Robinhood Feature Project

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Index

Lightning demos with claims analysis

What is a lightning demo and why did we do it?

A lightning demo exercise done by a group in order to find new inspiration for existing or new ideas. These demos consist of a group of people individually lists products or services that they like. Once that is done, they should narrow the list to 1 or 2 products/services that they will demo. This demo will be done to show the other people in the group what they like about a product and why they like it while the rest of the group takes notes on the big ideas of that demo. This help leads to new ideas for a company to implement in their own product or service. We did lightning demos to find new ideas that Robinhood could potentially implement into their design to make it better.

## What is a claim analysis and why did we do it?

A claim analysis is a concept that is used to determine both the positives and negatives of any design feature by incorporating a "big idea" to the design in question. The reason we incorporated it in the lightning demo is because it allowed the group to view both the pros and cons of an idea so that they do not just solely focus on the pros.

Four of our group members lightning demo and claim analysis:

ToolTip Demo: Jared Ormond

Big Idea: "Have a tips box show up when logged in to go over relevant information and helpful info about how Robinhood works"

- Reasons to add this feature:
  - Tips can help answer quick easy questions without the user needing to google all their questions.
  - The user could avoid having to call customer service.
- Reasons not to add this feature:
  - People could dismiss the tips box.
  - People could find it annoying/redundant for experienced users.
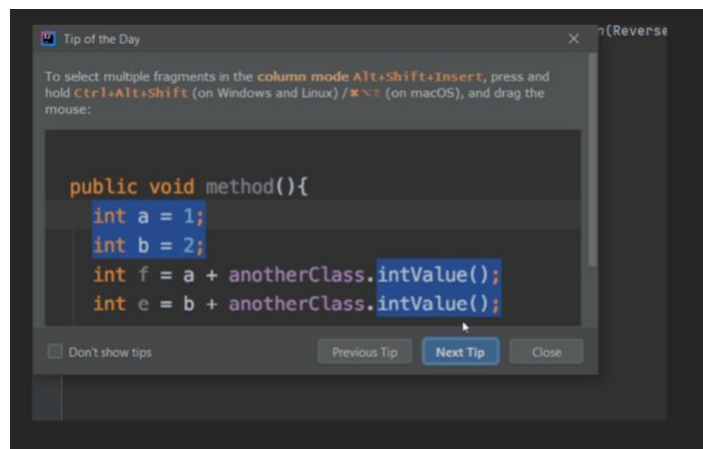
Skill Assessment Idea: Cory Schwartz

Big Idea: "Implement a skill assessment for new users before they enter sections of trading that are risky and complex"

- Reasons to add this feature:
    - Increase knowledge of our users through assessments
    - Helps users better understand the outcomes and expectations
- Reasons not to add this feature:
    - Could drive away potential users from using our app
    - Could be judged on not assessing our users on accurate/quality questions
    - Restricts our app until an assessment is passed
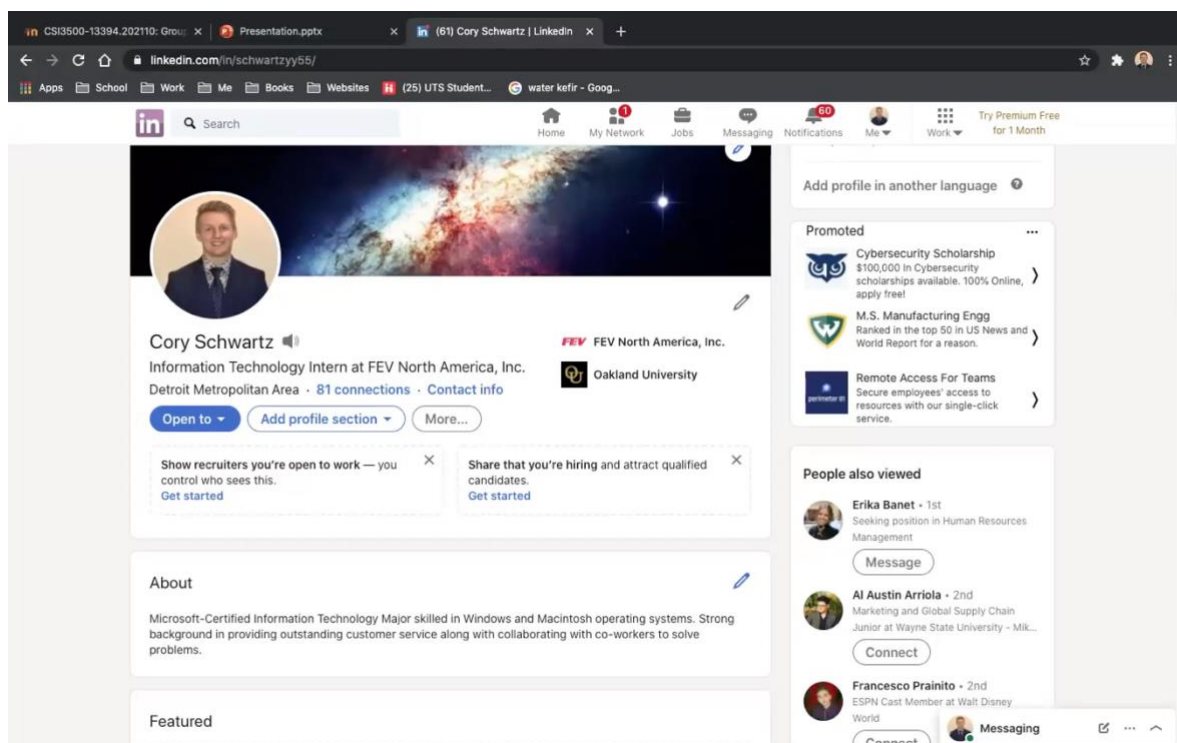
Customer Service Demo: Christopher Ivory

Big Idea: "A dedicated customer service hotline that can assist customers with beginner investment questions"

- Reasons to add this feature:
    - Robinhood users will be able to access top notch knowledge at a moment's notice
    - Users will feel more secure in their decisions knowing that if something that they are unfamiliar with happens, they will be able to seek out help
    - Having a dedicated line for urgent questions will reduce the load of message
- Reasons not to add this feature:
    - Users might have questions that have to do with giving specific financial advice that is not legally allowed to be given
    - Users may use the hotline for purposes that it isn't intended for, such as advice about what stocks to invest in, or when they should sell, etc.
    - If too many users overload the hotline, it wouldn't be any more useful than the means of support that already exist.
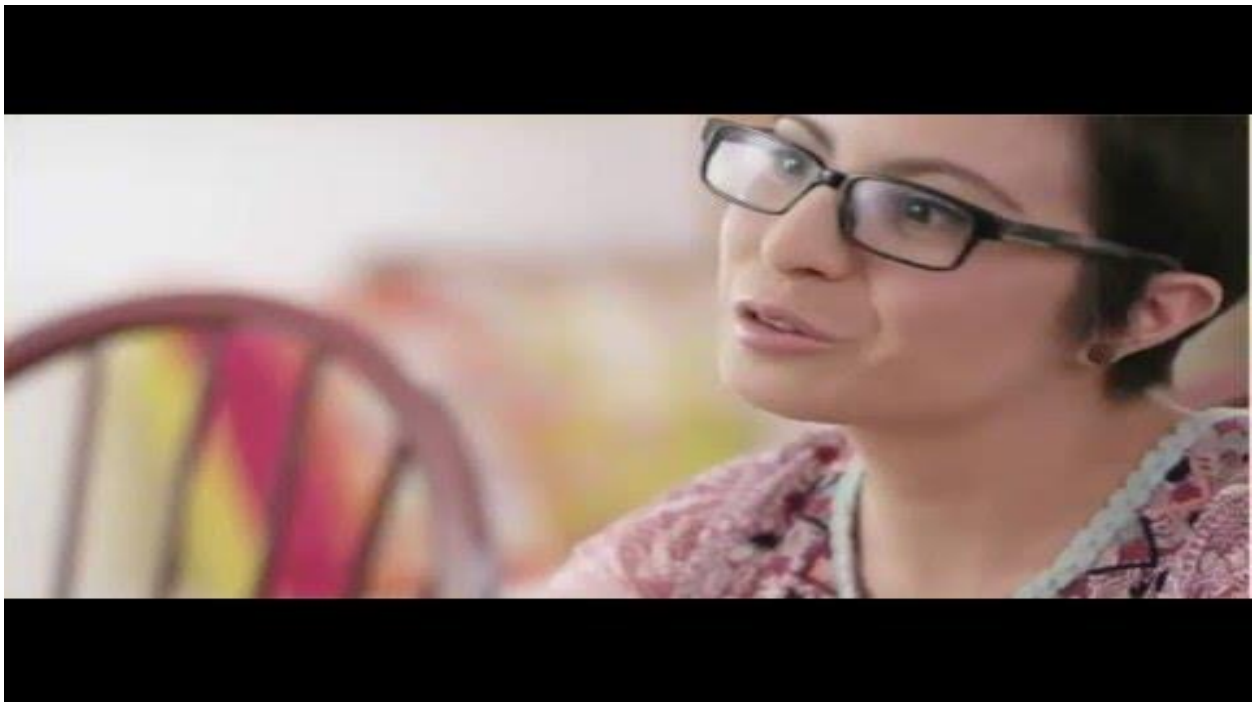
Chat/Discussion Demo: Tommy Jaboro

Big Idea: "A forum section built into the app relating to each stock that users can discuss information relating to the stock"

- Reasons to add this feature:
  - Users will be able to receive helpful decision-making from other experienced users in the chat section.
  - New users will have a way to ask questions from other retail investors
  - Users will have a natural way to learn the ins and outs of specific stocks, as well as general investing advice from others.
- Reasons not to add this feature:
  - Any user could add false information that leads to bad investments.
  - Moderating the chat for each stock chatroom would take a lot of manpower.


https://www.loom.com/share/6047e5b3e92f46789cc80ca6f0536138

The Card Sorting Process

What is card sorting and why did we do it?

Card sorting is a process in which a group comes together to physically pin their sources of inspiration by doing this it helps them be surrounded by those ideas and by doing this it can help the team rearrange their concepts and come up with breakthrough insights. With card sorting it allows a team to determine the way information is grouped and organized. We do card sorting so that we are able to group together the different ideas and give them a sort of structure and by doing this it can help us represent the information in a more effective way.

How did we generate ideas and organize them?

As our team started doing the card sorting, the team did not start off with any concrete ideas, at first, we were throwing around different ideas but there was no concrete structure to these ideas as is seen in the first screenshot of our card sorting board below.
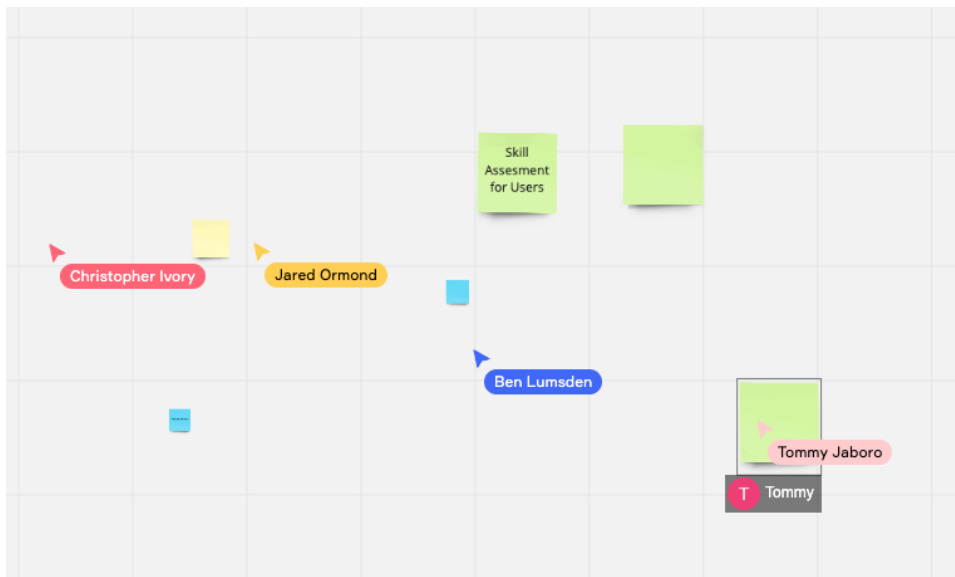
We started to come up with more and more ideas and as we did, we started to color code them, each different color represented an idea that one of the team members themselves created.
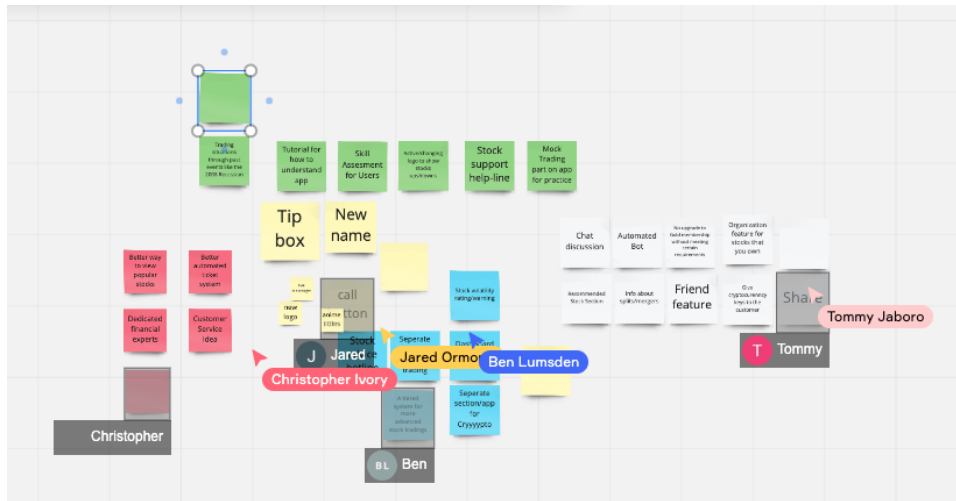
As we went on with the process, we started to come up with different categories for which these ideas would fall under. We began with the following categories: Overall Structure, Aesthetics, Function and Mood Inspiration. We had chosen such categories because we believed them to be a good overall start and we believed these categories allowed us to start more on the big picture before focusing more on the smaller picture and getting more specific ideas/categories. Once every member of the group had created about 10 different ideas that is when we started to put them in their appropriate categories.

In the below screenshot we were still categorizing these ideas and making sure that we put them in their correct category. We still felt that these ideas needed to be organized better and we were still trying to figure out the best way to categorize some of these ideas.

In the next screenshot, we as a team decided that the original categories that we had chosen did not accurately describe most of the ideas that we had and so we instead created entirely new categories which are as follows: Customer Service, Chat, Appearance, Educating, Limits, Other Features and Stock Information. With these new categories we were able to be more specific and accurately categorize our ideas.

Here is a closer look at some of the ideas we created and their corresponding categories they were put under. This picture focuses on the Customer Service, Chat and Stock Information categories. Most of our members had come up with many customer service, chat and stock information related features that they thought would benefit the Robinhood app as a whole which is why we needed categories that we could accurately put those ideas under.
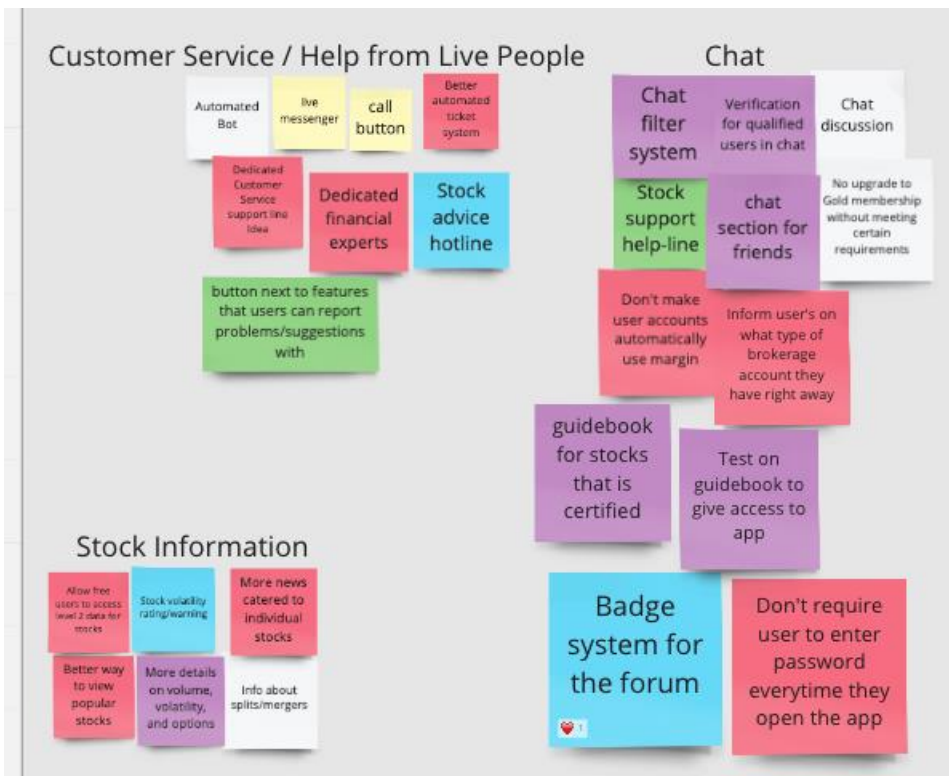
Here is a closer look at some of the ideas we created and their corresponding categories they were put under. This picture focuses on the Appearance and Educating categories. Since making sure Robinhood users are more educated is very important we had come up with many ideas related to education and ideas that made the Robinhood app appearance more intuitive so that users could more easily understand how it works.
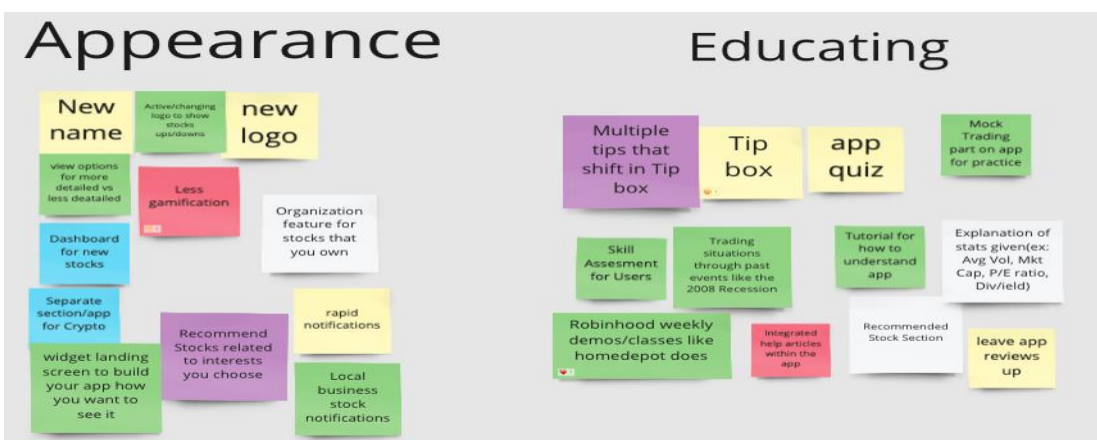
Here is a closer look at some of the ideas we created and their corresponding categories they were put under. This picture focuses on the Limits and Other Features categories. In the "Limits" category that was just a category more focused on deposit limits which we thought Robinhood could potentially fix in the future. We had also come up with a lot of other ideas or extra features that the Robinhood app could implement which could possibly add more of a community factor to it and these ideas fell under the "Other Features" category.
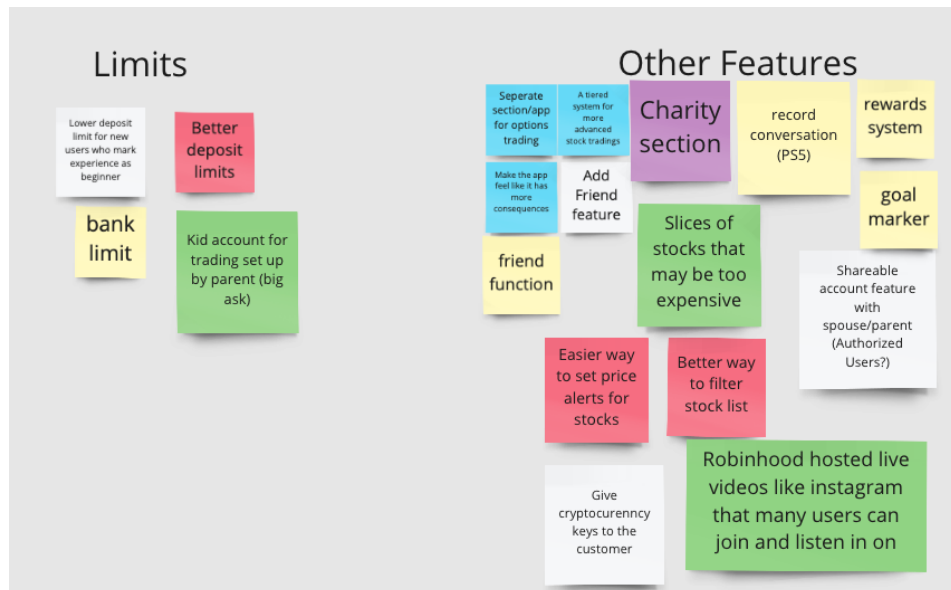
Prototypes and Claims Analysis

Each of our group member's prototype and claim analysis:
Note: General screenshot of prototype on the left, Main/Important screen: furthest right image

1. Our first Prototype was a phone number help option. If users were having a difficult time or had questions about Robinhood trading options, they could use a dedicated number to speak with a representative to help them with their current situation. Most companies have a FAQ option with a computer bot to answer their questions for them. This type of help tool is useful, but a direct call to a qualified person who answers questions similar to yours on the daily is a much more apt tool. Below we have a both a screen shot of the XD design as a whole and a focus on a single screen from the prototype showing the link to the number and commonly asked questions by other users.

Flow 1
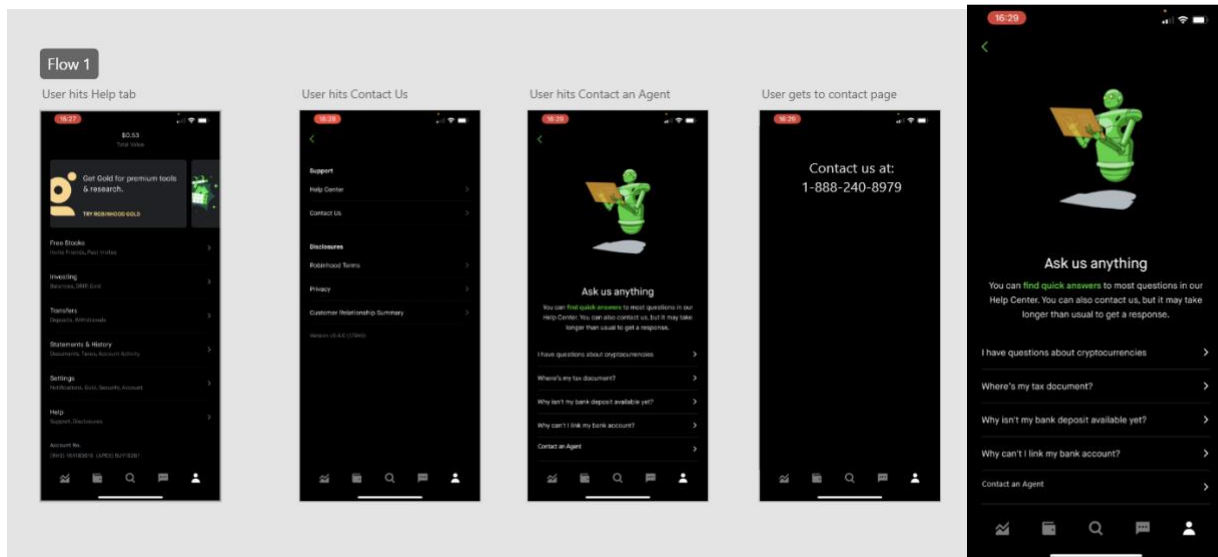
2. The next prototype was a charity stock option. The idea behind this prototype was for users to have the ability to donate stocks to their friends or people they thought could use some help. The user donating the stock would be able to choose which company, how many stocks and see the market value that they are trading. The donated stocks come from the user's account. If they have 10 stocks invested in GameStop and their buddy wants to try their hand in the stock market, the user could donate some of their stocks, 3 for instance, and be left with 7 for themselves.
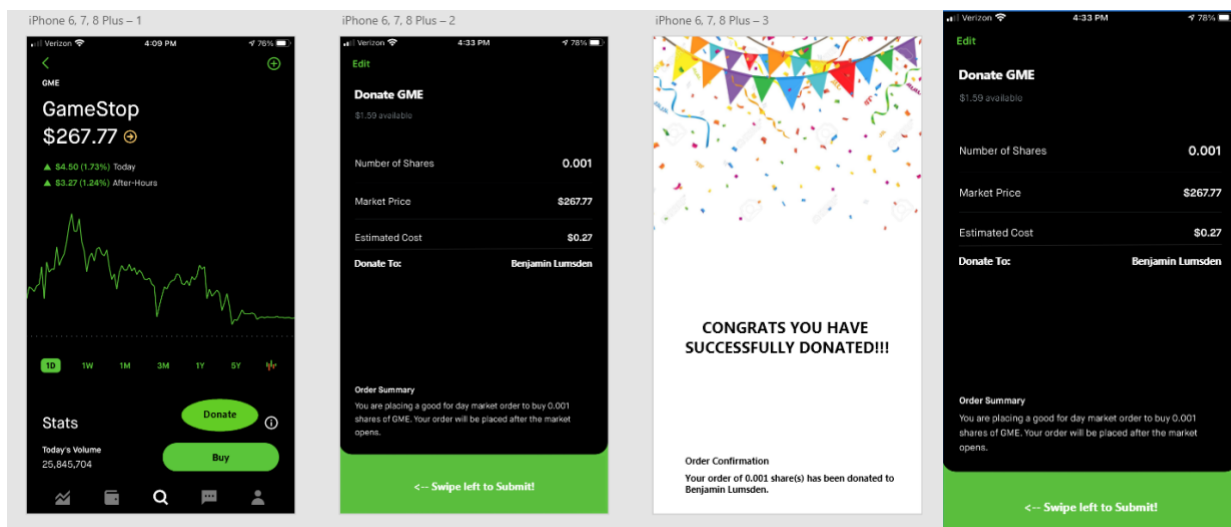
3. The next prototype was a tip box that would appear once a day when the user logged into their application. It would contain tips and information about how Robinhood is used and display examples about various features in the app. The screenshots below show how after the password is entered the tip box will show over the Robinhood screen. The prototype idea was mainly meant to help the newer users on Robinhood but since the tip box also would display relevant information and general information that an experienced user may have forgotten over time, it can be useful to all types of users. The close up shows an example of one of the tips that could have been shown to the user.
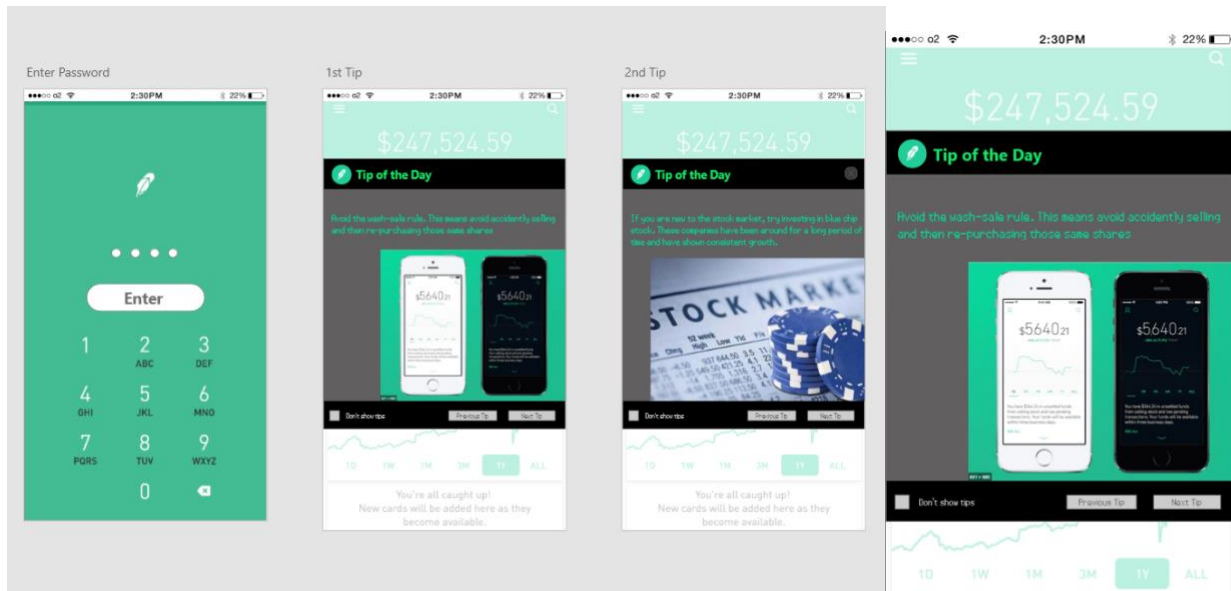
4. The next prototype our group had made was a general chat room for Robinhood. 2 group members made similar versions which are both displayed below. Many websites, applications, and games have public forums where people are able to discuss ideas and or questions with other like-minded people. Now a big hedge fund or stockbroker isn't just going to post what they think the next big investment idea is, but average everyday people trading around stocks could have discussions about where they want to put their money in or where they think the market is headed. In the screen shots below the user has the option of what type of chat room they want to pose their discussion and or questions. Between speculations of the market, general chatting or asking about stock purchase advice. The most important screen on the right shows the different chat options along with a discussion chain example.
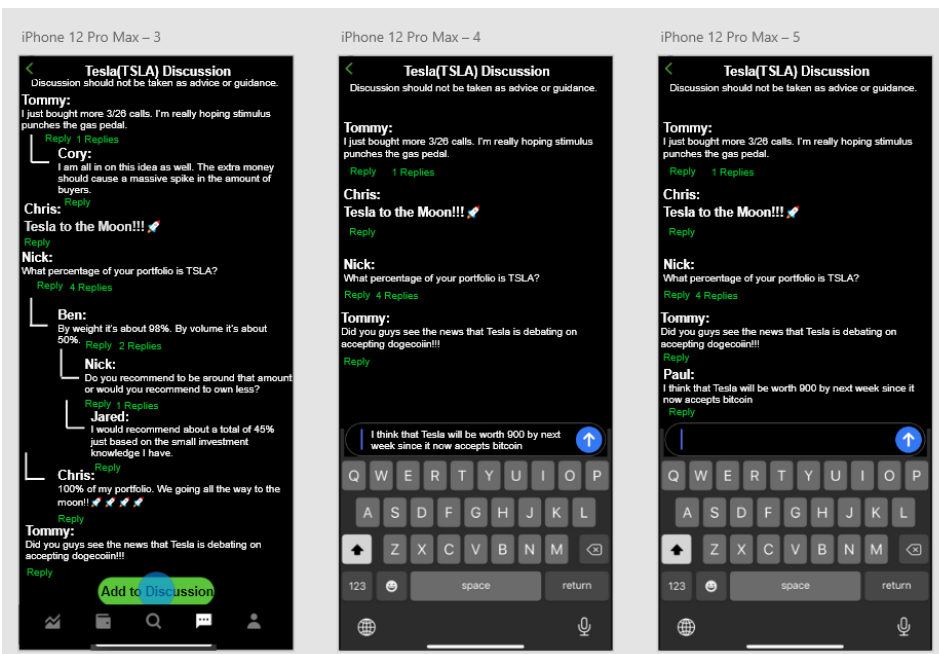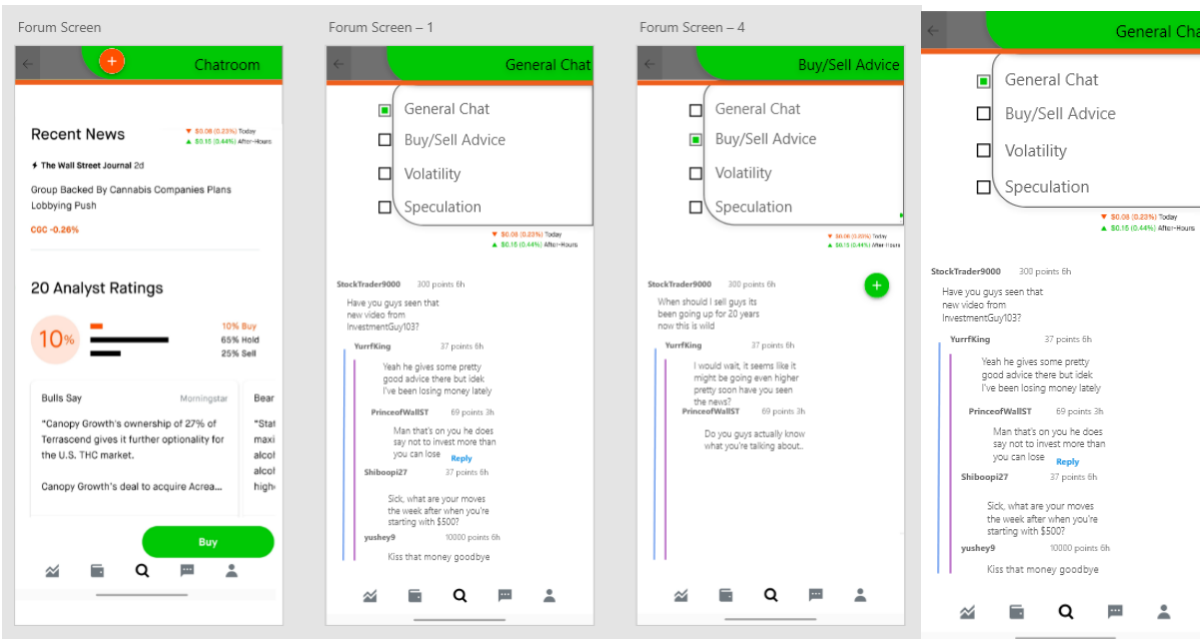
5. Our final prototype and design we chose to present was an assessment designed to test a user's knowledge about margin trading. Margin trading can be confusing and has caused people to take their own lives before since they couldn't understand why they had balances so low. The assessment was designed so the first time a user wants to try margin trading they need to pass the assessment in order to unlock this action. By testing their knowledge, the application will know whether or not a person is sufficiently informed about the trading they are going to do. We chose this design prototype over all of the others for a few reasons. We thought this idea would be the most helpful to new users and prevent unfortunate suicides by giving the users a test of their knowledge. It is impossible for a person to get their license without practice and a test of both their skills and road knowledge. We also went with this idea because it can be applied to other parts of the application aside from margin trading. We decided to focus on just the margin trading aspect in order to show how one assessment in one section can help users move forward in the Robinhood app safely and with more confidence in their own judgement. Below shows the XD prototype for our design. The screenshot to the left shows the path from the locked margin trading feature, to the assessment start, and to an example question. The most important screen is the assessment start. It tells the user what they are going to be assessed on, number of questions, time limit, score needed to pass and a checklist to go over.
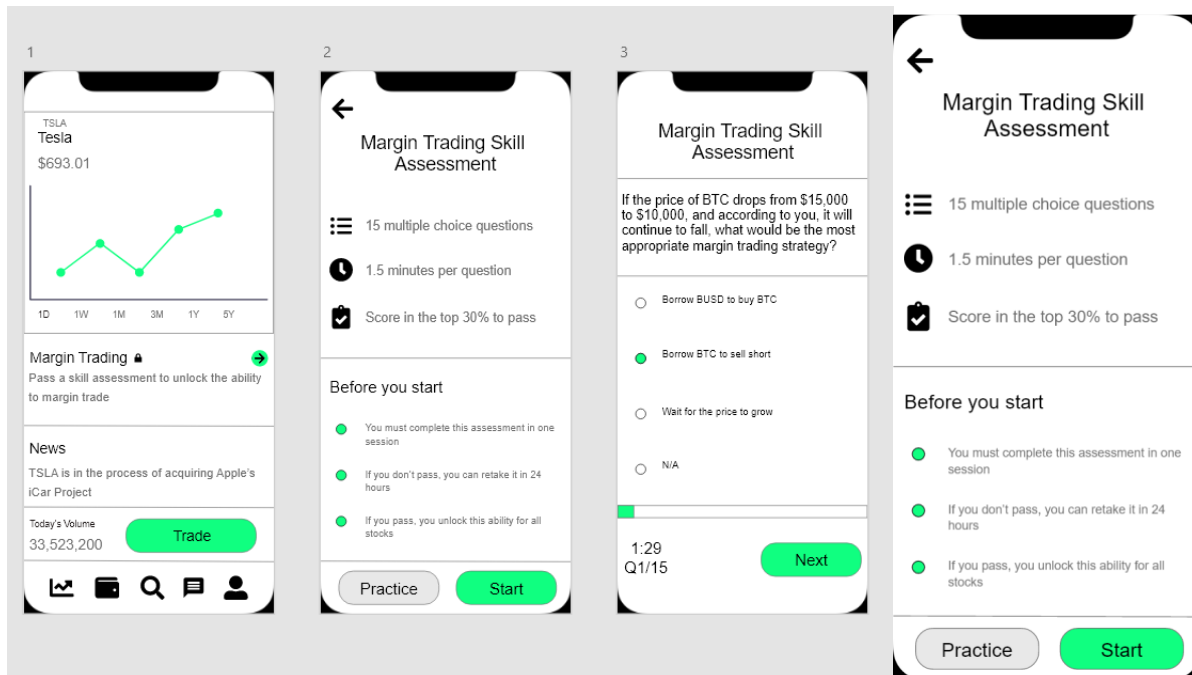
The Cognitive Walkthrough Plan

What is a cognitive walkthrough and how is it organized?

A cognitive walkthrough is used to evaluate the usability of a product. It puts emphasis on the new user's perspective by focusing solely on the tasks needed to complete specific user goals. It also helps identify usability issues. First, the user goal is identified. Secondly, the tasks that must be completed to accomplish the goal are identified. Lastly, the experience should be documented while completing tasks. Each task is presented in order and questions regarding them are asked for viewers to answer. This allows for a UX team to get proper feedback regarding their design decisions.

Inputs of the walkthrough:

a. **Identification of users:** Our target user demographic is adults aged 25 or younger who have little to no experience investing in the stock market.

b. **The tasks for evaluation (1 goal for the user to complete):**
   User wants to **margin trade**

c. **Action sequences (list of tasks to complete a goal)**:
   i. Open the Robinhood app.
   ii. User selects stock they want to margin trade in
   iii. User selects the locked margin trading feature.
   iv. (possibly add this feature?) User clicks on and watches a short video showing what you can do in this section of investing (optional).
   v. User reads the text that gives them information about the assessment and clicks "start" to start the assessment (skipping the optional practice assessment feature)
   vi. User reads question and selects multiple choice answer.
   vii. User clicks on next question button to continue. (cannot go back)
   viii. User repeats sequence 6 & 7. When on the last question, clicks on submit button to finish assessment.
   ix. User finishes the assessment and reviews score and statistics.
       If user scores in top 30% on assessment, that category of trading is unlocked.
       If user scores below top 30% on assessment, that category of trading is locked for 24hr.
   x. Upon passing, user clicks on "continue" button to enter the now unlocked margin trading section.
       Upon failing, user clicks on "return" button to return to the stock view (sequence 2), with a 24hr cooldown time to retake the assessment.

d. **Implementation of the interface:**
   (link has been updated with final version of prototype, to see the original link, please watch the recorded cognitive walkthrough)
   https://xd.adobe.com/view/d8c57780-3a99-40f3-990c-3fd13badbdf4-8d96/?fullscreen

Cognitive walkthrough goals and rules:

a. Describe the goals of the walkthrough

"The goal of the walkthrough is to demonstrate how we expect Robinhood's target user demographic to margin trade on the app. We are walking through how a user navigates to margin trading and interacts with our new skill feature. To be able to margin trade, the user must be able to show an understanding of it by passing the margin trade skill assessment. After giving a brief demo of the assessment, we will show what it looks like when a user passes the assessment, and when a user fails the assessment."

b. Describe what will be done during the walkthrough

"The user will open the app, pick what stock they want to margin trade with, scroll down and read the text that states, "Pass a skill assessment to unlock the ability to margin trade." After selecting the arrow next to margin trading, the user will be directed to the margin trading skill assessment summary screen. This informs the user what they should expect in the assessment. The user will click "start" to take the multiple-choice assessment of 15 questions. We will show two outcomes, one with the user failing and what it looks like after you fail the assessment, and one with the user passing and what it looks like after passing the assessment.

c. Describe what will not be done during the walkthrough

"We will not demonstrate the practice assessment feature as it is not crucial to the skill feature's purpose. The assessment will not be done with every question being gone over and or discussed. After the assessment is completed, Robinhood's features will then be unlocked but no actions will be done i.e., trading, selling etc.

d. Explicitly defuse defensiveness

If someone critiques our design, we will not get defensive and will listen to their feedback. An outside opinion will give an unbiased perspective to improve our design and or execution of the assessment.

e. Post ground rules in a visible place

- We are presenting a single section assessment for Robinhood.
- This assessment will not cover the entirety of Robinhood's features, nor does passing it mean a person knows everything about the application.
- The assessment is meant to test margin trading skills of our inexperienced users.

f. Assign roles

Usability Specialist: Cory

Note Takers: Benjamin, Jared, Nicholas, Christopher, Tommy

g. Appeal for submission to leadership

After seeing Poggers' idea, we decided that we would like to appeal for an additional feature that allows the User to have the option to bypass taking the assessment, because otherwise we may lose customers to other stock trading apps.

Cognitive walkthrough action sequence:

Goal: User wants to margin trade in Tesla stock.

The user is attempting to unlock the ability to **margin trade** by passing a margin trading skill assessment.

1. Open the Robinhood app.
2. <u>User selects a stock</u>
3. <u>User selects the locked margin trading feature.</u>
4. <u>User clicks "start" to start the assessment</u>
5. <u>User selects multiple choice answer and clicks "next" (This repeats until the final question).</u>
6. <u>User clicks "submit" to finish assessment.</u>
7. <u>User reviews score (percentage) and clicks "return".</u>

Cognitive walkthrough script:

Note: Ask this question at each action sequence to understand where the mindset of our user is:

"Do you think the user will know what to do at this step (changes for each task)? If so, will they know that they did the right thing and are making progress towards being able to **margin trade**."

If it is seen that the user will not know what to do, we will state, "This is a potential problem, and we need to think about it in greater detail."

If it is seen that the user will not realize that they are making progress towards being able to margin trade, we will state, "We interpreted this as a way to _____ and will reconsider our options."

Cognitive Walkthrough Findings

Critical information attained from the cognitive walkthrough per action sequence:

During our cognitive walkthrough, the group that we worked with provided a wealth of information, some of it positive, some of it critical about our prototype and walkthrough

For the purposes of this report, I will walk through each step of our cognitive walkthrough and summarize the criticisms provided by group "o7" and how they were taken by our group and acted upon.

For the most part, our group received <u>learnability</u> feedback, rather than design feedback. I think that our design is pretty solid overall, and if anything, some of our design choices made it more difficult to differentiate different usability aspects from others.

- Step 1: Introducing our app: during this stage, there was not a lot of pushback or criticism of the general idea that we had worked on for our walkthrough; of a feature to test the skills of our user before allowing them to margin trade.
- Step 2: When showing our starting page of the cognitive walkthrough, **we had a bit of feedback that suggested that it wasn't easy to tell which stock was being selected**. To remedy this, we added a noticeable blue highlighted touch zone to indicate that the "Tesla" stock is being selected.
- Step 3: For this part, selecting the margin trading assessment, we received feedback regarding the arrow next to our button. This was one of two design choices that we received negative feedback on, and we have thus changed it. **o7 indicated that instead of having a small arrow button to click to advance to the assessment, it would be better to have the entire "margin trading" text box clickable to enter the assessment**. We took this feedback and implemented that exact feature that they described into our final iteration.
- Step 4: Demonstrating the assessment:
  - We received a bit of mixed feedback for this stage of the walkthrough, as **some of the members of o7 thought that the timer we had built into each question was stressful and unnecessary, while others in the group thought that 1:30 was too long, and we should shorten it to 1:00**. In the end, we went with keeping our original 1:30 question timer, as the purpose of this is to make sure that our users have ample time to answer the questions, but not to allow them to look up the questions on another device and get the answers that way, as that would defeat the purpose of this skill assessment.
- Step 5: Upon completion of the assessment, o7 had quite a lot to say. **We got feedback on the relevant information that should display under the assessment upon passing/failing**, which helped us greatly to design a more fleshed out ending screen for our users. We decided that passing should show them a brief overview of how to use margin trading in Robinhood, as they would now have access opt that feature. Upon failing, we took their feedback and decided to display what score the user achieved during their attempt instead of what percentile they scored in. This seemed like more useful information than a percentile.

Revision to the prototype based on walkthrough findings

Link to revised interactive prototype:
https://xd.adobe.com/view/d8c57780-3a99-40f3-990c-3fd13badbdf4-8d96/?fullscreen
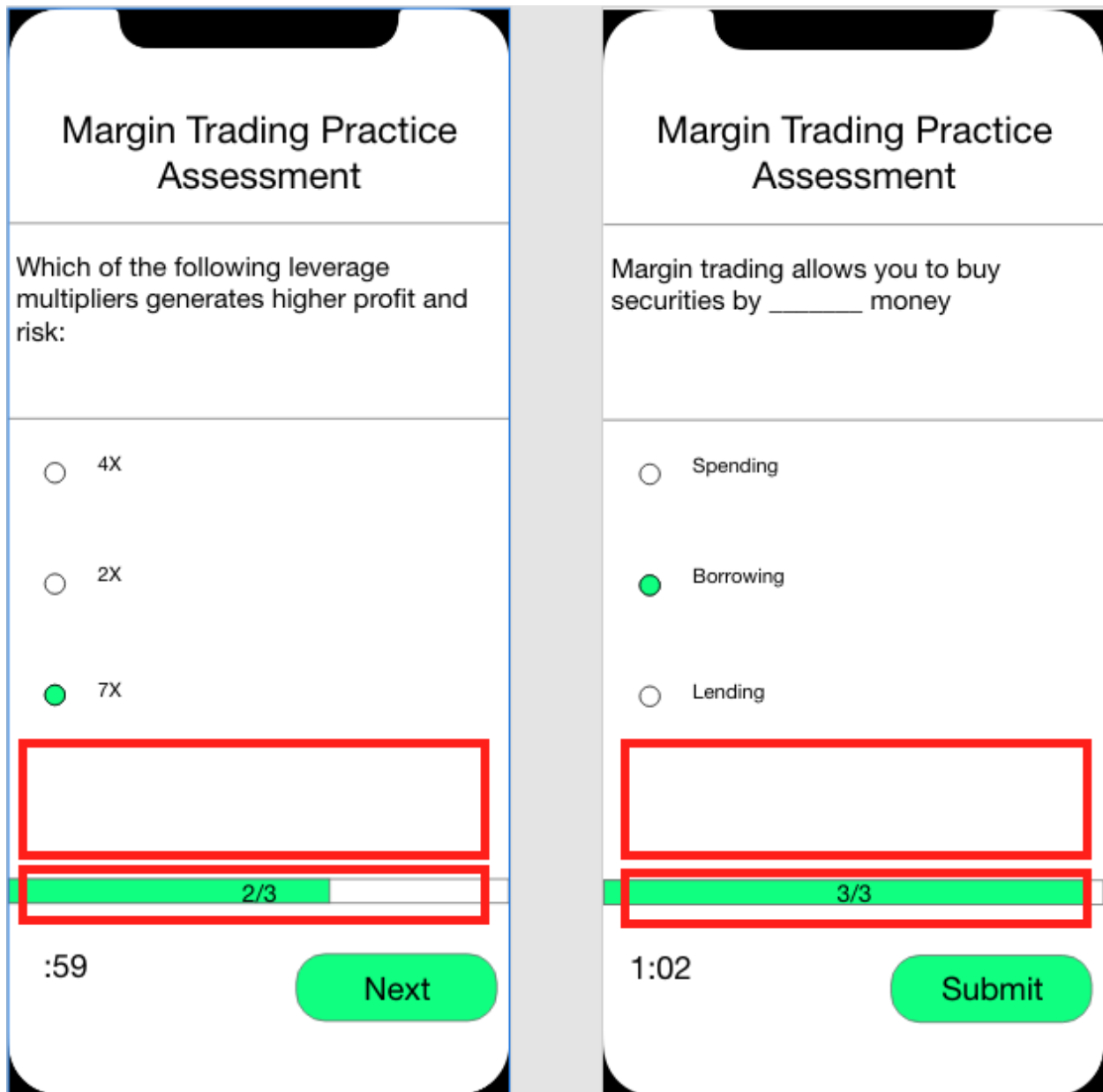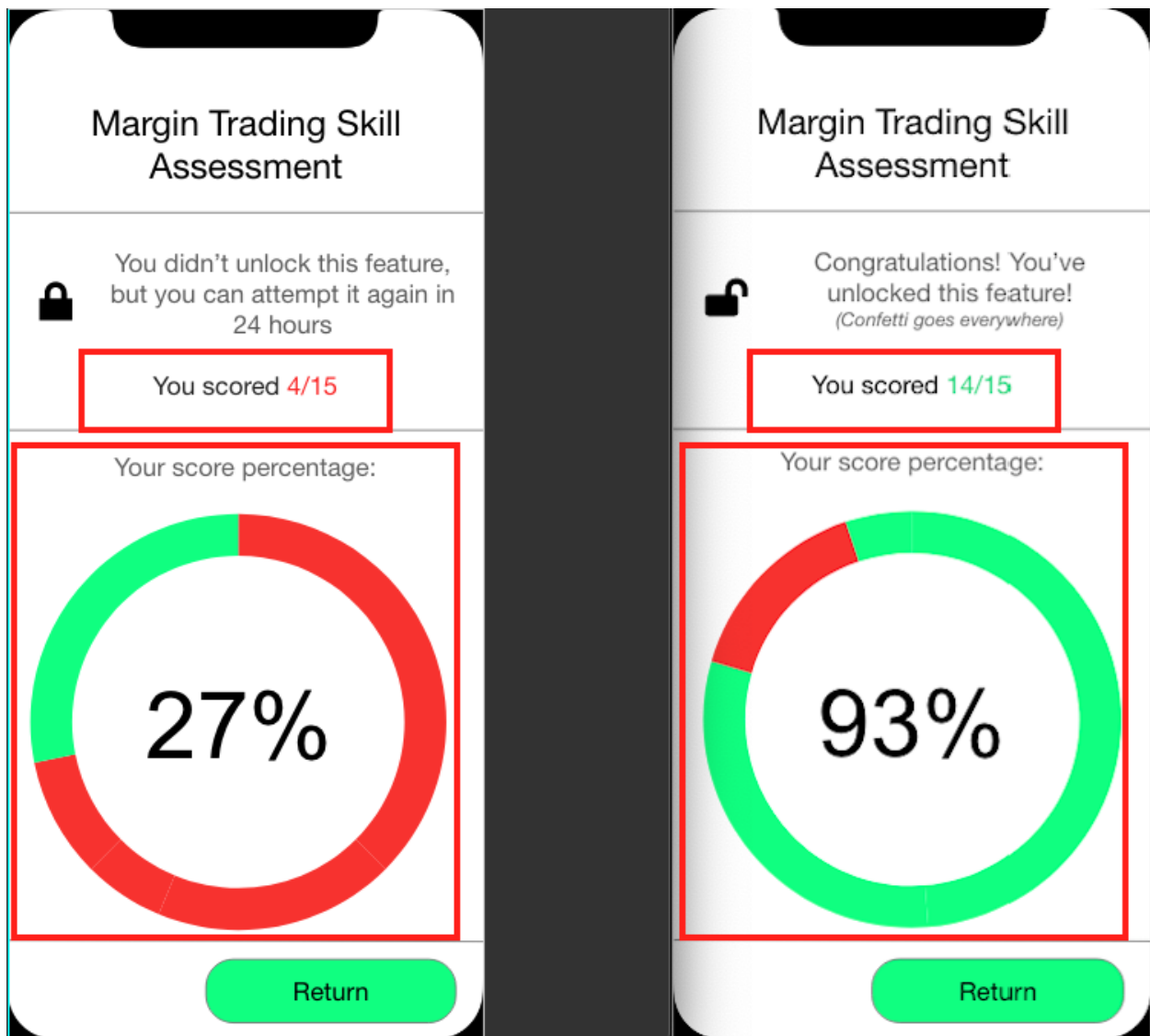
Revised prototype and why:
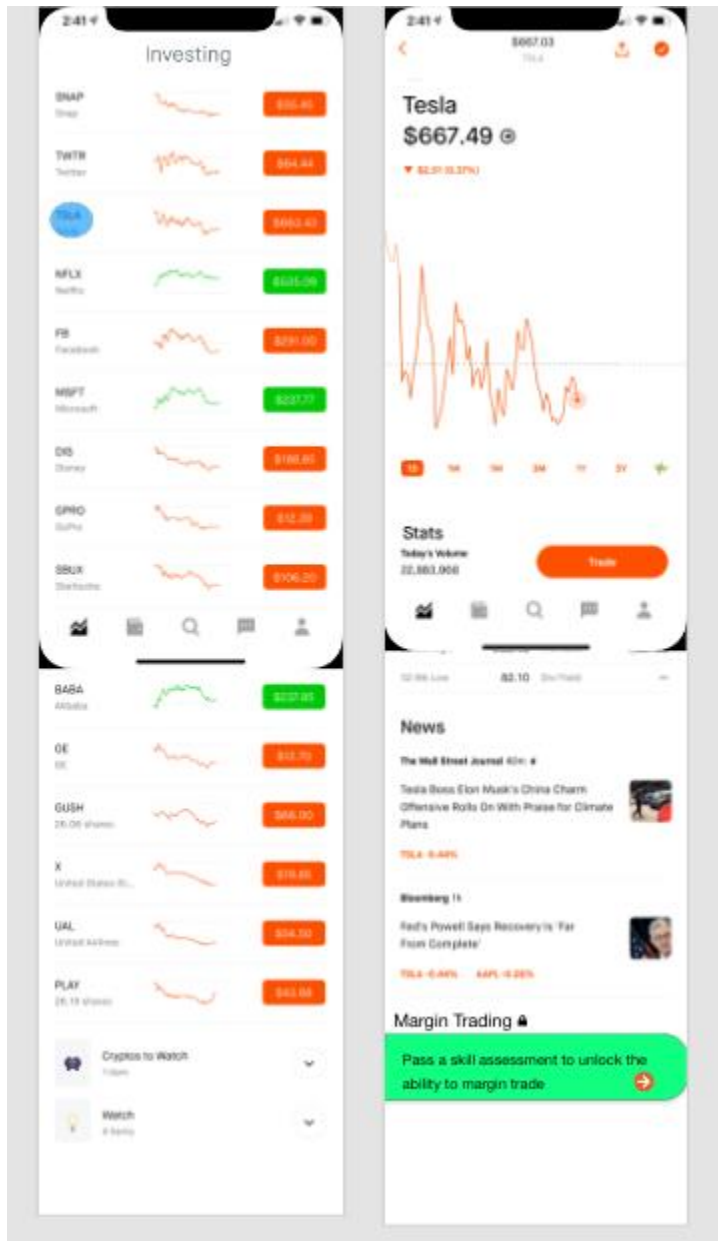
In this screenshot above, you should see a long stretched out design frame. This represents a scrollable frame, which we implemented at the request of the group we conducted our cognitive walkthrough with. We agreed with them with the fact that implementing the scrollable feature will better demonstrate how a user would navigate the Robinhood app.

Margin Trading Practice Assessment

Which of the following leverage multipliers generates higher profit and risk:

○ 4X

○ 2X

● 7X

2/3

:59   Next

Margin Trading Practice Assessment

Margin trading allows you to buy securities by _____ money

○ Spending

● Borrowing

○ Lending

3/3

1:02   Submit

In the screenshot above, these are the two features that were added at the request of the group we conducted our cognitive walkthrough with. We agreed that having "N/A" as an option, would confuse the user on whether it could be an answer or not. We solved this by eliminating the option or adding in a 4th viable answer. The second feature we added was implementing the question tracker into the progress bar. We agreed with our cognitive walkthrough group that it would be smart to move them both to one location.

Margin Trading Skill Assessment

You didn't unlock this feature, but you can attempt it again in 24 hours

You scored 4/15

Your score percentage:

27%

Return

Margin Trading Skill Assessment

Congratulations! You've unlocked this feature!
(Confetti goes everywhere)

You scored 14/15

Your score percentage:

93%

Return

In the screenshot above, we added more visual elements to provide a clear answer on what the user got on the test. The group in our cognitive walkthrough mention listing the exact questions they got wrong with answers in this section instead of a percentage. While we don't understand margin trading questions very well, we are interested in possibly implementing this feature in place of the score percentage feature.
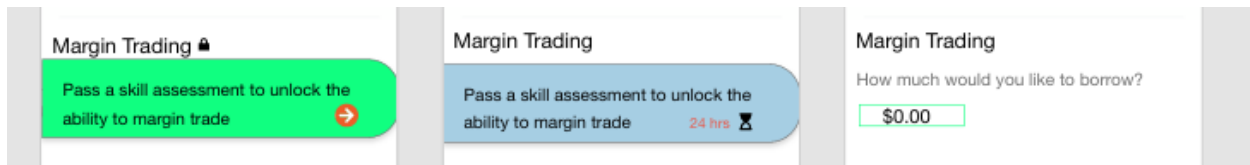
In the screenshot above, we added more visual elements to help our user find and understand our feature.

On the left is the screen when a user first finds the feature or returns to it 24 hours later after failing. In this screen, we added a green clickable button with an orange arrow. Both are clickable to continue to the skill assessment feature.

In the middle is the screen after a user views their failed test results, we change the color to a grey-blue and the icon to an hourglass. This resembles the user needs to wait 24 hours before attempting the assessment again. There is also a time countdown to know exactly how much time is left.

On the right is the screen after a user views their passed test results, we show no buttons or icons, and only the text box to interact with margin trading as the user set out to do.
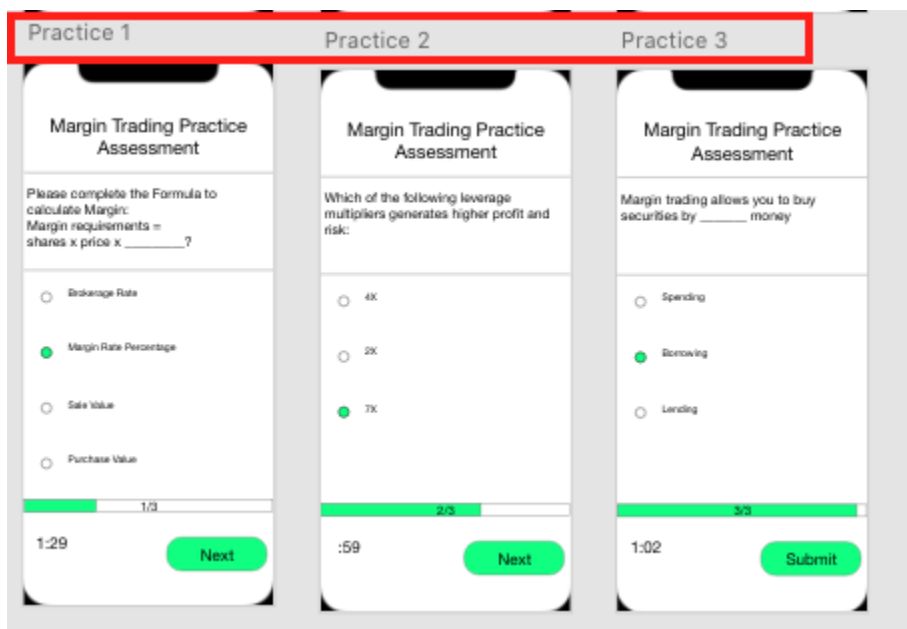
Lastly, we implemented the practice questions at the request of the group we conducted our cognitive walkthrough with. We agreed that having this feature working would be something we wanted in our final product. This is intended to give the user a glimpse of how the assessment will work and look like.

Revised action sequence:

Original Goal and Action Sequence: located under The Cognitive Walkthrough Plan

Revised Goal: User wants to margin trade in Tesla stock

The goal was revised to understand which stock the user wants to margin trade in. We found our cognitive walkthrough group to be confused at sequence 2, and the revised goal clarifies it.

Revised Action Sequence:

i. Open the Robinhood app.
ii. User selects stock they want to margin trade in.
iii. User scrolls down and selects the locked margin trading feature.
iv. User reads the text that gives them information about the assessment and clicks "start" to start the assessment (skipping the optional practice assessment feature)
v. User reads question and selects multiple choice answer. (We have answers preselected for demonstration purposes)
vi. User clicks on "next" button to continue. (cannot go back)
vii. User repeats sequence 5 & 6. When on the last question, clicks on "submit" to finish assessment.
viii. User finishes the assessment and reviews score and percentage.
If user scores a 75% or higher on the assessment, margin trading is unlocked.
If user scores below 75% on the assessment, margin trading stays locked, and the assessment cannot be attempted again until 24 hours have passed.
ix. - Upon failing, user clicks on "return" to return to the stock view (sequence 2), with a 24hr cooldown time to retake the assessment.
(There is text near the bottom of the scrollable screen in our prototype that gives you the ability to see what it would like if the user passed the assessment by clicking on "Click THIS to see user passed results"). **This is only for prototype convenience and will not be on the final product.**

- Upon passing, user clicks on "return" to enter the now unlocked margin trading section.

Why the revised sequences?

Sequence 3: Added Scrollable Feature. Our walkthrough group wanted the option to scroll to fully immerse themselves into the Robinhood app.

Sequence 4: Removed the short video tutorial. We did not have time, nor was it expressed enough by our walkthrough group to implement this into the Robinhood app.

Sequence 8: Changed the passing level from top 30% to scoring a 75% or higher. Our walkthrough group did not understand what was required as a passing grade, and this is what they recommended. We agreed 75% was adequate as a passing grade.

Sequence 9 – failing assessment: We added a feature for **prototype convenience only** to allow the usability specialist to quickly show what it looked like when a user passed the assessment.