

# IOS Development Project

CS 4768

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## Group Members:

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For our project we will be implementing an IOS application that tracks the activity of a user. It will record movement information of the user, display their full route on a map, and tell them the current and expected weather information for their current area. The app will be constructed as a tab view consisting of three views: the first displaying basic information of the session; the second a map view of the session; and the third a weather tab with weather related information. It will provide users who enjoy walking, running, or biking for leisure or exercise the ability to track their progress and make plans according to the weather.

The first function of our app will be to track the user's activity and display useful information. When the user starts a new session by activating the app and pressing "New Session" the app will begin to track their movement activity. It will record and display the number of steps they have taken, as well as information such as current speed of travel, their max speed of that session, and total distance traveled. This feature will implement the CoreMotion framework to accomplish these goals.

The second function of the app will be to track and display information about the user's current

and past location. This will provide the user information about the path they have taken and allow them to assess if a faster route is available, as well as allowing them to backtrack in the case that they drop something. When a session is started the app will record the users current location and as the user moves their new location will be tracked. The user can click on the “Map” tab to view a map which displays their current location, the path they have taken, and total length of path in both kilometers and steps. This feature will again use CoreMotion framework but will also make use of the MapKit framework to implement the map.

The final feature will be to offer weather information to the user that will allow them to assess if they should continue their journey. Once a session has begun and the user's location has been recorded, the app will gather weather information from the internet about that location. The user can click the “Weather” tab to receive the current forecast, as well as information about that areas weather for the next twenty four hours. As the user's location changes, the weather information will be updated to display accurate information for the current location. To implement this feature, we will be using the WebKit framework which provides networking abilities, allowing us to get weather information from the internet.

There are several challenges we anticipate for the implementation of this app. The first is learning how to use the various frameworks that we have little experience with, such as MapKit and WebKit. Another challenge will be overcoming the possible difficulties related to the user's phone being locked or the app being put into the background of their phone. In such cases, the app must continue to track the user's information and display the correct values when the app is viewed once again. A third challenge will be to track and save individual sessions. The app will save previous sessions by the user so they can compare information. A final challenge, which is based on a limitation, is that in order to display information from the internet, the user must have an active internet connection. In the case that connection is lost, the app must continue to display the most recent weather information. When internet access is restored, the app must update the weather information.

By implementing all the above features, we hope to provide users with useful information that will allow them to track and plan their activities. Whether the user is trying to find the fastest route to a location, track their exercise for the day, or simply go for a walk and receive weather updates, our app will have them covered.