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EEL4914C

Operational Manual

Project Overview:

Our project, Mouthpiece, is a social media app whose motivation is seamlessly sharing posts, pictures, and videos for a community of those interested in sports. This app will connect athletes, sports fans, team members, etc.

Component/Module Description:

Geolocation Module:

Here is where the MP map resides, this shows the map based around your location with nearby markers of basketball courts in your area. This is connected to the Google Maps/Places API/server where we use this to display the map and markers.

User Profile Module:

Here in the user profile module shows everything unique to the individual user. This includes their username and profile information such as name and bio. It also shows their following/follower count as well as their posts.

Home Feed Module:

In the home feed module, you will see a curated feed of posts, based on who you are following. Here, users can interact with the posts by liking and commenting on them.

Explore Page Module:

In the explore page as the name suggests, is where users can explore new posts. This tab will showcase a collection of posts from all users within the app.

Add Post Module:

For the add post module, this is where users can add a picture or video from their camera or camera roll, set basic filtering options to it, add a caption, and post it to the Firebase server which then updates to the client(s).

Notification Module:

Lastly for our notification module, this stores all types of notifications pertaining to a specific user such as new followers, likes, and or comments. Here this is directly connected to the Firebase server which holds notification details.

Integration:

Using Apple's Xcode IDE and Swift programming language, we can take our high-level module/component ideas and implement them into our codebase, following an MVC design pattern. Starting from the lower level, we can setup the Firebase server that will read/write from the models in the code, one step higher we have the view controllers, where this'll connect any user actions and state changes and write the logic to then change to the models. Lastly for the view, this is what the user sees regarding UI/UX. For the geolocation module, we initialize Google Maps/Places API to give us the proper information to display on the MP Map tab. The rest of the modules are connected to the Firebase server where the code logic reads/writes between the two.

Operation:

There are two scenarios in which a user can run the app.

(1) Debug mode: Running the app in debug mode can be done by grabbing the code from our GitHub repository (not made public yet). Assuming that they've done this, the user would also need a mac laptop in order to install Xcode (a macOS exclusive IDE). With this installed, the user can clone the GitHub repo by simply pasting the URL into the Clone bar. Once done, this'll grab the code from the remote server and create a local instance of it. From here, the user can simply click the play button on the top right to do a build of the project. Once the build is successful, the app will run in debug mode, here you can simulate all the app's features. Be sure to create an account, put in your user info and click Create Account. Once done, it should load you into the app, here you can test all the functionality such as adding a post, searching for users, going on MP Map, editing your profile and more.

Functionality:

Adding a Post: To add a post, go to the main home tab and click on the + in the top left, here you can either add a picture from your camera or camera roll, filter and add a caption.

Explore Posts: Go to the explore tab and at the bottom you'll see new posts of other users within the app.

Searching Users: Go to the explore tab and go to the search bar and search for the desired user.

MP Map: To view the map, go to the map tab at the bottom, here you need to allow location permissions and it should adjust the map based on where you are with the nearby markers.

Notifications: To view your notifications, go to the notification tab, here you can see a list of the different types of notifications.

Profile/Profile-editing: To view your profile go to the profile tab, here you will see your own profile with your data and posts. Here you can also edit your profile info.

Signing out: To sign out, go to the profile tab and go to the top right and click on the cog symbol for settings. At the bottom you'll see the 'Sign out' option.

(2) Release mode: Assuming that the app is made public and pushed to the Appstore, you can download the app and run it in release mode. Users are required to have an iOS device, as this app is made for iOS devices only. Once downloaded from the app store, users can do everything as discussed above.

Troubleshooting:

(1) UI not updating: One issue we had with debugging the app was getting the UI to update instantly upon user actions, for example liking and commenting on a post or following a user. Although it would write to the Firebase server, it wouldn't automatically update on the client. If you have this issue where the UI isn't updating, simply close the app and reopen it. This'll update the UI with the fresh changes made from the database. We should have fixed all the cases but there might be edge cases.

(2) Map not displaying: There have been some rare cases in debugging where the map would not display despite giving it location permissions. If this is the case, go to your iOS settings, go to 'Location & Privacy' and go to Mouthpiece app. Here you want to reset the location settings or change it to 'Always'. Doing either of these should fix this issue.

- (3) Picture post not adding: If you add a photo from camera roll and try to post it and you can't see it on the app, this could be because the picture you chose was too big to process to the Firebase server. Although we've never experienced this as developers, if this happens, simply compress your image to reduce the size and try uploading it again.
- (4) Post Notification not redirecting: If you see a notification of someone liking or commenting on a post and you try to open the post, sometimes the app will give an error saying, 'Post cannot be found'. If this is the case, you can manually see the post and notice the new changes that way.
- (5) Not redirecting after creating an account: Once you have added the information needed to create an account and click the 'Create Account' button, sometimes it won't redirect you to the homescreen. If this happens, click back to go to the sign in page, and put in your information. More than likely, when you clicked the button it created the account on the back-end, so you are able to sign in as usual.