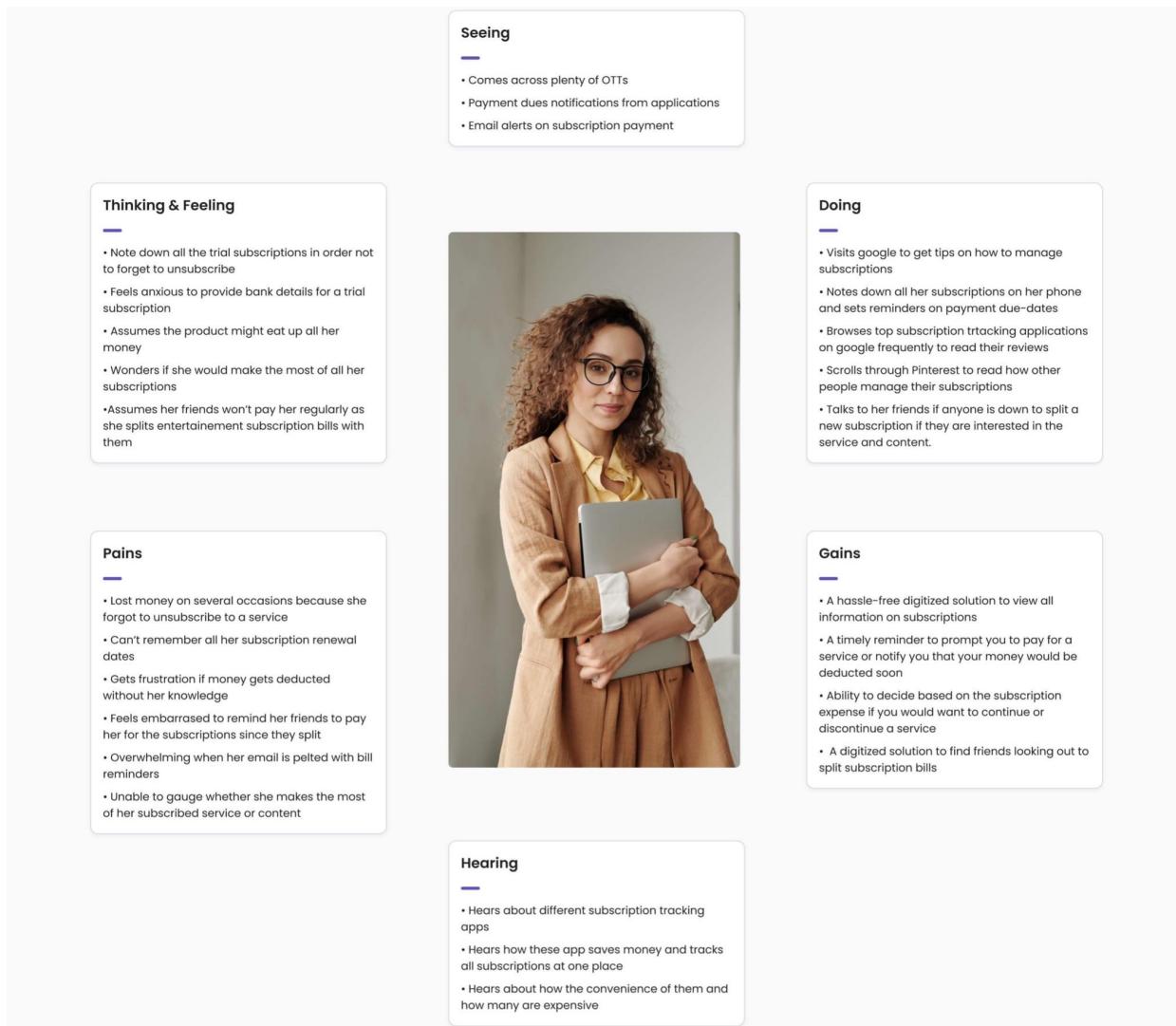
Value Proposition

SubBot helps users easily track, manage and budget their individual and shared subscriptions, optimizing time and spending through smart reminders and minimal manual inputs. We strive to create a one-stop app that does not overwhelm users with unneeded features or information, but still give them enough flexibility to choose how they want their subscriptions organized.

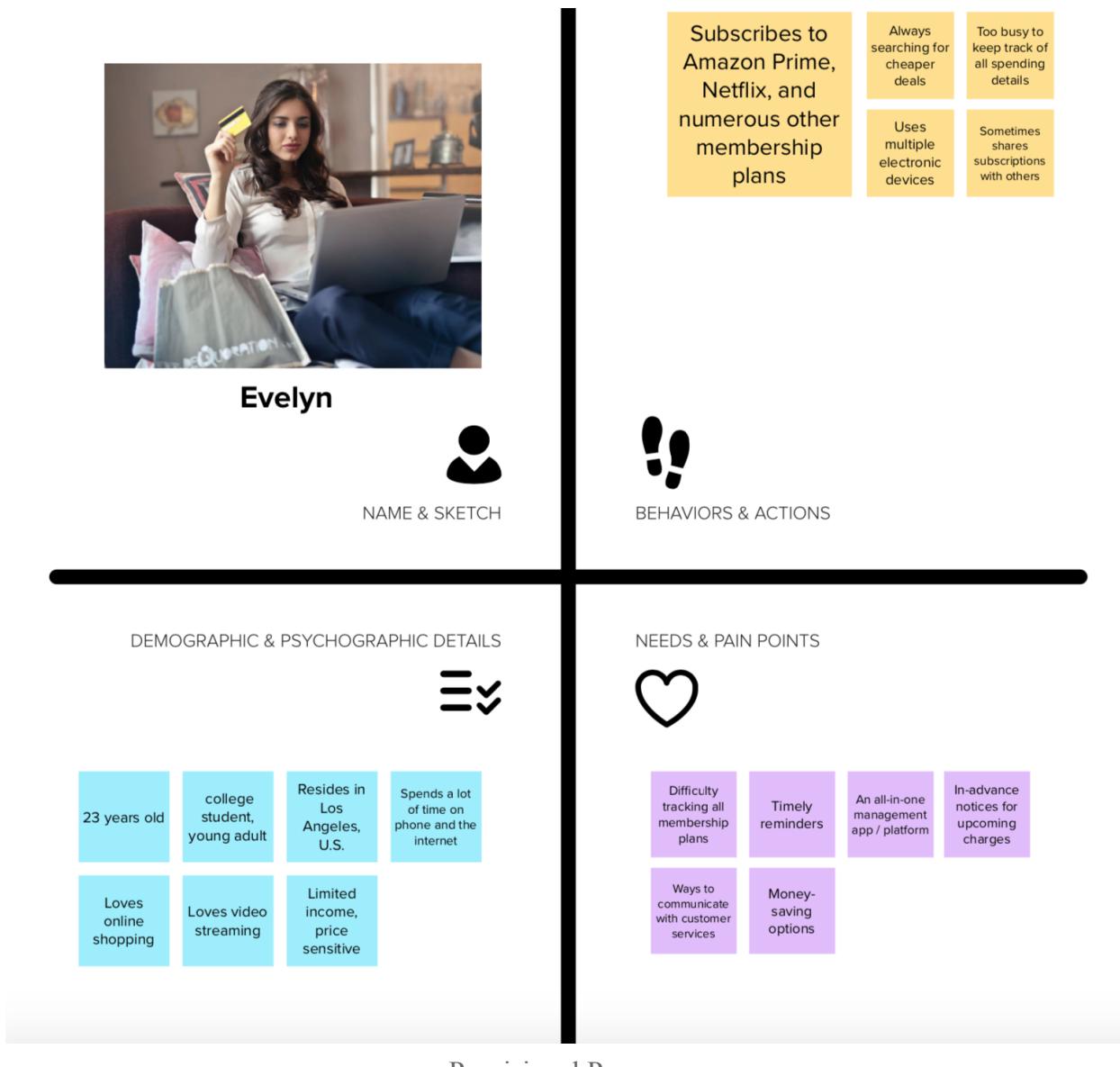
User Discovery & Validation

a. Empathy Map and User Persona

To start off the research process, we used an empathy map to discover how our target segment thinks, feels, and reacts to the problems. It puts us in the customer's shoes and provides a good starting point to define some characteristics of the customer group and brainstorm on how the app can be tailored to tackle their problems. Later on, we condensed and transferred the initial speculations on our target group into a representative individual, or a snapshot of potential customers named provisional persona.



Empathy Map



b. Customer Validation Interview

Subsequently, to confirm that potential users indeed share the same concerns as we envisioned, we reached out to three individuals with different backgrounds, verified them with screener questions and interviewed them with a set of customer validation questions. During the process, we used the questions as anchor points and paid close attention when the participants mentioned any pain points, particular patterns of behaviors and motivation behind them.

Screener Question:

1. Are you currently subscribed to more than one subscription product/services or paid Apps? (Amazon Prime, Spotify, Netflix, LinkedIn Premium, Uber Pass...)
2. Are you within the age of 18 to 45?

(Continued)

Validation Questions:

1. Do you work full time or part time?
2. How many subscriptions/membership plans are you currently enrolled in?
3. What are your top 2 favorite (or most useful) subscription products or services?
4. Have you ever signed up for any Free Trial of a subscription product/service?
5. Have you ever paid for any subscription plans unintentionally or involuntarily?
6. Did you ever have a hard time managing all your subscription products/services? And if so, why?
7. Have you previously shared a subscription plan with someone else casually (e.g. friends, families, roommates...etc.)? If so, what was the product?
8. Do you look out for discounts when shopping online?
9. On what devices do you use/manage your subscriptions?
10. Would you consider using an all-in-one subscription manager App (which keeps track of your subscription in the background, offers timely reminder and spending details and allows you to cancel subscription directly on the app)? What about a Google Extension?

Joyce Z	Kimberly, S	Ruixue, L
23, Software Engineer	23, Media Relation Specialist	23, Full-time Student
Values product quality; Uses Paypal to better manage recurring payments	Values convenience and transparency for how data is used; Has a lot of subscription sharing within the family	Price sensitive and values convenience of services; Continued using 60% of the apps after free-trial
“I often forgot to cancel and hate to contact the bank just to cancel recurring payments made with credit cards”	“Unfortunately my sister didn’t remember to cancel her subscription and was billed \$180”	“I understand the auto-renewal is their strategy but it’s still annoying and stressful”

Participants Profile with Quotes

Through the interviews, we listened to participant's stories and gained some useful insights:

- All participants hold more than 6 subscriptions and chose video or audio streaming services as their best-value subscriptions
- All participants had forgotten to cancel subscriptions at some point and got charged and would appreciate a timely reminder
- Most participants would consider using a subscription manager app that is comprehensive and convenient
- All participants have shared or is sharing subscription plans with others

Competitive Landscape

a. Competitor Research with SWOT Analysis

Having had a basic understanding of our customers, we moved on to researching and benchmarking other players in the market. In total, we studied 5 direct competitors and 5 indirect competitors and performed SWOT analysis to study their advantages and drawbacks.

Detail: Direct Competitors

Competitor	SWOT Analysis
Truebill	<ul style="list-style-type: none">Strength: Established company and user base; Comprehensive App with all-rounded features; <u>Bank-level security and privacy protection</u>; Freemium model that gives flexibilityWeakness: <u>Lack of focus</u> on subscriptions management specificallyOpportunity: Families or couples can <u>integrate their accounts</u> together with Truebill. It helps strengthen the bonding among them to control their finances wisely and economically; Able to use existing resources to develop more targeted and customizable features (even for <u>new and niche users</u>)Threat: A rising number of personal financing App emerged in the market since 2016 (<u>competition & red ocean</u>); Potential breach of privacy data and <u>cyber attacks</u> from hackers
Bobby	<ul style="list-style-type: none">Strength: Supports multiple currencies; <u>Great learnability</u> with straightforward features; No access to bank account neededWeakness: <u>A lots of manual works needed</u> when entering subscriptions information; Less than ideal notifications; Syncing became a issue across devices with system updatesOpportunity: Several <u>features can be improved</u> and a tagging system can be added for convenienceThreat: Recently more bugs have been reported and reminders are sometimes inaccurate
TrackMySubs	<ul style="list-style-type: none">Strength: <u>Intuitive</u> dashboards for spending insights; Transparent pricingWeakness: Only available as website or Google Chrome extension (<u>lack accessibility</u>)Opportunity: Launching an App which allows users to use it on phone and sync dataThreat: <u>Lacks overall exposure</u> compared to competitors, the good features doesn't mean anything if customers do not know about the application at all
Trim	<ul style="list-style-type: none">Strength: <u>Competitive pricing</u>, lower commission rates on bills negotiation; Responsive developers and good customer service teamWeakness: Some <u>underdeveloped features</u> in the subscription

	<p>management section; <u>Not easily accessible</u> on phone as it is offered on website and not as an App</p> <ul style="list-style-type: none"> • Opportunity: <u>Expanding the scope</u> of offerings and implementing platforms • Threat: Not memorable, doesn't stand out among existing and incoming competitors
iOS Subscription Center	<ul style="list-style-type: none"> • Strength: <u>Accessibility unmatched by other competition</u>, free and no need of extra setup for existing iOS users, easy syncing across devices • Weakness: Poor execution on subscription renewal and notifications • Opportunity: iOS still popular today with almost 1 billion users worldwide • Threat: <u>Emerging competitors</u> that offers more developed substitutes services

Detail: Indirect Competitors

Competitor	SWOT Analysis
Mint	<ul style="list-style-type: none"> • Strength: <u>Well-established</u> company and large user base; Comprehensive features • Weakness: Company is relatively <u>old</u> and an increasing amount of <u>issues has been reported</u> recently with devices compatibility, connection, and failed updates • Opportunity: <u>Adapt to new technology</u> such as ML or AI to improve user experience • Threat: <u>Younger and more innovative competitors</u> appeared in the personal finance/subscription management category
BOA Mobile Banking	<ul style="list-style-type: none"> • Strength: <u>Availability</u>, usually more likely to be installed and used than other financing Apps or subscription management Apps • Weakness: <u>Network difficulties</u> can be serious sometime and the App <u>may not send push-up reminders</u> or notifications for recurring charges • Opportunity: <u>Fast-growing technologies</u> used for mobile banking; <u>More adopters</u>, people got the knowledge and has been friendly with the system recently • Threat: The innovation of services lead to <u>tough competition</u> in the market whereby the customers may prefer to move to another banks
iOS Reminders	<ul style="list-style-type: none"> • Strength: <u>Accessibility unmatched by other competition</u>, free and no need of extra setup for existing iOS users, easy syncing across devices, customizable alerts setting • Weakness: Not designed specifically for tracking subscriptions or other spending; Requires a <u>large amount of manual input</u> • Opportunity: Can use to the user data already collected to detect Apps being installed and potential subscriptions

	<ul style="list-style-type: none"> Threat: Other Apps or software that provides <u>automated features</u> and help users save time and efforts
Google Calendar	<ul style="list-style-type: none"> Strength: Great <u>availability and compatibility</u>, large base of existing users that already adopted the software, complete reminder options Weakness: The App version <u>UX & UI not as user-friendly</u> as the web version, bad implementation with widgets and not enough customizable colors Opportunity: Increasing demand for better App and widgets integration (which the company can achieve with their resources) and an extended subscription management functions even Threat: People converting to other calendar/reminder Apps (such as iOS's built-in calendar) as syncing became a more serious issue on mobile devices
Countdown	<ul style="list-style-type: none"> Strength: Learnable, serves the essential need of countdown app Weakness: Only has the option for events recurring yearly, not a lot of customizable features at the free tier; Manual input required Opportunity: Better use of widgets incorporated in newer iOS systems Threat: Other competitive Apps or software that provides automated features or cheaper services

The SWOT analysis helped us identify the market gaps and areas where target customers are underserved. It also makes the mapping of market trends easier and enhances our understanding on what creates a strong market position. With main competitors like Bobby or Truebill offering similar functions like budgeting, subscription tracking and basic reminders, SubBot needs to differentiate itself by including new sets of valuable features while improving on the existing ones.

Feature Definition

Based on previous analysis, we determined 3 key features that will optimize user experience:

- 1) Auto data import, which allows the app to scan user's phone for subscription history and add them without having the user type in the subscription details from scratch;
- 2) Smart reminder, which use a built-in algorithm to generate alerts based on the nature of the selected subscription (due date, payment amount, etc.) and user's behavior;
- 3) A subscription sharing ecosystem where users can create and manage groups in which members split the cost on some common subscriptions.

Scenario Development & Storyboarding

To convert the defined key features into user experience and visualize the flow of actions, we specified two scenario maps and drew their respective storyboard. Each scenario highlights a problem users might encounter while managing subscriptions and how SubBot addresses them.

Storyboard 1: Forgotten Old Subscription

Storyboarding

Visualize how people will experience a given scenario

- 1 Scenario: Evelyn forgot to cancel an unneeded subscription and got charged. She wants to avoid such things from happening again.

Automatic input: In addition to manual input, SubBot can automatically pull data from user's subscription history and create entry (with user's consent).

Smart reminders: The reminders will be set automatically based on the time, frequency, and amount due for each subscription. Users can also further customize these settings.

2

Visualize each step.



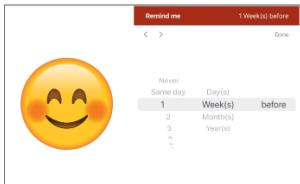
Evelyn got charged from a subscription she doesn't need anymore but forgot to cancel. She went through a lot of troubles to track and cancel the subscription and get refunded.



She began using SubBot which detects new free-trials and subscriptions for App downloaded from App Store



Each time Evelyn opens the App, new subscription entries will be automatically created for detected plans so manual input is minimized.



Additionally Evelyn can turn on/off and further customized the reminder alert setting as she want.



SubBot App sends out timely reminders before each billing date and the links towards website/App to cancel the subscription.



Evelyn continues to manage her subscription easily and cancel only the ones she no longer needs. The key features in SubBot save her time and money as she enjoys the benefits of subscriptions without worrying about forgotten or unexpected charges.

Storyboard 2: Shared Subscription

Storyboarding

Visualize how people will experience a given scenario

- 1 Scenario: Kimmy recently subscribed to a new service and shared it with her college friends. She wants to keep track of the spending and cancel it when needed.

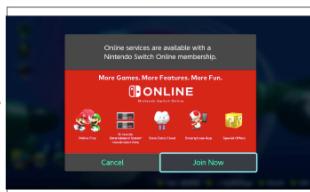
Manual input: In addition to data pulling directly from user's subscription history, user can manually input other new subscriptions

Account connection & Shared-subscription tool: users can connect with other users to share subscriptions / expenses details (in pairs, groups...) and see the pro-rated cost and manage their reminders individually.

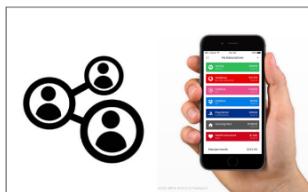
Smart reminders: The reminders will be set automatically based on the time, frequency, and amount due for each subscription. Users can also further customize these settings.

- 2

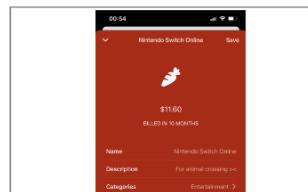
Visualize each step.



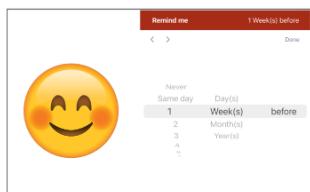
Kimmy just subscribed to a new membership which she shares with her friends.



She inputs information about the new subscription manually and syncs it with her friends in the SubBot App.



Now everyone sharing this subscription can see it in their App and the pro-rated (divided) cost and manually and syncs it with her friends in the App.



Each person including Kimmy can turn on/off and customized the reminder alert setting as they want.



SubBot App sends out timely reminders before each billing date and the links towards website/App to cancel the subscription.



Kimmy kept the subscription for two years, managed it easily and canceled exactly when she wanted to. She and her friends all enjoyed the services and feel happy about the money being saved.

Online User Research

To test the usability of our product, we recruited and conducted user research with 5 young adults who currently reside in the U.S. and hold multiple subscriptions in different categories. Specifically, five hypotheses were carefully chosen for the research to evaluate 1) the value proposition, 2) the three main product features, and 3) the business model. A interactive prototype was presented to the participants and detailed validation questions were asked to get to know the potential customers' mindset and expected behavior (see the table below). Overall, most of the proposed hypotheses were validated by the participants' responses. For the one hypothesis that was not validated, participants acknowledged the value of subscription-sharing features and replied that they "would consider using this App even without recommendations

5. HYPOTHESES	6. VALIDATION QUESTIONS	7. MINIMUM SUCCESS CRITERIA
Hypothesis # 1 (testing value proposition): User can feel overwhelmed by managing various of subscriptions held and used to had bad experience in the past	Have you ever forget or had trouble canceling or renewing subscriptions? Would you consider using a App that helps you better manage your subscriptions?	80% positive feedback
Hypothesis # 2 (testing business model): Customer segment are willing to pay for 4.99 for a comprehensive subscription manager app	What do you think the right price would be for this app? For a freemium model what features should be in the paid tier?	60% positive feedback
Hypothesis # 3 (Key Feature #1): Customer prefers the combination of automatic data import and manual inputs of subscription information than either one alone	Would you want the app to extract your subscription history? Do you prefer entering subscription detail manually? Or both?	80% positive feedback
Hypothesis # 4 (Key Feature #2): Customer has multiple shared subscriptions and are more likely to use the app if their friend/family are using it	Approximately what percentage of subscriptions are shared with others? Would you consider using this app if your friends & family are using it?	80% positive feedback
Hypothesis # 5 (Key Feature #3): Customer enjoys the freedom of customizing their own reminders but is also open to an algorithm-generated smart reminder	Would you like to receive alerts or notifications about upcoming subscription due? If so how early (a day/week/few hours before)?	80% positive feedback

from friends".

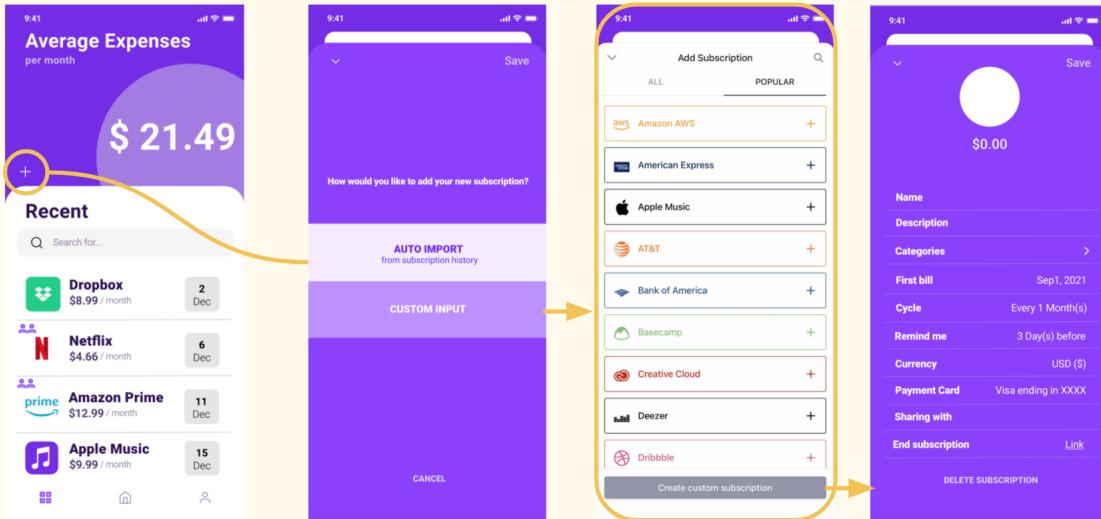
Online User Research: Hypothesis Validation

Prototype Development ([Figma Prototype Link](#))

The prototype of SubBot was initially built based on the revised value proposition and continuously updated based on the online research study mentioned above and other feedback gathered throughout the process. The finalized prototype consists of a total of 11 screens and encapsulates all core functionalities that SubBot emphasizes when creating value for customers.

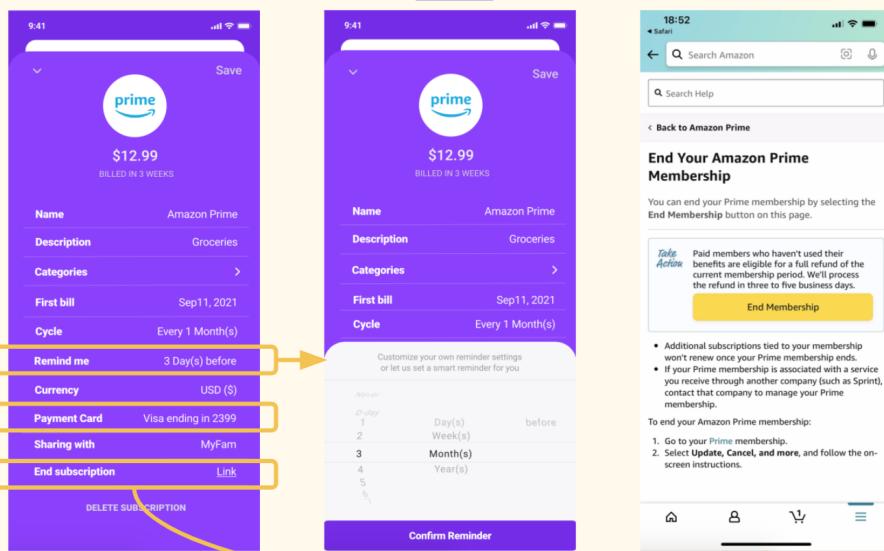
The first set of functions evolves around adding new subscriptions. On the main dashboard page, users can see their average spending for the current month along with a summary of all upcoming subscriptions and their due dates. And whenever users want to add a new subscription, they can click the "add" icon which will lead to a screen showing options of auto import from subscription history or manual input. If the user chooses to use the auto import feature, the app will request permission to scan for subscription history; And if the user chooses custom input, it will instead lead him or her to a list of popular subscriptions, which is screen added after the usability testing to minimize the amount of manual input. This screen (highlighted in yellow border) makes it easier for users to search for specific subscriptions and then fill in other relevant details as pleased. If the subscription is still not found, there is always the option for the user to type in subscriptions details row by row as shown in the last screen.

Design Iterations: Add Subscription



While designing the subscription detail page, we incorporate not only basic information such as name of the subscription, category and billing cycle but also (see the image below). Specifically, the “Remind Me” section allows users to freely choose alerts based on personal preference, or turn on the smart reminder which employs an algorithm generated reminder that automatically sets up the optimal reminder (which can be turned on or off on the Personal Setting page). In addition, based on feedback gathered from the user research interview, we also added a row to record which payment card is set to pay for the subscription, along with the “End Subscription” link at the very bottom which makes canceling subscriptions faster and easier for users, as shown in the screen on the right.

Design Iterations: Reminders & Cancellation



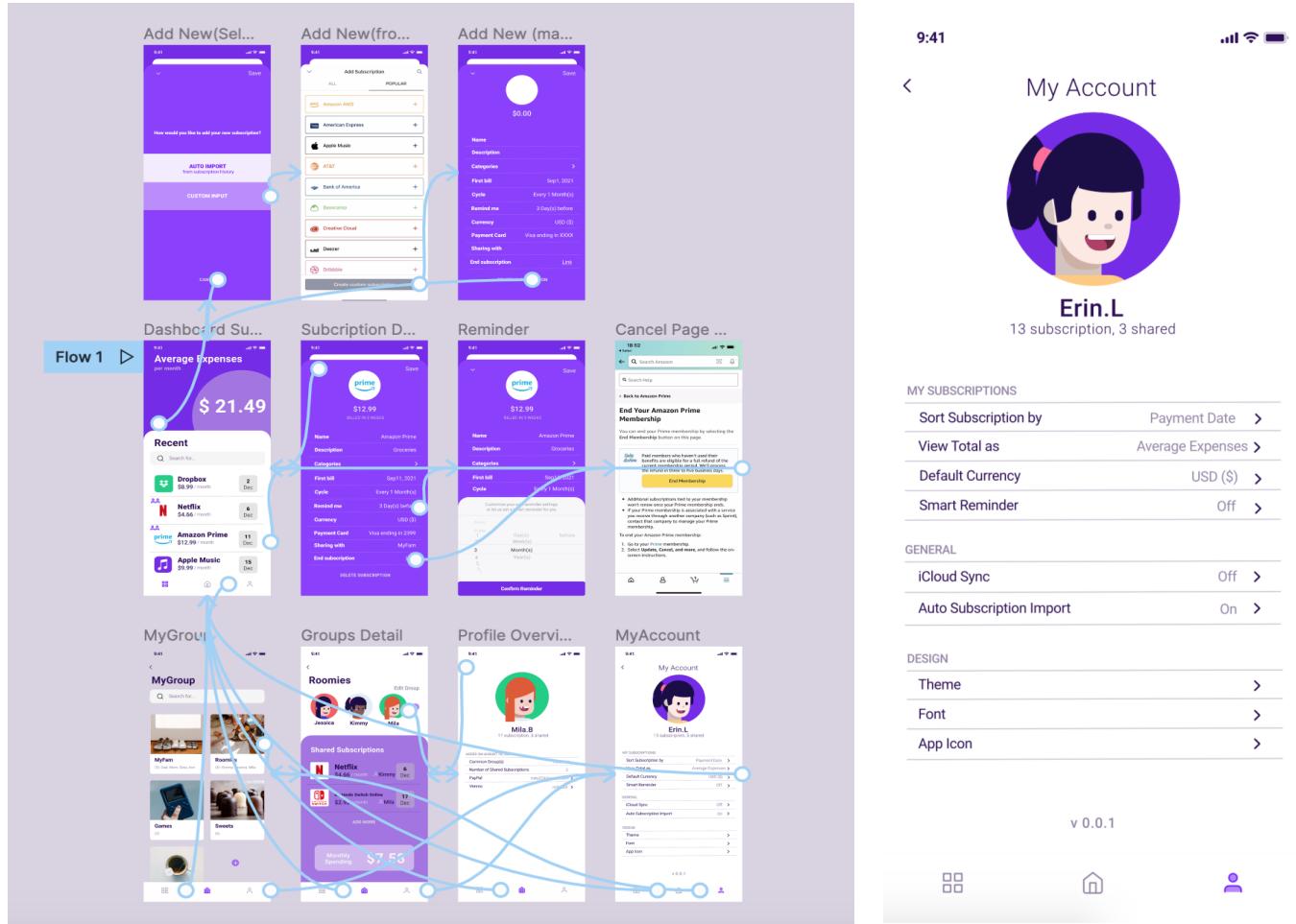
If the features mentioned previously are a refined version of what existing products offer, the new subscription sharing section is a brand new idea not yet adapted by any competitors in the market. On the “MyGroup” page (see the image below), users can easily create, delete or make changes to multiple subscription-sharing groups consisting of different members. When clicking into a specific group, users can view all the current members and shared subscriptions. For each subscription, the split or prorated costs is displayed, along with the owner of this particular subscription. Users can also access other members’ information by simply clicking their avatar, getting their basic information along with paypal and venmo id in the need of money transferring. At the same time, all subscriptions that are marked shared will be reflected on SubBot’s main dashboard screen, as a purple group icon will appear.

Design Iterations: Subscription-Sharing



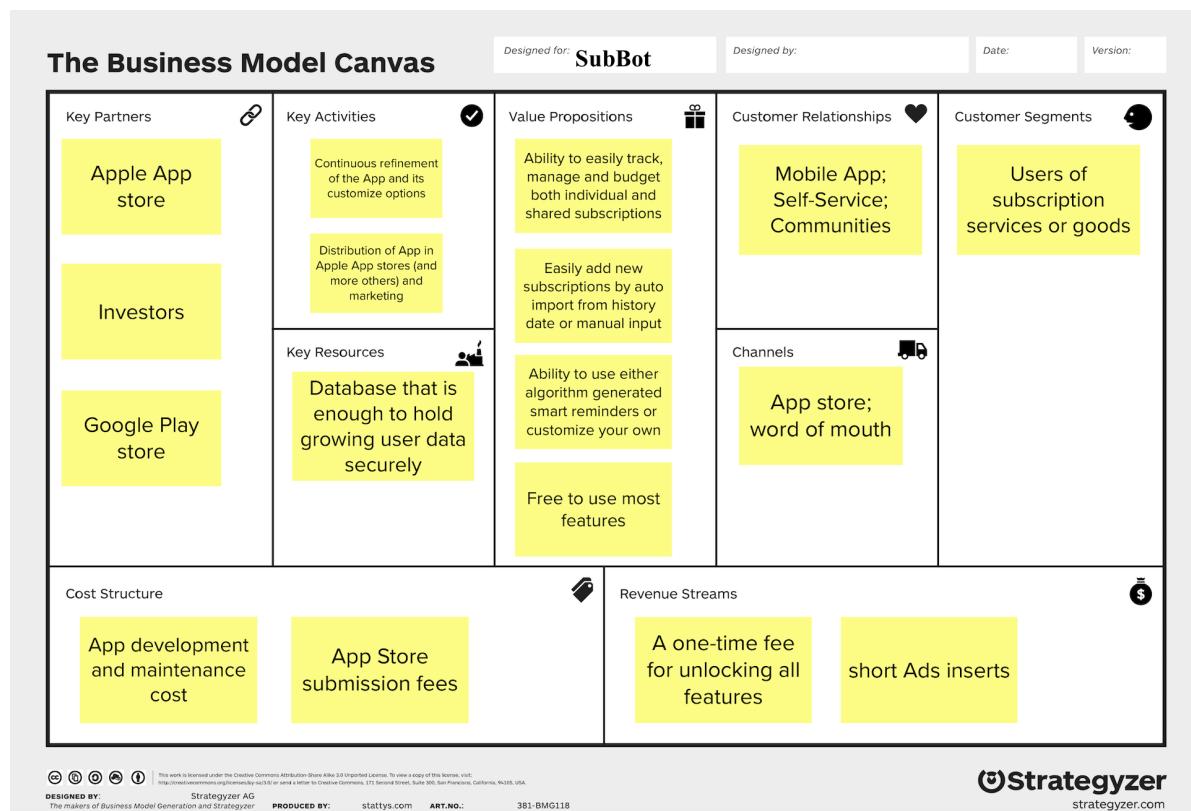
From left to right: MyGroup page, Groups Detail page, Profile Overview Page, Main Dashboard

Lastly, the “My Account” page for SubBot serves as the control center for different settings and further allows users to customize the app according to their preferences. For instance, changing the “Sort Subscriptions by” option will affect the order in which subscriptions are listed on both the main dashboard page and groups detail page. Other features like Smart Reminder and Auto Subscription Import can also be activated or deactivated here.

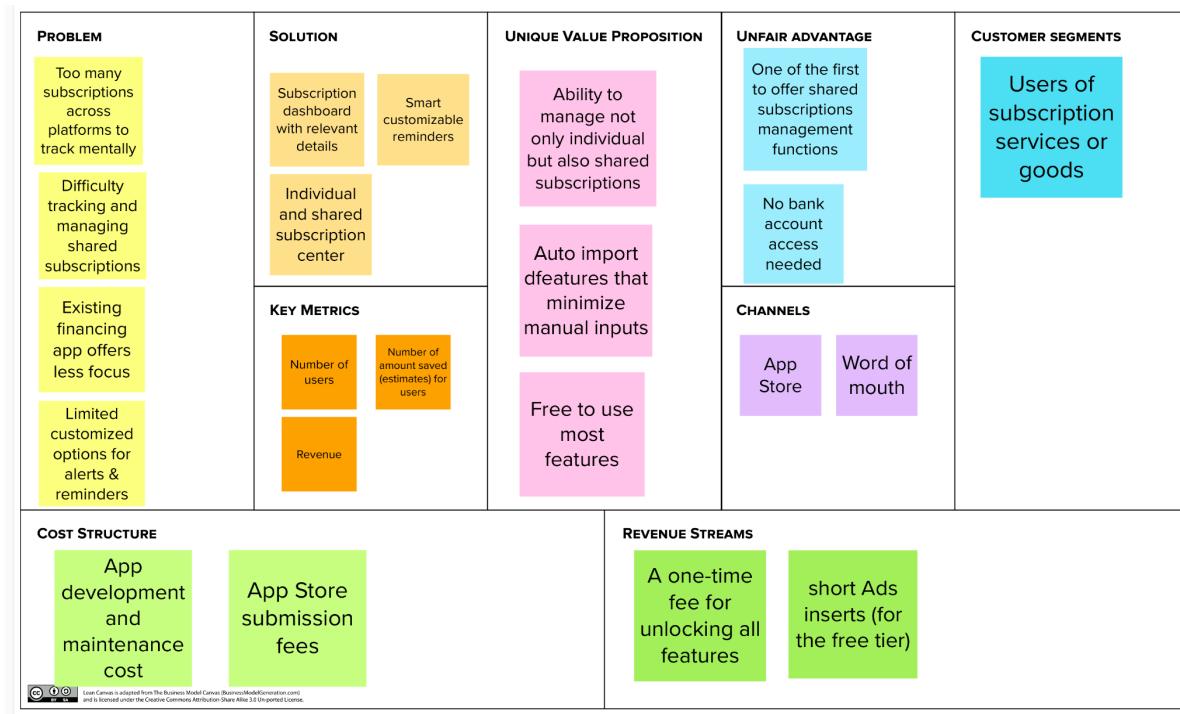


It is important to note that some features listed on My Account Page like iCould Syncing and Theme changing are included in the premium tier of the app. Essentially, users can use all three sets of key features and add up to 3 groups and 10 subscriptions for free, or upgrade to the premium plan for a one-time fee of \$3.99 to enjoy unlimited subscription and group entries along with other advanced options. Ultimately, we want to provide the best subscription management experience to users at an affordable price and use part of the revenue generated to keep improving the app.

Business Model & Lean Canvas



Business Model Canvas

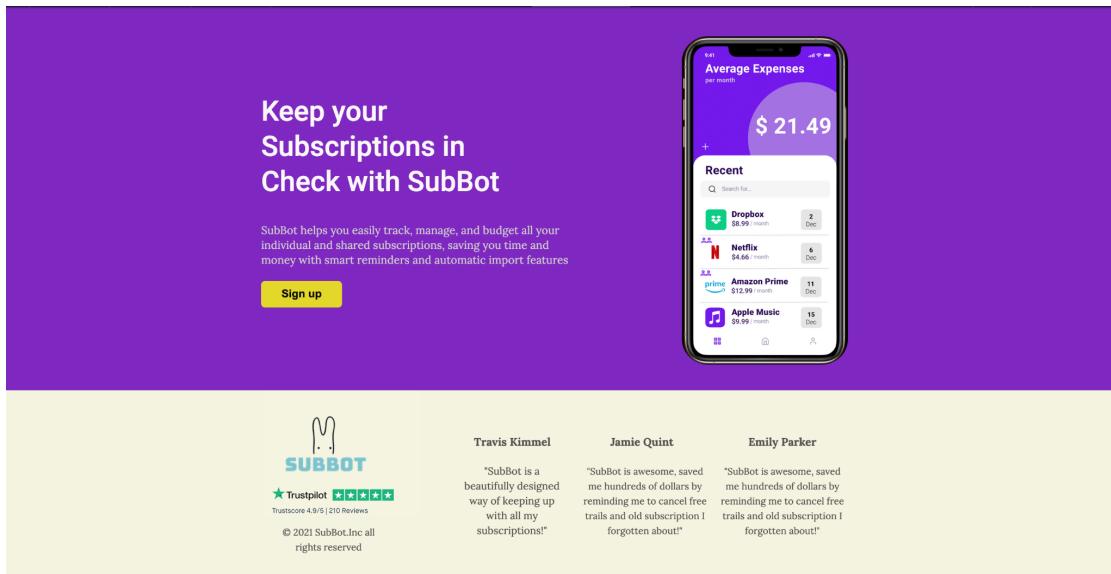


Lean Canvas

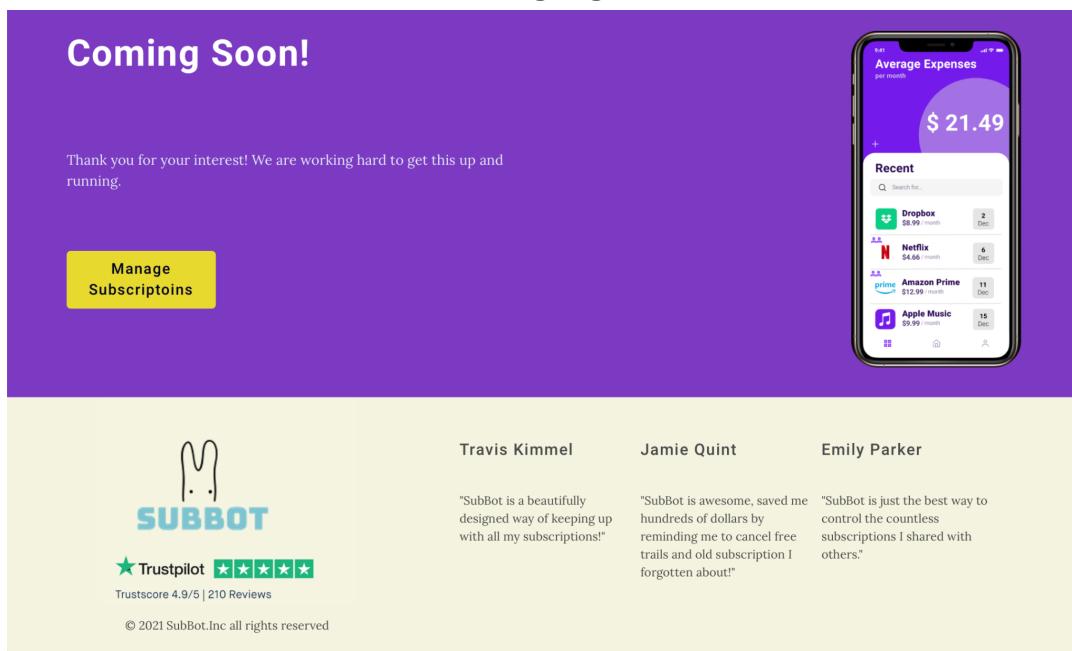
Conversion Testing

a. Landing Page experiment

After refining the prototype based on user interviews, we move to the next phase of conversion testing. First, we built and published a landing page along with a click-to-action “coming soon” page using Unbounce (see the images below).



Landing Page



Click-To-Action (CTA) Page

The landing page is designed in a minimalist way where audiences are presented with a slogan writing “Keep you Subscriptions in Check with SubBot”, the revised value proposition, a picture of the app’s dashboard screen, a sign-up button, a Trustpilot rating and selected user quotes.

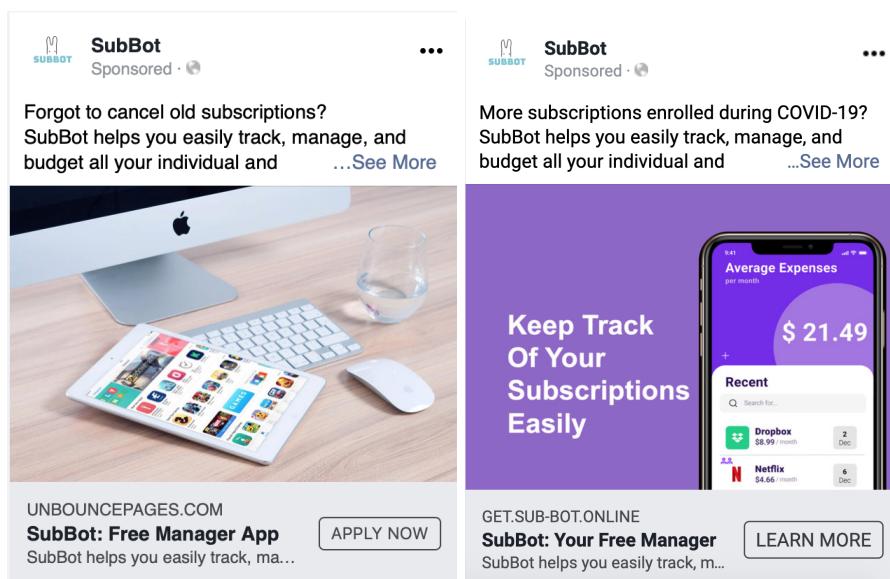
b. Facebook Ad Campaign

To get more exposure for the landing page, we decided to put out advertisements on Facebook since it is a widely used and well-accepted platform for the general public. To make it more efficient, we conducted an A/B test by simultaneously running two Facebook ads with different designs (see the images below). One of the ads (on the left) starts with a question that highlights a common problem our target customers might face and uses a more generic stock image. The other ad (on the right) opens with a question that touches on a recent issue and uses an image of the app's dashboard screen with the same slogan used on the landing page.

After running both ads for approximately 26 hours with a total budget of \$10, we gathered and compared the traffic generated. Both ads failed to achieve the success criteria CTR of 1% and the ad with generic image got a landing page conversion rate of 25% (1 out of 4 viewers). Despite reaching out to more viewers, the ad using an image with the app dashboard screen got only one landing page click-through and no final conversion. It might be due to the overwhelming amount of text included in the ad description and the lack of appeal of the app interface. It is also possible that customers are not interested in a subscription management product or Facebook is not the best platform for advertising such apps. Due to limitations of the experiment, more research and data are needed to generate more conclusive and reliable insights.

Ad Campaign	Reach	Impressions	Clicks	CTR	Cost per Click	Landing Visitors	CTA clicks	Conversion Rates
Generic Ver.	464	512	4	0.78%	\$1.66	4	1	25% (win)
App Screen Ver.	488	542	1	0.18%	\$6.07	1	0	0%

Facebook Ads Split Test Result



(left) Generic Version of Facebook Ad; (right) App Interface & Slogan Version of Facebook Ad

Reflection & Next Steps

Subscription management products are becoming a necessity with the number of existing and sprouting subscription-based digital products, and owning a digital manager for our online subscriptions can reduce tons of memory load and save time. Currently SubBot is by no means complete, and continuous user testing and feedback are still essential when we fine-tune the app as a lot of the valuable input came from participants that helped test the app. Additionally, there are several directions to explore on moving forward.

For instance, some participants have mentioned that they were sharing subscription bills with acquaintances, but felt awkward to remind them to pay for their shares every month. Therefore, we have to put more effort into making the communication and entire process more seamless to attract more users and leverage the network effect. At the same time, some participants have also brought up the need to find new people to share subscriptions with, which can lead to a whole new set of feature interactions that we can look into in the future.