SlugCentral

Functionality Specifications Ver. 1

Goals

The goal of this project is to create a mobile application for both IOS and Android devices that serves as a tool to help UC Santa Cruz students plan their courses. This will be helpful because there is a lot of unpredictability when it comes to courses as one class could become full in one session or there could be a few seats left in a class and the user is four sessions away from their time slot to choose.

Non-Goals

This version of the project will not include many tabs of information for student life. This includes: dining hall menu, bus stop times, and checklist for major requirements.

Scenarios

Scenario A: John is a senior attending UC Santa Cruz. His time slot for choosing courses is soon and he needs two specific classes left to complete his degree. The problem is that these two courses are highly impacted and are always full on the first few time slots. He uses SlugCentral which allows him to keep certain courses in his planner which keeps track of the class capacity. Throughout the day, he keeps tabs on the status of the classes in his planner and when it is almost his time slot, he notices that there are two spots left in each class. He refreshes his myUCSC page many times until his time slot and gets the two classes he needs.

Scenario B: Jessica is a freshman attending UC Santa Cruz which means that she has a very late time slot and less choices of classes to choose from. She is very interested in the course "Math 23A", however the class is filled two days before her time slot. She uses SlugCentral which has an up to date listing of courses and their capacity. She adds the course into her planner and will have a notification when that specific course status changes from "Wait List" to "Open". This could happen when somebody else that is already registered in the class decides to drop for

something else. When this event does occur, Jessica can then quickly access her myUCSC page to add her math course.

Specification Overview

User Requirements

- As a student, I want to see up to date listing of classes so that I can know which classes are full and which are open
- As a student, I want to see which classes are in my planner so that I can know how to plan my classes
- As a student, I want to be able to open a map that shows the courses in my planner so that I can plan out my routes to the classroom
- As a student, I want to be able to search all the classes found on the PISA database so that I can correctly plan my schedule
- As a student, I want to be able to create an account on the application so that I can save my course selections
- As a student, I want to be able to navigate quickly through the main screen without getting lost, so that I can use the application
- As a student, I want the courses in my planner to have a readable and clean view so that I can know what my day to day schedule looks like with just a glance
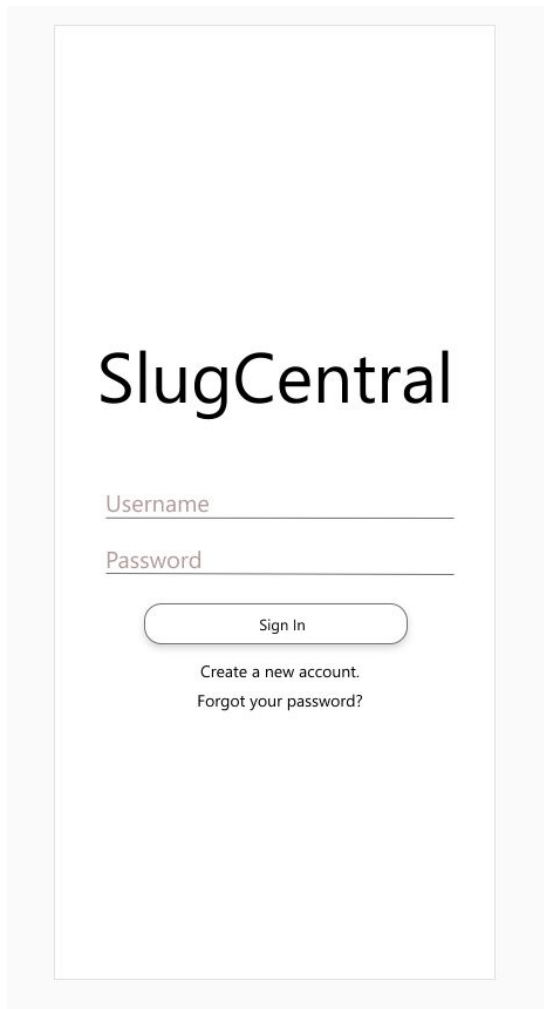
User Interface

1. Splash Screen
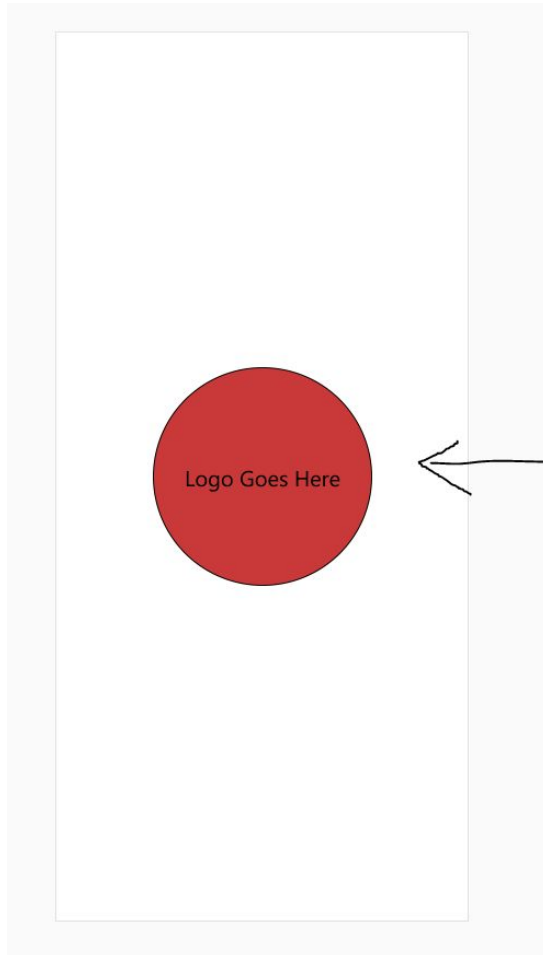
- Functionality and Specifications
  - Logo area shown by the black arrow will/can be filled in at a later time
  - Splash Screen will show for the necessary amount of time needed to load processes
  - Splash Screen will automatically transition to the Login Screen
  - Orientation of the screen will be locked in portrait rotation
- Problems and Questions
  - What can the dimensions of the logo be?
  - What processes will we need to load later on?
  - Is there going to be a color scheme for the screen?
  - What type of transition should the animation be?
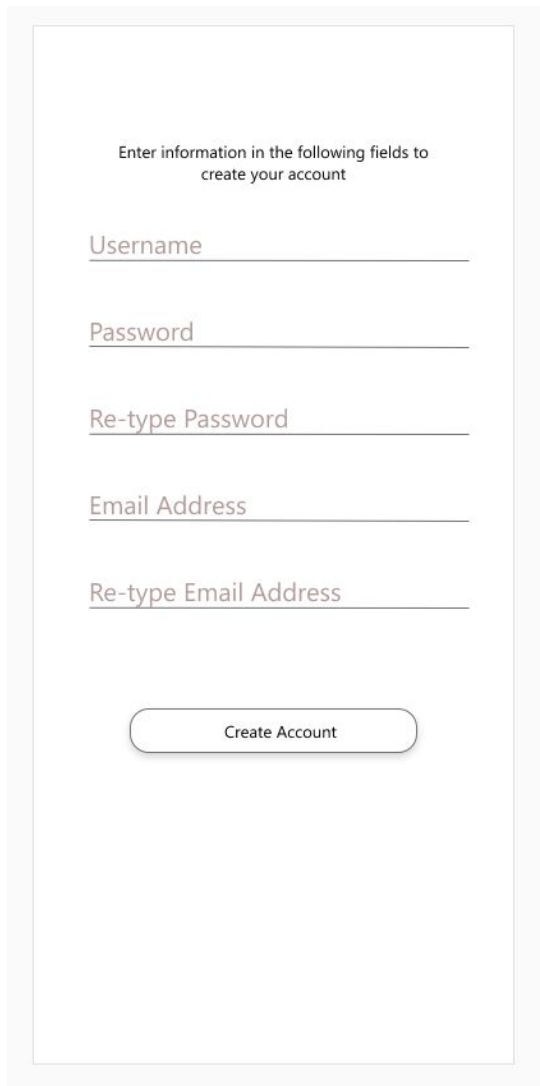
2. Login Screen

- ● Functionality and Specifications
  - ○ Username and Password Fields will need input validation
  - ○ Sign In button will check login credentials and directs to the Main Screen
  - ○ Create a new account directs to the Sign Up Screen
  - ○ Forgot your password button directs to the Forgot Password screen
  - ○ Orientation is locked in portrait mode
- ● Problems and Questions
  - ○ What type of validations should the account need?
  - ○ What should the color scheme be for the app?
  - ○ What backend should account creation, and sign in be?
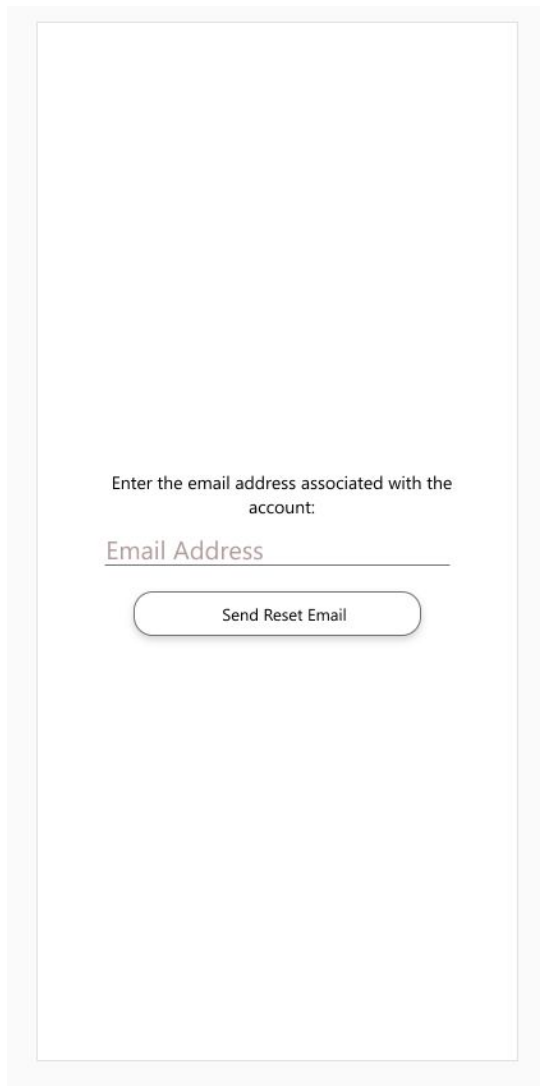 - ○ Should there be a Remember Me option?

3. Sign Up Screen

Enter information in the following fields to
create your account

Username

Password

Re-type Password

Email Address

Re-type Email Address

Create Account

- Functionality and Specifications
    - Each input field should have input validation
    - Create Account directs to the Main Screen if all fields are valid
    - Orientation is locked in portrait mode
- Problems and Questions
    - What type of validation should Username have?
    - Can multiple users have the same username?
    - What should validation be for a password?
   - Should there be more text or screens explaining the account creation process

4. Forgot Password Screen

- **Functionality and Specifications**
  - Send Reset Email button redirects to the Login Screen and sends an email from the backend
  - Pressing the button will need to check if the email is an email associated with an account
- **Problems and Questions**
  - Should there be more text explaining the email verification?
  - Should there be an alert to show the email sent?
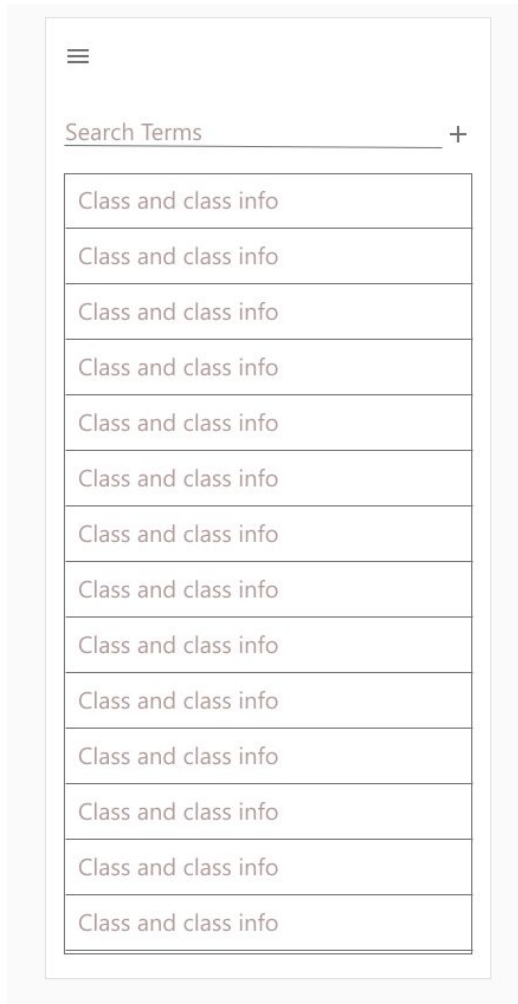 - Can we use security questions instead of just email?

5. Main Screen
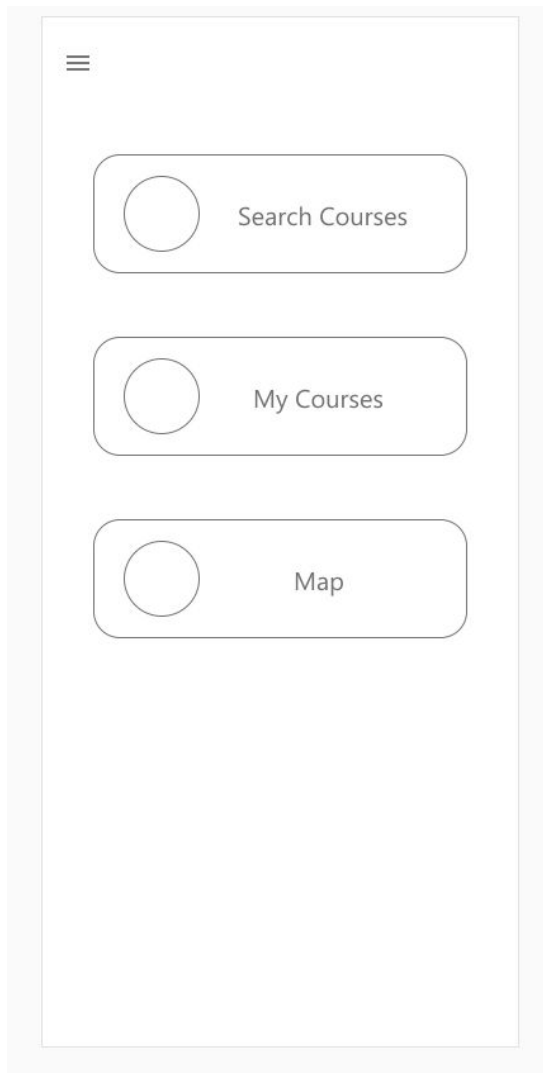
- Functionality and Specifications
  - There will be three buttons for version 1
  - Each button redirects to a different screen
  - The Icon circles in each button will/can be updated at a later time
  - Transitions can be a sliding page
- Problems and Questions
  - Should there be a banner in the center to indicate the main page?
  - What colors should the buttons be?
  - Should there be different transitions for each button?
  - Is there going to be loading time on this menu?
  - Will this screen be able to change orientation?

6. Side Bar
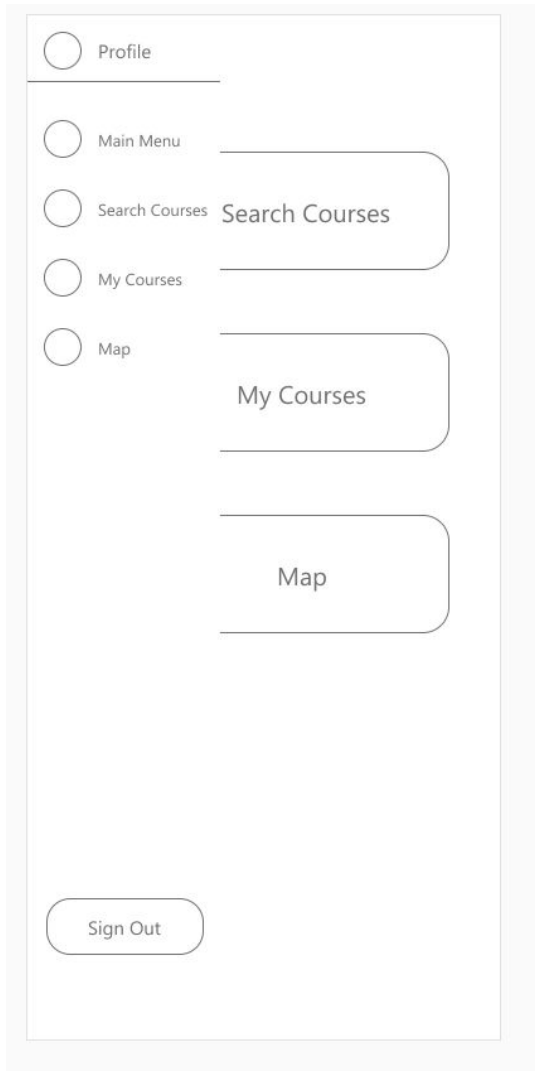
- ● Functionality and Specifications
  - ○ Side Menu button slides right for a transition
  - ○ Blank Circles will be the same Icon as the Main Page Icons
  - ○ Each section will redirect you to that page associated with it
  - ○ Sign Out Button will send the user back to the Sign In Screen
- ● Problems and Questions
  - ○ Should the Profile button as well?
  - ○ Should settings be with the Profile or a seperate button?
  - ○ Should there be button or separators for the side button?
 - ○ Is there any other options we can add?

7. Search Courses Screen

- Functionality and Specifications
  - Search Terms input field allows users to search for specific keywords in their search
  - The plus button adds a filter to the search
  - Class and Class Info section will be an infinite scrolling view instead of pages
  - The information on the small boxes will show Name and Capacity
  - Clicking on any box will open the Search Courses Add Screen where there will be more information
- Problems and Questions
  - What type of Search Terms will it filter by default?
  - Will an infinite scroll run faster than pages
  - Is Name and Capacity enough information for a smaller view
  - What filters will be or is possible to add to the options
  - Is Orientation locked?

8. Search Courses Add Screen
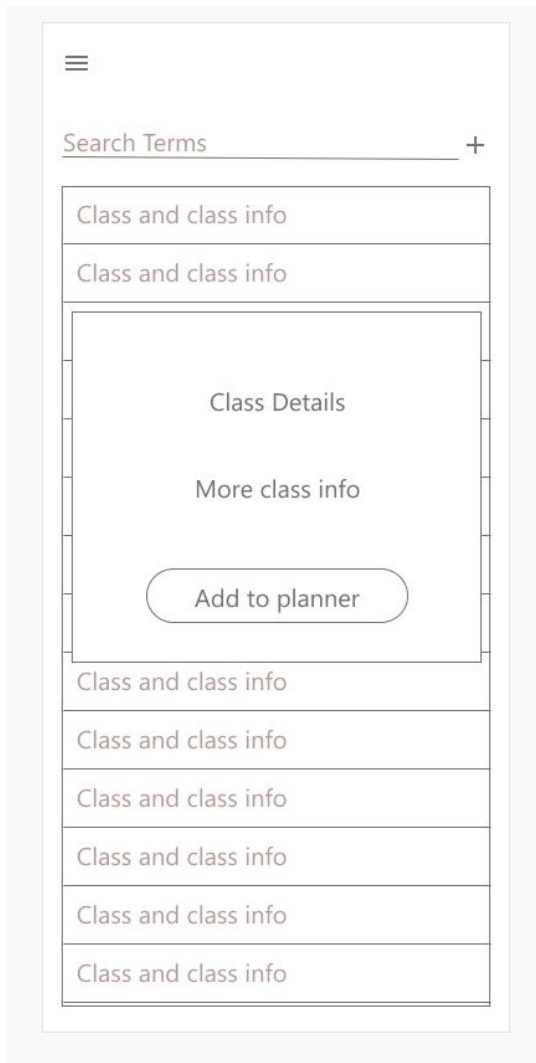
- Functionality and Specifications
  - A smaller view that overlays to show more class information such as teacher and time
  - Add to planner button will close the view and show an alert to the user
- Problems and Questions
  - Should the add to planner button leave the small overlay?
  - Should pressing the "Add to Planner" button show conflicts in a user's planner
  - Should the button switch to "Remove" after it is pressed?
  - Should the background darken or stay the same?
  - Is Orientation locked?

9. My Courses Screen
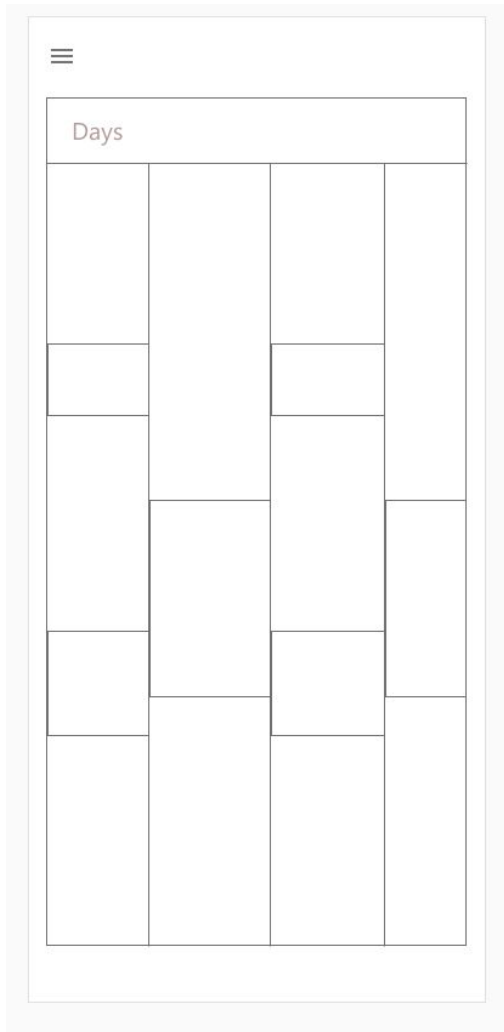
- Functionality and Specifications
  - This will show a weekly calendar view from Monday to Saturday
  - Time will be shown on the left hand side
  - Blocks will be shown on the calendar to indicate what class is on your planner
  - Each block will have the name of the course
  - The block will expand from the length of the class
  - Pressing a block will show more information about it
  - Orientation will be available to switch
- Problems and Questions
  - Screen may be scrollable if it is not big enough to fit
  - What type of view should we use for this page?
  - Should there be options for color of the blocks?

10. My Courses Remove Screen
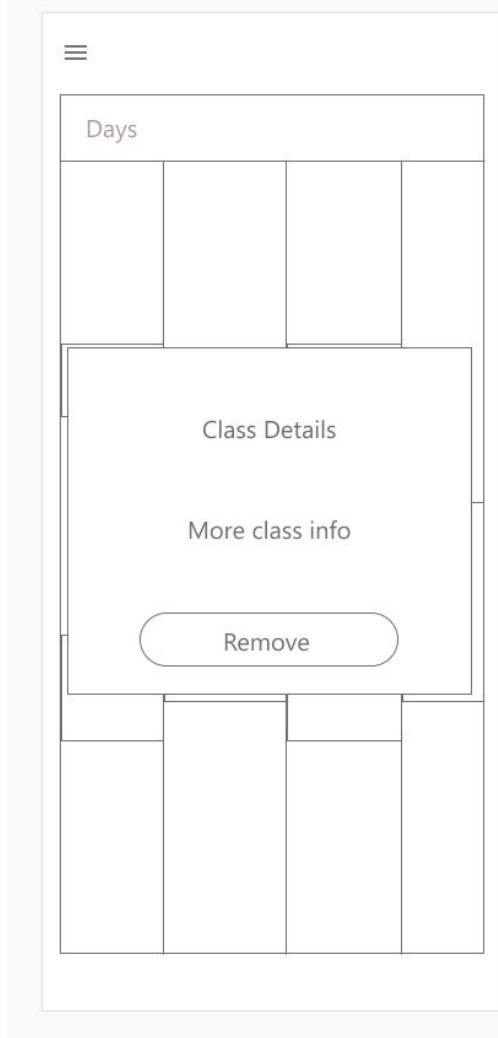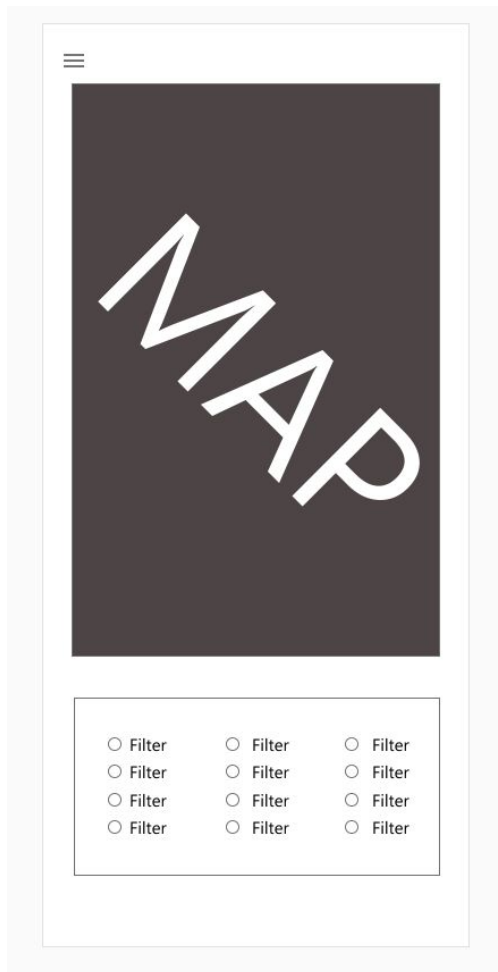

- ● Functionality and Specifications
  - ○ This will show more class information such as the Teacher and Time
  - ○ Remove button will take the block off the user's planner
  - ○ The Remove button also removes the overlay back to the myCourses screen
- ● Problems and Questions
  - ○ Should there be an option to undo if a user presses the button accidently?
  - ○ Should the options menu for the class block be in the corner of this overlay?
  - ○ Will we need to use an external API for the view?

11. Map Screen

- Functionality and Specifications
  - The Map view will be moveable and zoomable
  - It will contain the locations of the classes in your planner
  - The Map will default to a view of UCSC
  - Below the map will have filters for what the user wants to specifically see
  - Filters can include which classes they want to show up on the map
- Problems and Questions
  - What other filters is the user able to add?
  - Should there be filters to the map at all?
  - Should the map just be the whole screen and accessing the filter be a different option
  - Are we using Google Maps API to display the map?
  - Will the map be able to change orientation?

Milestones

Developing the API for accessing the Courses Database - High Difficulty
- Are we able to successfully query data from the Courses Database?
- What format should this data be in?
- What backend service will we use? MongoDB? AWS?
- Should we store all data in another database and query from there? Or should we have a script that runs whenever a search is called?
- How fast can this produce the results we need to see?

Developing the UI for all pages - Medium Difficulty
- Are all the pages designed and created in React Native?
- Do all the pages have the required buttons and functionality?
- The MyCourses and Map screen may need external APIs

Challenges

1. Developing the API to access the courses database
2. Discussing which backend service we need
3. Discussing and developing method for login verification for users
4. Creating simple pages based on the design
5. Figuring out how to show the courses in a user's planner
6. Figuring out how to show the courses on a Map