

MarketAssist App Experience

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This app came to fruition after we needed a new app to come up with about halfway through the semester when our previous idea was no longer feasible. The idea came from a conversation and a shared interest. After seeing a video on TikTok where a statistician used AR to create various 3D models documenting his new child's first weeks of living and having his wife explain the data while he recorded in AR, we thought that was a cool idea but what data would we use and how would it be implemented in AR? Well after some brainstorming we ruled out AR completely due to our time constraints and thought about an app we could do using outside data that would be usable in our daily lives. With both of us being interested in stock/forex/crypto markets and growing our investment portfolios, we thought it would be fitting to apply our shared knowledge of computer science to the field of investing and growing wealth to see where we could take it. Specifically, we landed on the idea that we want our computer science knowledge to help us with another source of income, preferably passive, that doesn't rely so heavily on computer science. That being said, our background is in computer science and not business or finance so the really intricate stuff was off the table, but we continued to draft and fine tune our ideas until we arrived at the MarketAssist app. An app that would be extremely useful to both of us in our everyday lives. The MarketAssist app allows us to track our current investments in real time allowing for an always up to date knowledge base on our investments which in turn allows us to make the best investment decisions available to us and at the right time.

With a simple and streamlined design along with a user friendly interface, we can make it not applicable to just us but an entire community of investors. The UI features a very simple and easy to navigate design utilizing the most important aspects of the stock market in a readable, visible, and compact format. The development part that we were most excited to implement was the API. Not having too much experience with APIs in our careers, it seemed like a fun challenge to tackle, especially in a mobile environment where they are so useful. Getting acquainted with Postman, searching for suitable APIs, and integrating it into our UI views were all fun experiences. While dealing with APIs can be quite daunting due to the vast amount of fields that must be searched through sometimes, having access to all that data and the freedom to display it how you want is a really cool thing. Also, being able to tackle APIs and gain that valuable experience really opens the door for many future experiences in our career and personal projects. More importantly, just having the framework for this app without our stretch goals can allow for us to expand upon it later in life as needed as we continue to actually use what we created even beyond our stretch goals. We think that's another one of the coolest things, having our vision come to life and for it to be used even if just by us. For UI and design we had many different drafts and mockups for the app's look and feel but with some constructive feedback and collaboration from each other along with the problems that came with attempting to implement some of the designs, the final product turned out to be amazing and captures the exact feel we were both looking for in our app. We believe an app should be welcoming and fun, but also not shy away from creating the best product possible by cutting out some of the facts even if they are not as important as the big pieces. And we believe that our app encapsulates that perfectly. Investing is a

very fast field and a small time hiccup can really cost big money. This is why we chose to keep the information on the app to a minimum. Seeing as we are not a brokerage, users would need to navigate away from our app to act on any info our app will give them. And by not loading up the screen with a bunch of data, loading speeds will be down and there will be a lot less time needed to be spent before moves are made.

Our MarketAssist app allows users to view information on specific stocks and add them to a watchlist that will allow them to quickly access information on the stock that they click. This works by integrating an API into our project using a class we created and called an APIObject which stores all of the appropriate API data that we will need throughout the project. This is then linked to a view within ContentView responsible for displaying the stock information on the screen. The API is called through another view within ContentView that allows users to search for stocks with a search bar and the results are returned below if there is a corresponding stock to display below. Once a stock's information is being displayed, said stock can be added or deleted from the watchlist with a LongTapGesture that brings up a menu at the bottom of the screen with the options listed above as well as a cancel button. To access the watchlist, there is a sideMenu button in the top left hand corner of the screen that looks like 3 horizontal lines. On a tap, the side menu will open displaying a watchlist. This side menu works by sliding out to the right and over the main app screen, greying out the main screen allowing the complete focus to be on the side menu. And the watchlist is a scrollable list with the option to close the side menu by tapping anywhere outside of the menu. A tap of any stock on the watchlist, which works as a list of buttons, will close the side menu

and call the api with information on the selected ticker, causing the main screen to recompose, showing the basic information on the stock from the watchlist.

Our experience building the app throughout the duration of this project was mostly positive. Outside of what sometimes seemed to be a very difficult time crunch and the common frustrations that come with programming, it was a great experience being such an integral part of a team where everyone shared the load of responsibilities and the development process flowed smoothly as we basically worked at the same speed and were able to move through our planned timeline almost simultaneously. With our sketches we did have some creative differences, but through the increasingly complex iterations of our mockups and diagrams, we were able to compromise in some areas and bring the best possible vision to light. This was able to become even easier when during development, we would run into issues building the UI and realizing that sometimes what we planned might not be feasible or may simply just be easier to implement in another way. This was true sometimes with small things such as buttons and other times with complete design layouts such as the side menu. Another eye opening experience was becoming more familiar with Git and all of the power that it has. With no one on the team being particularly skilled in Git work, there were a lot of questions asked and a lot of googling to be done. There were also a lot of Git GUI applications downloaded in an effort to help facilitate the many merges and pushes. It was confusing enough on a team of two but these are very valuable skills when working with a team of two or more that we're glad to say that we will both remember. And we both came to the conclusion that having to figure a lot of stuff dealing with this project

on our own helped us to become better all-around developers on a solo and team level. The importance of google really cannot be understated and neither can the importance of patience. Overall, we both came away from the project and really the semester with a mindset that mobile development is really interesting and intricate.