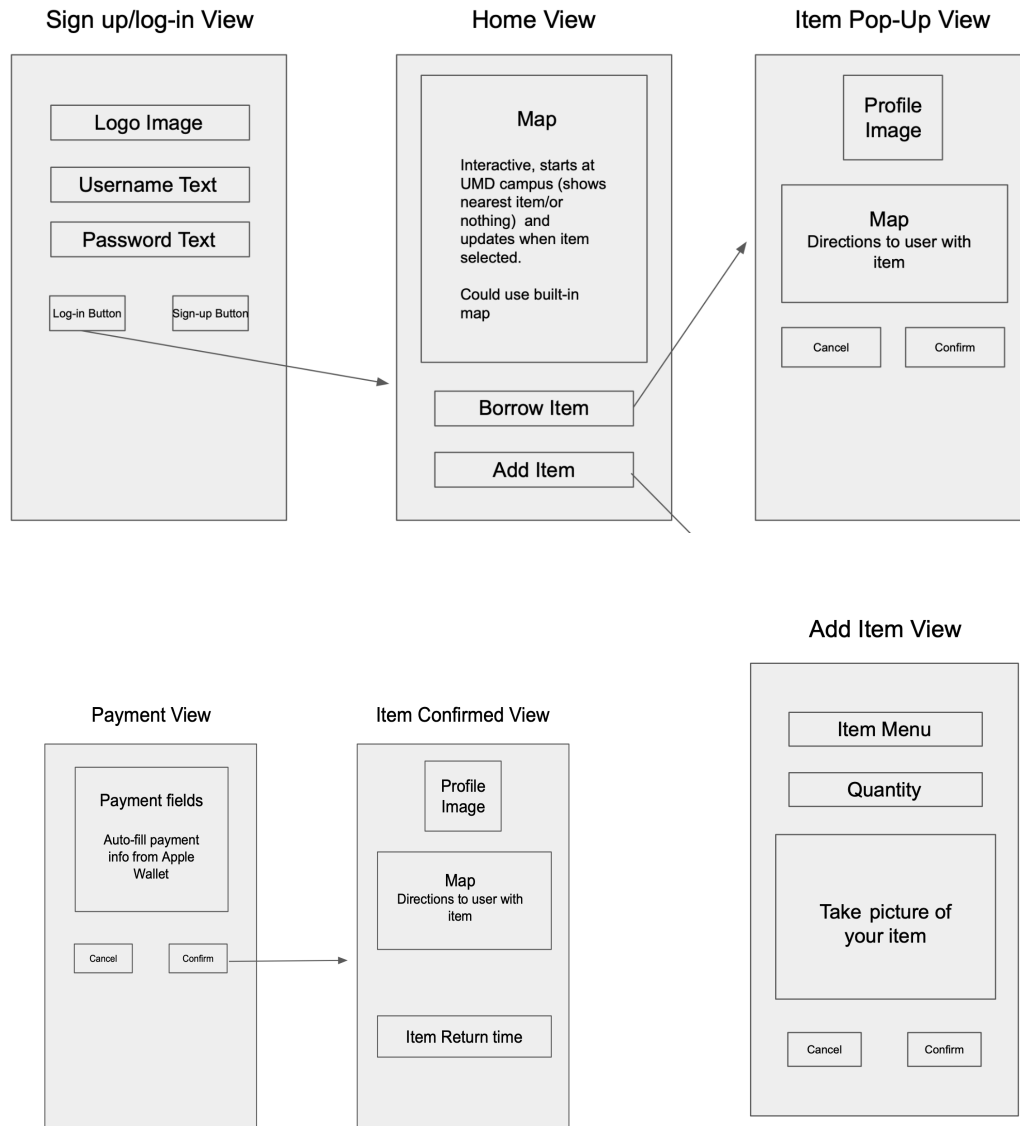


PowerU

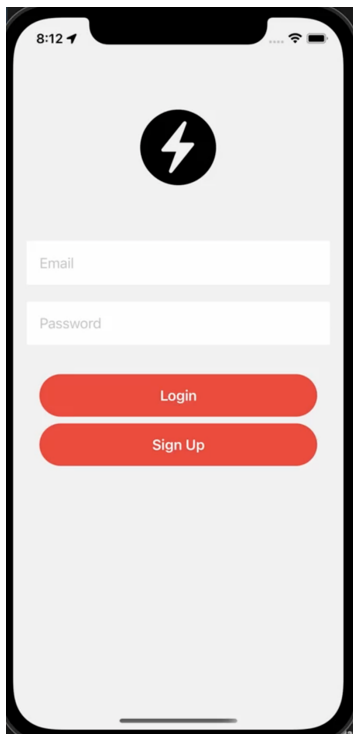
When thinking of ideas for our group project we first went through the proposed ideas on the instructions sheet. However, when looking through them, we decided that we wanted to do something that would be practical in the real world and would be helpful to the users of our app. We were then able to come up with the idea of Power U, an iOS mobile application that will allow users to find other nearby users willing to share with them a charger for their device (phone/laptop). The lending user will be able to charge an hourly rate to the borrowing user for using the charger. We then decided to implement a map feature as well as directions to the user lending the charger to help the user who is borrowing a charger better locate the user willing to share their charger. We also decided to use Firebase Authentication for login as well as the Google Maps API for the map.

After deciding on our topic, we then moved to create a wireframe for our project. When creating our wireframe we were able to visualize what we wanted the app to look like in the future when we coded it. In addition to this, we decided that instead of the borrowing user paying the amount of each transaction like Uber, we would implement a credit system such as the app Veo. This meant that the borrowing user would add a fixed amount of money to their account, such as 5\$,10\$,25\$ and 100\$. We decided that this would be a good change as it would incentivize people to use the app more, as they would have left over balance on their account.

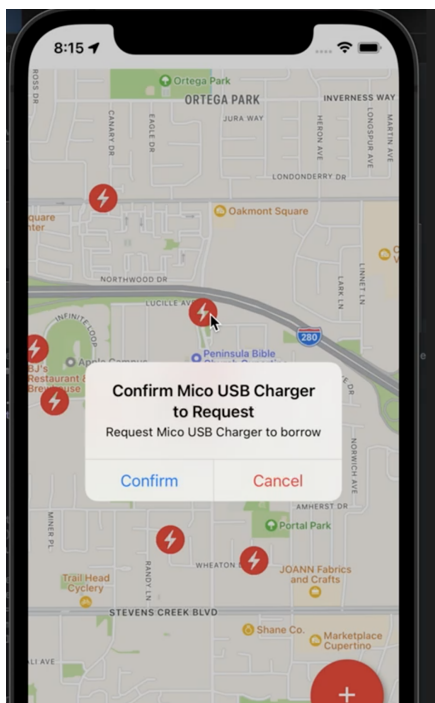
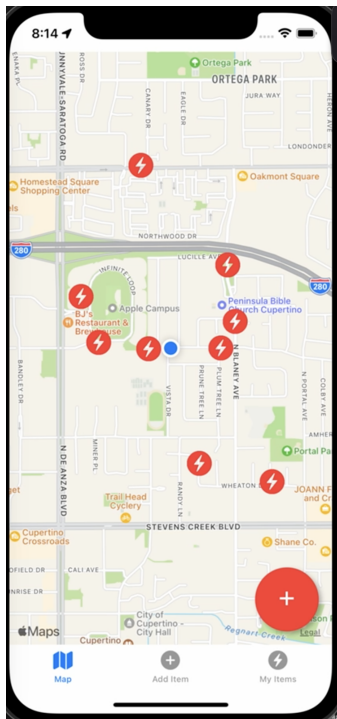


After creating our wireframe, we realized that implementing a payment system would be impractical in the early stages of the app as we would need to create a merchant identifier as well as a payment processing certificate. In addition to this, we decided to switch from the Google Maps API to the Apple Maps API as it would be easier to implement and chose to add a My Items view so lenders can see which items that they currently are lending.

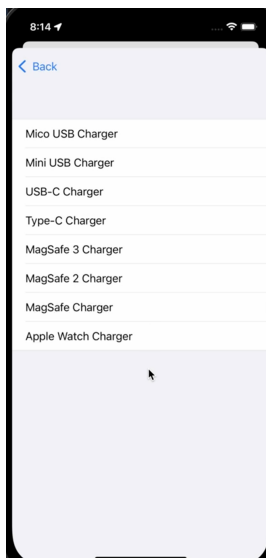
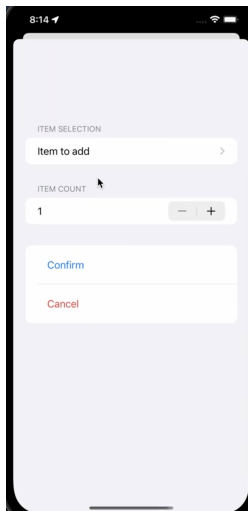
After this, we began to code the application. We first started on the sign up/ login view(pictured below) and began the view by creating text boxes for the username and password as well as a sign up and login button. We used Google Firebase to authenticate users' login and post a success or failure message. In addition, we also used Firebase to authenticate signups and store the information in a Realtime database..

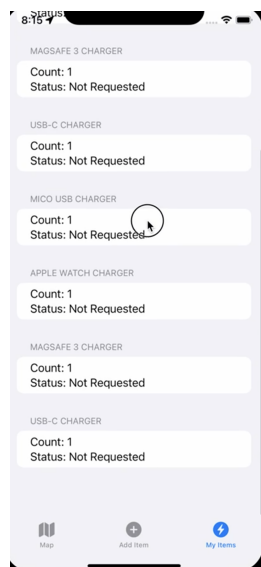


After the user was authenticated, they would then be on the home view (pictured below). On our wireframe we initially had an add button and a borrow button but we decided to switch it to a marker where a borrowing user could find the exact location of the item. After clicking the marker, users will be redirected to either opening Google Maps directions to the location of the item in either the Google Maps app or through a web browser (pictured below). We also decided to create an add button in the bottom right corner of the map which users can press to go to the Add Item view.



After clicking on the Add Item button, the Add item view would be opened(shown below). In this view, users can select what type of charger they would like to add(shown in a drop down menu), as well as the quantity of the item they would like to add. After the user selects this information and clicks the confirm button, the data is then stored in the Firebase database along with their location and a new marker will pop up on the map. We also added a feature where users could see which items that they have in the database(shown below). It will also show if someone is requesting the item that they have on the app.





MAGSAFE 3 CHARGER

Count: 1
Status: Not Requested

USB-C CHARGER

Count: 1
Status: Not Requested

MICO USB CHARGER

Count: 1
Status: Not Requested

APPLE WATCH CHARGER

Count: 1
Status: Not Requested

MAGSAFE 3 CHARGER

Count: 1
Status: Not Requested

USB-C CHARGER

Count: 1
Status: Not Requested



Map



Add Item



My Items