

Financial Education Mobile App

Introduction:

While nearing the end of high school, students face a series of decisions that will greatly impact their financial future without knowing anything about all the necessary tools at their disposal. Students have to choose if they will go to college, and subsequently how they will pay tuition. Or they might choose not to go to college and they need to understand how they will pay rent and for everyday expenses using a credit card. While nearing high school graduation, students only have parents or guidance counselors to learn from and very little financial education is included in the high school curriculum. This also extends past high school graduation into college graduation. Suddenly students have their first salaried job, need to set up a direct deposit, have new expenses and insurance benefits are being thrown at them all while at the same time they are making their first steady paycheck.

Some students are lucky enough to have parents who teach them about finances, or some students are motivated enough to do in-depth research, but many others don't know enough about student loans, credit card management, debit card benefits and risks, how invest my money in order to grow my savings, and other important financial concepts to help them get out of debt and stay out of debt.

For this reason, the goal of this project is to design a learning experience using the cognitive apprenticeship learning theory to educate 17-25 year olds about basic financial concepts through a mobile app. The use case demonstrated will be around credit card basics with the intention that it can be expanded to other financial concepts. Finally, the goal is to develop an app that is sustainable operationally. This means it should make enough money to support the launch and ongoing support required, but it is not aiming to make a profit.

Relevant Background:

As the COVID19 pandemic caused ripples through the U.S. economy in March of 2020, the government stepped in with stimulus checks to help everyday citizens who were out of work make ends meet. According to research conducted by the Federal Reserve in 2017, "Four in 10 adults, if faced with an unexpected expense of \$400, would either not be able to cover it or would cover it by selling something or borrowing money." (United States, The Federal Reserve, 2018) Given this statistic, it is clear there is an area of opportunity to increase financial education in the United States.

Methodology:

This project consisted of three major phases conducted over the course of three weeks (see Appendix A). The major phases consisted of competitive research, ideation and sketching, leading up to the creation of a mid-fidelity prototype. This project plan was executed without changes throughout the process.

Competitive Research:

Created a learning experience analysis framework based on the cognitive apprenticeship learning theory elements such as modeling, coaching, scaffolding, articulation, reflection, and

exploration to evaluate three competitors. Competitors include the FDIC “How Money Smart Are You?” game, the Netflix Money Explained documentary episode on credit cards, and the Investopedia “Should I Get a Credit Card?” 29 article series (See Appendix B).

Ideation/Sketching:

Brainstormed and sketched features that support the learning goal and the learning theory approach I focused on. This was done using the online whiteboard software Miro. First, ideas were documented on sticky notes and then grouped together based on the cognitive apprenticeship model. Next, ideas were translated into sketches using the miro wireframing tool. (See Appendix C).

Prototype:

Translated the ideas and sketches into a mid-fidelity prototype using the figma design software. The goal of this was to create a prototype that could be tested with users in future research. (See Appendix D).

Results:

The outcome of the methodology described above was a successful analysis, brainstorm, and translation into a mid-fidelity prototype.

Competitive Research:

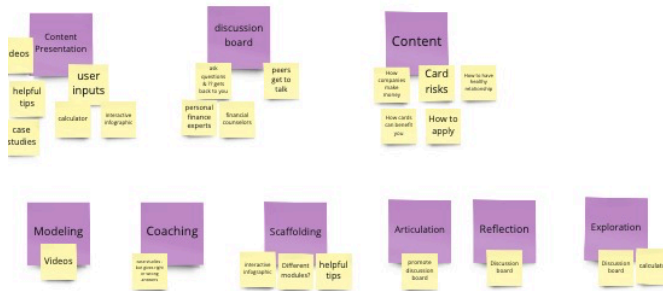
As a result of evaluating three different competitors' learning experiences on credit card basics, I was able to achieve a good understanding of how they incorporated different cognitive apprenticeship learning theory elements in their experiences. The chart created, as seen in Appendix B., was used as a resource through the following two phases of the project. Some of the major takeaways of the research are as follows:

- None of the learning experiences demonstrated all of the cognitive apprenticeship elements
- The FDIC experience was the most interactive learning experience but also by far the longest experience (approx. 1 hour and 15 minutes)
- The Netflix Money Explained documentary was the most passive learning experience but the shortest at 23 minutes.
- The Investopedia series of the articles was the most flexible learning experience, allowing users to engage with only the content that interested them.
- None of the learning experiences had a place for learners to ask questions, at most the FDIC had a FAQ section.

Ideation/Sketching:

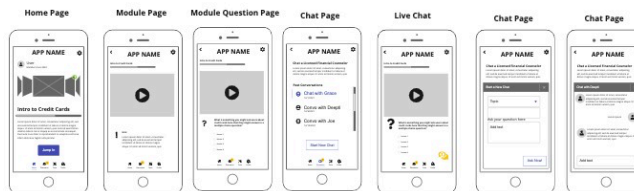
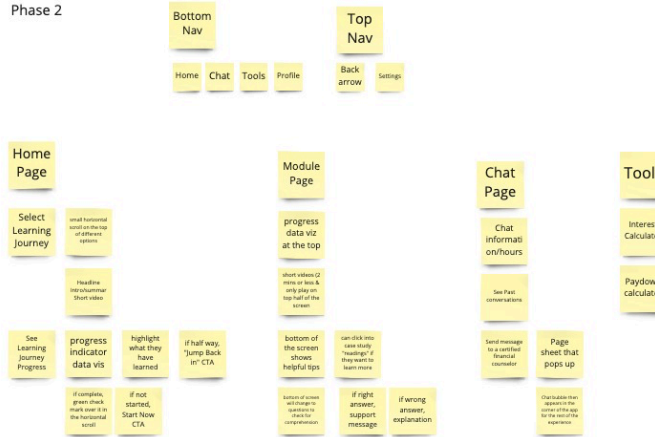
After conducting the competitive research, I started documenting elements I liked and wanted to include in the learning experience I was developing via Miro. With a mess of sticky notes on Miro full of so many ideas of where I could take this mobile app, I started to refine my idea by grouping the concepts into the cognitive apprenticeship model categories. I strived to find features and design elements that supported all 6 categories. After doing this exercise, I translated my ideas into rough sketches using the Miro wireframing software.

Phase 1



I shared both of these elements in class and received peer feedback that enabled me to continue pushing in this phase prior to prototyping. With the feedback I was given in class, I went back to the Miro board and pushed to refine my ideas into a navigation structure and a better refined feature set. In addition, I pushed my sketches to have a more streamlined approach to bring a user through the learning journey in this app. See both Phase 1 (prior to class) and Phase 2 (evolution after peer review) of this section in Appendix C.

Phase 2

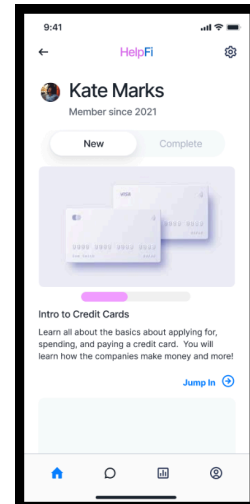


miro

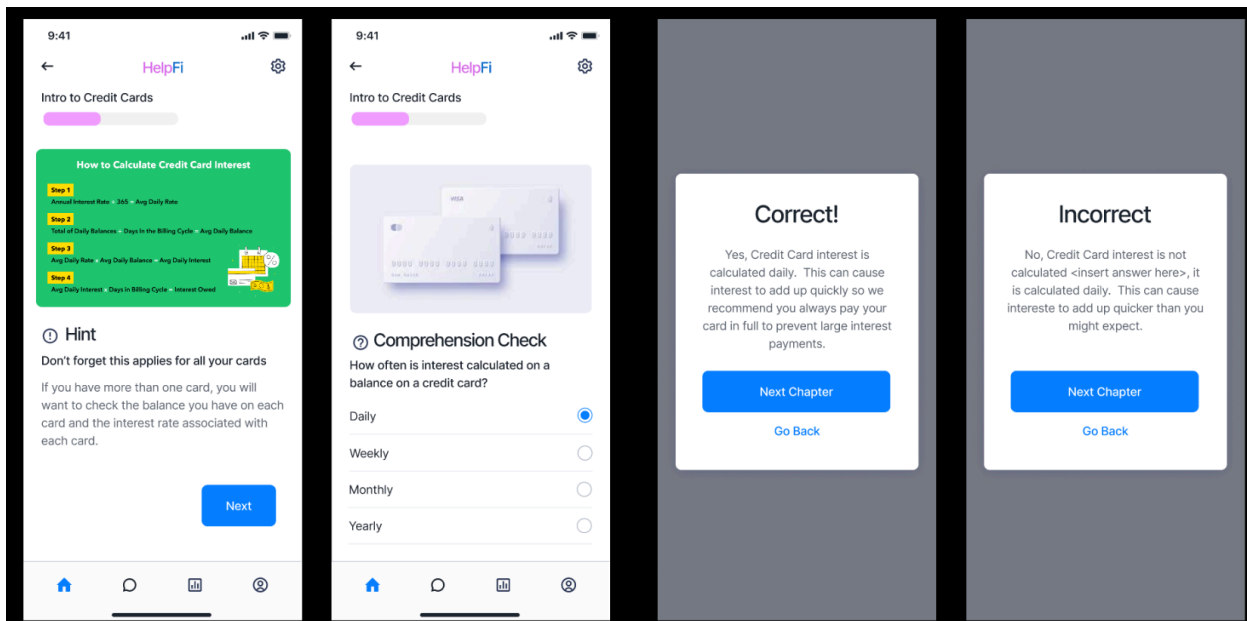
Prototype:

After further refining my sketches, I took them and translated them into a mid-fidelity prototype using Figma. This resulted in 11 screens that made up 4 different sections of the app (named HelpFi in the prototype).

First, I created a home screen (shown on the right) that showed a user's name, profile photo, and how long they had been a member in the header. Next, on the body of the screen I featured the different learning experiences they could engage with including the progress of the learning experience if they had previously started it. In addition, it allowed them to toggle to see lessons they had already completed. Finally, it featured a navigation structure with a home menu item activated. The prototype shows the progress bar as being partially completed, as if the user had engaged with the learning experience related to credit cards prior.

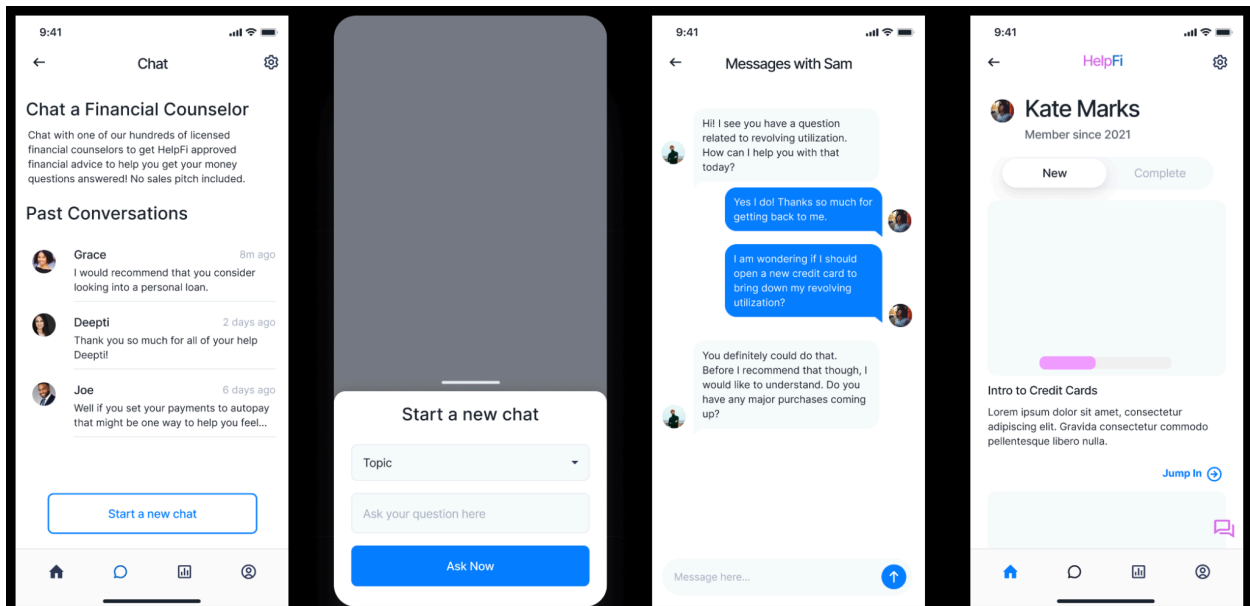


Next, I created a series of screens related to the learning module experience. This featured the name of the module "Intro to Credit Cards" with the progress bar. Below, there is a position for a video or image on each page. This is where the user will learn the bulk of the material. Below that, is a dynamic section. This section can include helpful hints or questions for a comprehension check before a user moves on to the next section. Finally, I created an overlay that lets the user know if they answered the question correct or incorrectly and provides some context around each answer. The overlay then allows users to progress to learn more or to go back to revisit the material they just learned.

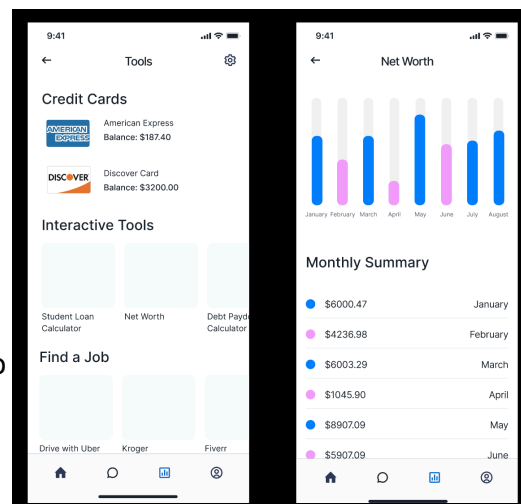


Next, I designed the chat section of the app. In my original brainstorming and sketching I imagined this being a place where users could interact with their peers and other users of the

app. After careful consideration, I opted to shift this section to be messaging a financial counselor. I was worried about people using this section in an abusive or predatory way to share “get rich quick” schemes that would only worsen a user's problems. A user would navigate to the chat feature via the bottom navigation, which is featured in blue when the user is on the page to add context. On the main chat page, they will see a description around the chat feature as well as a history of their past chats so they can go back and review old conversations if they need to reference the information. The last important element on the chat page is the “start a new chat” call to action button. This opens a toast menu that would overlay onto the page from the bottom. Here, a user would select a topic and type their question in order to be assigned to a financial counselor. Next, I created a page where a user would actually be in a chat session messaging with a licensed financial counselor. This includes the headshot of the financial counselor to build trust between the consumer and the counselor. Finally, I added a feature where a user could keep a chat session active while they used the other features of the app. The chat button (in pink) could remain on the screen as the user navigated to other portions of the app so they could quickly go back to their open session.



Finally, I prototyped the tools section. This is a page that also has a home on the bottom navigation that would allow users to aggregate their current financial commitments so they could see all the information in one place, similar to tools like Mint. In addition, I created sections for other interactive tools that users could engage with to help predict student loan repayment timelines or debt payments as they consider needing to use those financial products. Finally, in this tools page I added a find a job section. This was for two reasons, one of the primary ways for someone to



improve their financial situation beyond learning about the system is to actually make money. This offers users access to low barriers to entry jobs. In addition, this is how I planned to make the app operationally sustainable as these are recruiting marketing placements and HelpFi should be paid a referral fee for all the users who do sign up to work for any of the featured companies.

Analysis and Discussion:

Reflecting on the three main goals of the project which were: create an app for 17-25 year olds to help them learn about financial concepts, base the learning experience around the cognitive apprenticeship learning theory, and make sure this app is operationally sustainable, overall this project was a success. The app offers a robust set of offerings including learning modules, chatting with a licensed financial counselor, and interactive tools including data aggregation and visualization. It even is potentially operationally sustainable through the employer referral program.

Thinking about the learning theory that supported this design, the cognitive apprenticeship model, it shows up in many ways in the final prototype.

- Modeling: Videos with demonstrations of how credit cards work, how interest is calculated, etc. are featured in the learning module section.
- Coaching: Providing context on why an answer was right or wrong in the comprehension check section.
- Scaffolding: Helpful hints are provided underneath video links in the learning module section. Progress indicator shows how far a user is throughout the experience.
- Articulation: Users answer questions in the comprehension check section of the modules. The chat functionality allows users to ask questions to a subject matter expert in the licensed financial counselor.
- Reflection: This is the main element of the cognitive apprenticeship model that is missing as I shifted the design away from an open discussion forum and to chatting with a licensed financial counselor.
- Exploration: The tools section allows users to analyze their own data as well as visualize future financial implications through the use of calculators and other interactive tools.

Conclusion:

The HelpFi prototype accomplishes the project goal of creating a mobile app geared towards 17-25 year olds to learn about basic financial concepts using the cognitive apprenticeship framework. This project challenged me to push my sketching and prototyping skills, as this is something I don't have as much professional experience. There is a tremendous opportunity for future work as it relates to this concept. First, usability research should be conducted on the screens already built out and improvements should be made based on that research. Second, if this app was developed, a research study should be conducted to see if engaging with the app actually helps prove someone's financial education and situation. I would be interested to learn if engaging with the app led to less credit card or student loan debt, if users had increased budgeting behaviors, or if the number of users with a rainy day fund was higher than average.

Appendix:

Appendix A: Timeline

Week 1:

- 2/23: Present Project Proposal and Revise based on Feedback
- 2/24 - 27: Competitive Research, Ideation, Sketching
- 2/27: Submit Project Proposal

Week 2:

- 2/28-3/6: Create prototype in figma
- 3/2: Project update
- 3/2 - 3/6: Draft Final Presentation and Reports

Week 3:

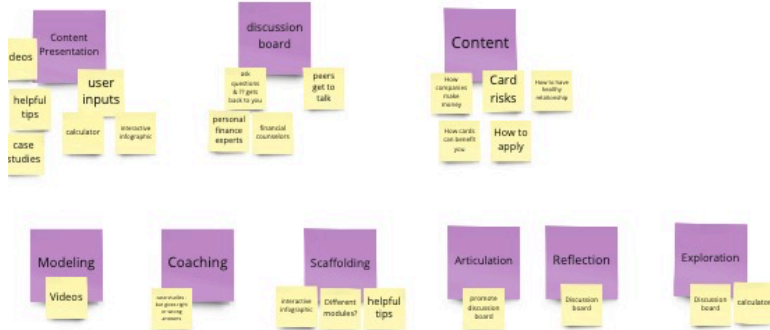
- 3/7-3/8: Finalize Final Presentation and Report
- 3/9: Final Presentation

Appendix B: Competitive Research Analysis

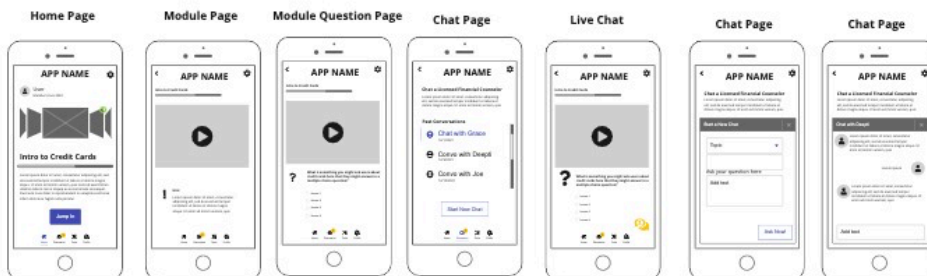
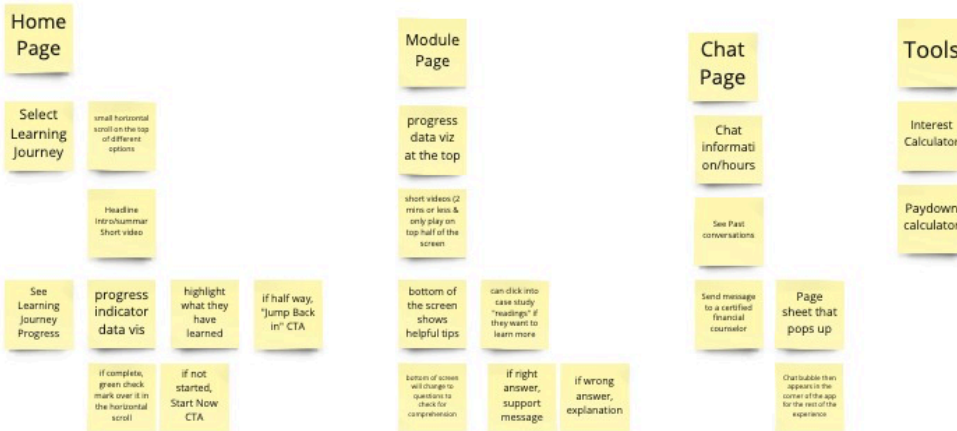
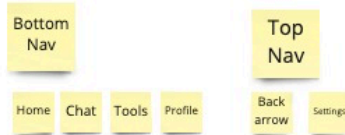
	FDIC	Money Explained (Netflix)	Investopedia
	"How Money Smart Are You?" Game with a focus area of credit cards. It includes 5 rounds and lasts approx. 1 hour and 15 minutes https://playmoneysmart.fdic.gov/game/9	23 minute documentary/inside look based episode around the credit card industry https://www.netflix.com/title/81345769	"Should I Get a Credit Card?" Guide consisting of 29 articles around credit cards https://www.investopedia.com/should-i-get-a-credit-card-4589811
Modeling: Teacher performs a task so students can observe	- gives a presentation prior to each "game" about the basic concepts of credit cards	- Explains credit scores + score calculation - Brings in CC experts to talk about different portions of the card	- 29 articles about credit card topics
Coaching: Teacher observes and facilitates while students perform a task	- Complete a series of games - gives positive or negative feedback of the correct or incorrect answer	n/a	- asks questions and provides guidance on the answer - recommends talking to a financial advisor in their head to help answer more questions
Scaffolding: Teacher provides supports to help a student perform a task	- 5 rounds each titled with a different topic - uses animations and visuals to explain theories and information - has a resources section on landing page that includes key takeaways, tools, FAQs, and helpful links	- provides profile of "transactors" vs. "revolvers" vs. "hacker" - provides an example of interest calculation based on APR - goes through credit card statement legal requirements and the psychology of it - gives 3 tips: - encourages you to find a card that suits your needs rather than letting the card pay you - encourages you to use your card like it is cash (pay in full) - encourages users to automate payments	- has a key takeaways section in the articles - numbers the articles so you know in what order you should do them - has a table of contents on the side of each article that drops you into a specific relevant section - has "important" sections in articles - has example sections in articles
Articulation: Teacher encourages students to verbalize their knowledge and thinking	- Answer a series of questions as each "game"	n/a	- articles contain takeaways of the readers to think about as they are on their credit card learning journey
Reflection: Teacher enables students to compare their performance with others	- gives you coins as you correctly answer questions (and then gives you a threshold for how many points you need to proceed)	- video encourages you to think about what profile you are	n/a
Exploration: Teacher invites students to pose and solve their own problems	n/a	- video encourages you to think about how credit cards have impacted your life and financial situation	- has advertising that hosts different credit card offers so

Appendix C: Ideation and Sketching Miro Board

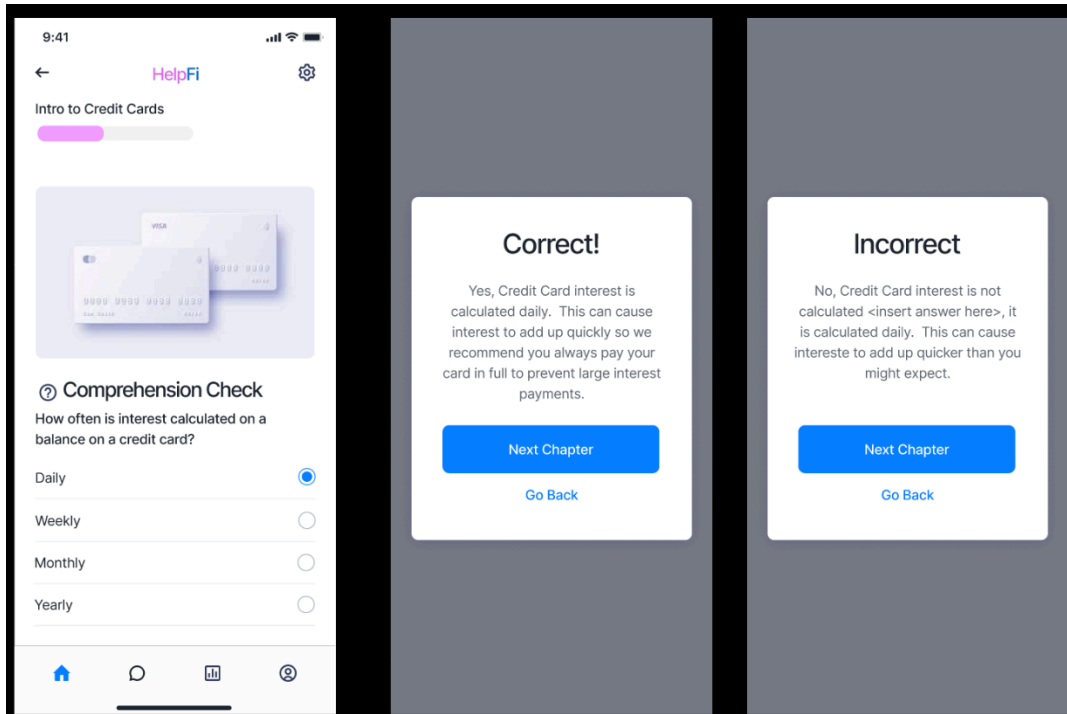
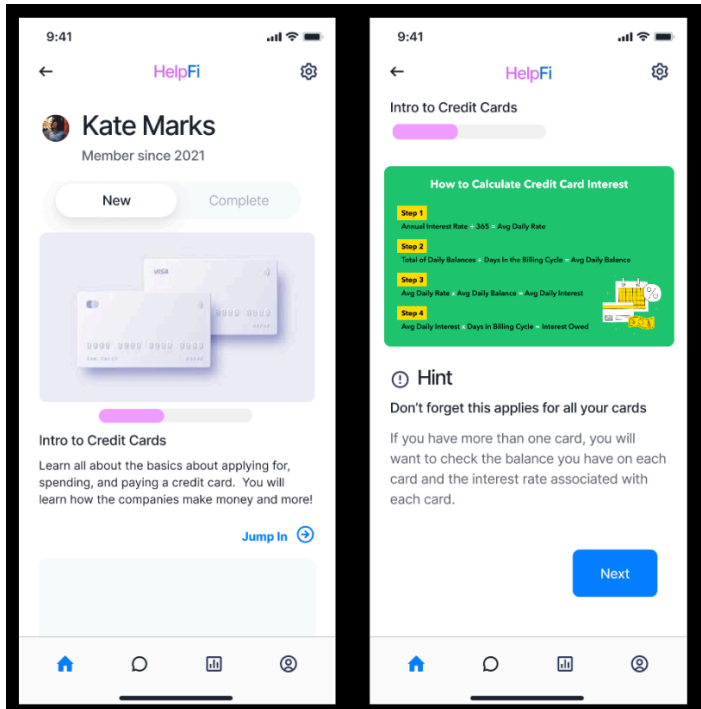
Phase 1



Phase 2



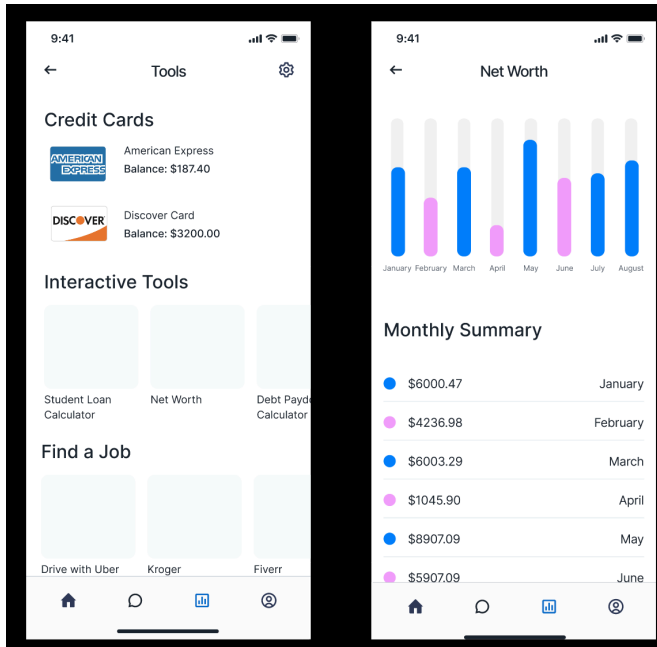
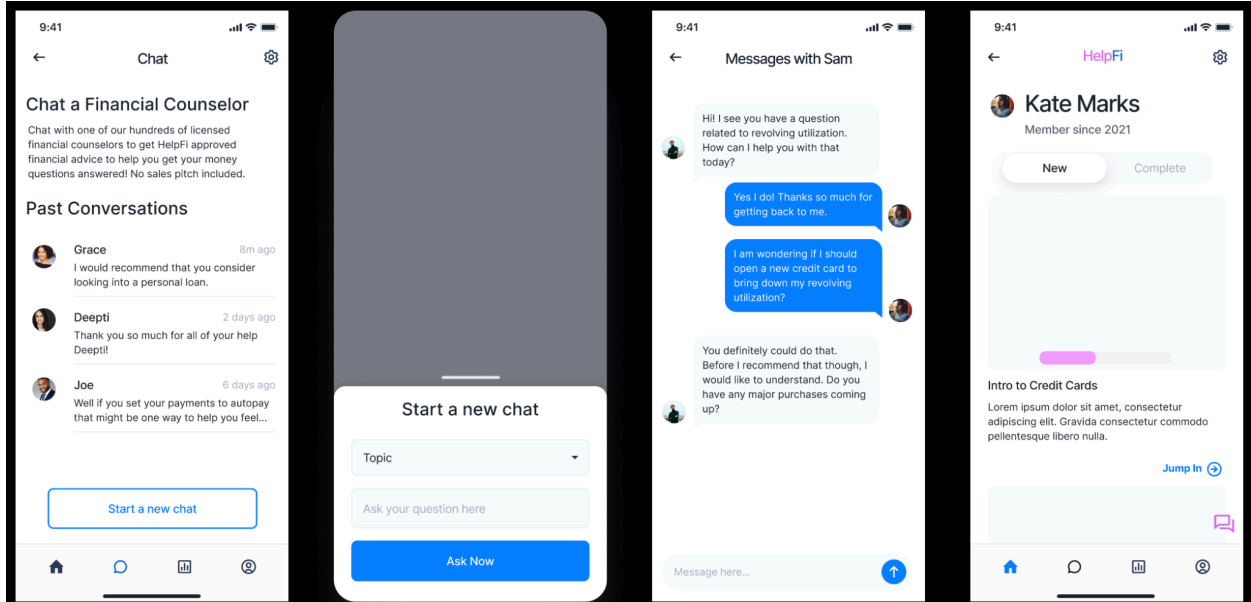
Appendix D: Figma Prototype



Kate Enright

10

EXP 441



References:

United States, The Federal Reserve, Division of Consumer and Community Affairs, et al. *Report on the Economic Well-Being of U.S. Households in 2017*, May 2018 ed., pp. 2–2.