Title: CMP3035M Cross-Platform Development

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Report

Extension Authorisation Code: 8503c8cb

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Concept and Design

Overview

Society/Sport Finder is a new student app where students can connect with different societies and sports around the University Campus. Receive notifications on where and when your next event is, so that you never forget to miss out! University can be stressful with the workload but let us take some of that away with this new and exciting app. Nearly, if not all, students have a phone, so why not stay connected through your favourite activities on your mobile device! Enhance your university experience by staying involved and getting involved.

Here are some of the features that you receive on the app:

- Find societies and sports within the university
- Stay up to date with sport and society activities
- Geo Location services allow you to access the destination of the events
- View your location in regards to where the event is
- Receive notifications / reminders the days of your activities
- Updates on which events you have attended within the last week

Phone Gap QR Code:

Competitors

Campus Society – The Uni App

Google Play Store & Apple Store

Campus society is a cross platform app where university students can connect with each other through the use of chat rooms that are categorised. Furthermore with Campus Society students can create or read blogs as well as join or create communities based of individual's personal interests.

This app is seen as a competitor, as the app that is being created for this assignment has similar features, such as:

- Joining courses, societies and chat rooms based on interests
- Reading posts and keeping updated with events

Secondly, this app is similar to the one being created for this assignment because, one of the aims is being able to connect students with society and sports events through a mobile moment. What will differ from this app to 'Campus Society' is that society events will be displayed on a map showing the

event details. Furthermore, the aim of the app which is being created is to allow university students to efficiently keep up to date with events, whilst not having to look at multiple group chats to keep updated on events.

Functionality

Positive Features:

1) Channels: The use of channels is a functional feature where users can join or create their own channel, this a good feature in terms of allowing students to communicate based on interests.
2) Notifications: This features has also lead on inspiration for the app being created for this assignment.

User Experience:

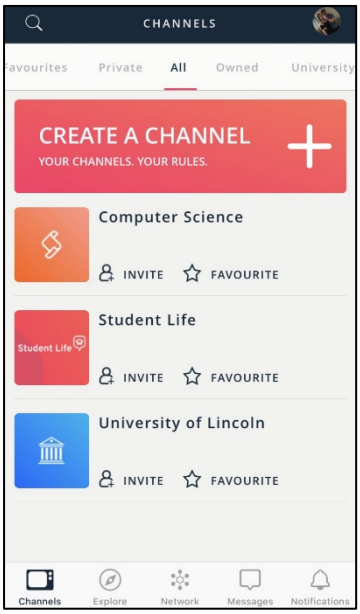
Positive Features:

1) App Navigation: Navigation around the app is easily usable and the consistent layout is useful for navigation between all of the pages. Users will find this app easy to navigate around, which has given inspiration for SocietyFinder.
2) Categories: The use of assigning subjects to categories is easy for the user to follow, as it involves a horizontal scroll feature which allows the user to see a handful of the categorical subjects, which further includes a button to give the user options.

Negative Features:

1) Explore Page: The explore page on this application can be hard to use for first time users. The reason for this is because of lack of white space and an overload of different sections which can be selected.
2) Network Page: Layout isn't clear, the page is difficult to distinguish between different articles/posts.

Inspiration:



The chosen feature that appealed to myself, as the developer, is the use of joining channels and the ability to favourite your chosen courses, or chat rooms.

Furthermore the layout of this page on this app is easy to use and is appealing in terms of usability. The use of position elements, the house style (font style, font size, font colour) and the use of white space makes it easy for the user to use and the page is clear enough to understand its use.

University of Portsmouth Sport

Google Play Store & Apple Store

The university of Portsmouth sport has a similar app in terms of some functionality and the ideas that are implemented into this app. Some similar features that are aimed to be implemented into the app for this assignment are:

- Push notifications
- Real time access to timetables
- Listing upcoming events

Functionality

Positive Features:

1) Social Media: The home page consists of social media buttons, which can link users to their own social media accounts, which can connect users to events also on social media as well as the app. Social media content would include pictures of events, so the user can get a feel for the sporting event before taking part.

Negative Features:

1) External links: Too many buttons that link through extensive pages that are not necessary. This feature is through sports bookings, when booking a pitch, the process of booking a pitch can be simplified by just having a timetable feature where users can book a pitch slot on a singular page.

User Experience:

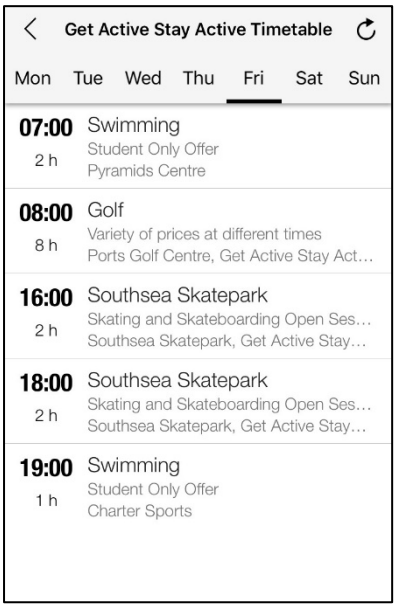
Positive Features:

1) Home Page: The home page has a clear grid format which is easy to use and understand. Furthermore, users are able to identify and navigate to the sport/fitness classes which they would like to.

Negative Features:

1) Class Locations: The app provides users with the option to select a class based on a location where the classes are held, however, if the user was unfamiliar with a location, they would have to google the location as no map or directions are provided on the app. Moreover, this can make it difficult for the user, in terms of usability, as this feature can leave the user confused to where the location is regarding to where it is on the map.

Inspiration:



For this app, 'University of Portsmouth Sport' the feature that was appealing and has inspiration for the application of this project is the use of a timetabling system.

In terms of usability this page is clear and easy to use for a user of any level. This page clearly states what the purpose of this feature is with a clear and consistent layout. This is an inspiration also for the application being created for this project due to the fact of its good user experience/usability.

Requirements

Persona Scenarios

John Banks is a university student at the University of Lincoln. John is keen on all aspects of university life, especially sports and societies. Furthermore, John is busy with his studies at university and spends most of his time on campus. This means that john finds it hard to keep up to date with activities that are happening outside of university study time, and would like to get involved with most, if not all, events that the societies and sports he has joined offer.

Emily Clarke is a 1st year university student at the university of Lincoln. Emily has just joined a couple of societies and is excited for the events to come throughout the year. As a new student Emily is finding it hard to navigate around Lincoln and the university campus to different socials and events. Although Emily is in communication with society group chats, she is finding it hard to keep up to date with everything that is going on with the excitement of just starting her first year at university.

User Stories

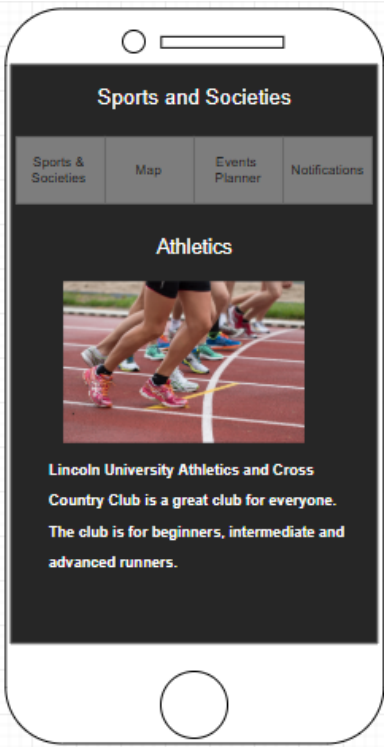
- As a student I want to view what societies the university offers so that I see what each different society or sport offers.
- As a student I want to view the locations of events of the society I have joined on a map.
- As a student I want to view event details so that I can see what dates and times the events are.
- As a user I want to view my own position so that I can see where I am in regards to the event.
- As a student I want to receive notifications on events so I can be reminded of when certain events are.

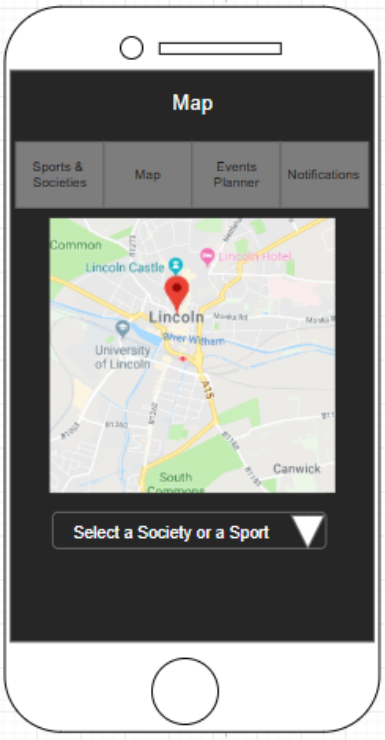
User Requirements

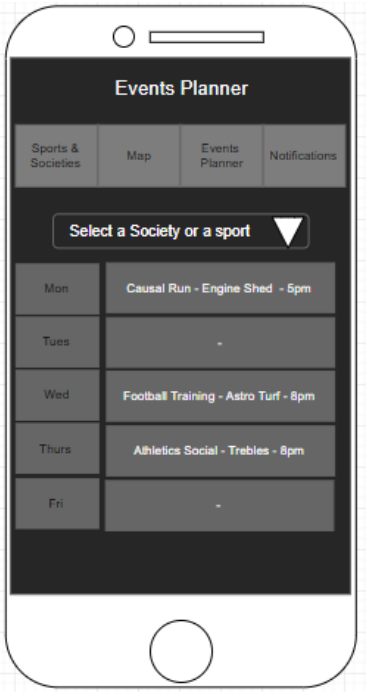
- The user must be able to view information on different sports and societies
- The user must be able to locate the individual events on a map with the event details
- The user must be able to access a timetable where the events for the week are shown
- The user must be able to receive notifications the day of the event as a reminder
- The user must be able to navigate freely and effectively around the application

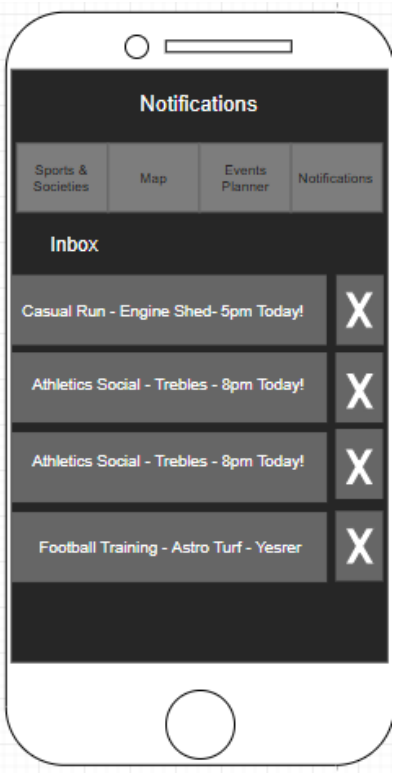
Prototyping

The Surface Plane









The surface plane determines how the product will look like in terms of house style, layout and how the features will be displayed. The surface plane gives the user a visual view on how the application will look when fully developed.

This plane makes it easier for the user to understand and identify how the app will work. On this page there are screenshots of surface planes of the application that were drawn up in 'draw.io'. The designs showcase the following pages:

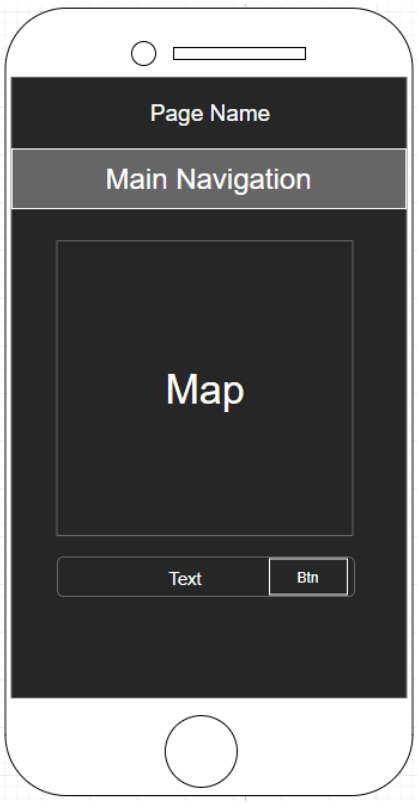
Sports and Societies Page: This is the initial page that loads up when the app is started. Information about the different sports and societies are shown, so that the user can gain an understanding of what sport of society offers.

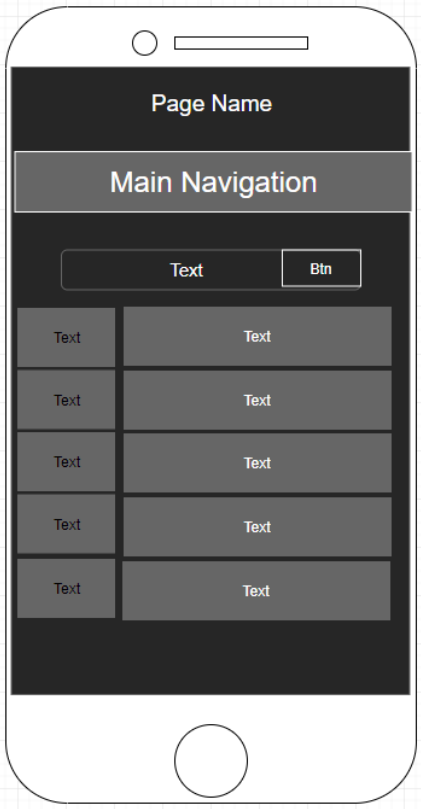
Map Page: The map page shows how the user can select a society or a sport from the drop down, then the markers will place on the map showing the locations of the events.

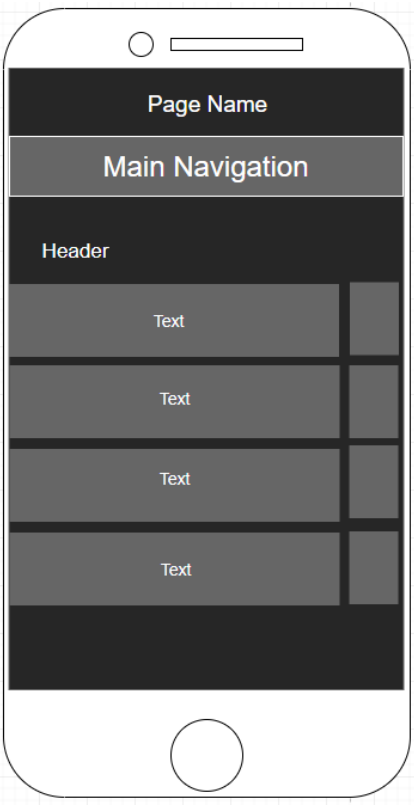
Events Page: The events page showcases the use of showing events on a timetabling system, where the user can see what day and time their events are scheduled for the week ahead.

Notifications Page: This page showcases the use of a notification system where the user receives a notification the day of the event, as a reminder that they have an event to attend to on that day.

The skeleton Plane





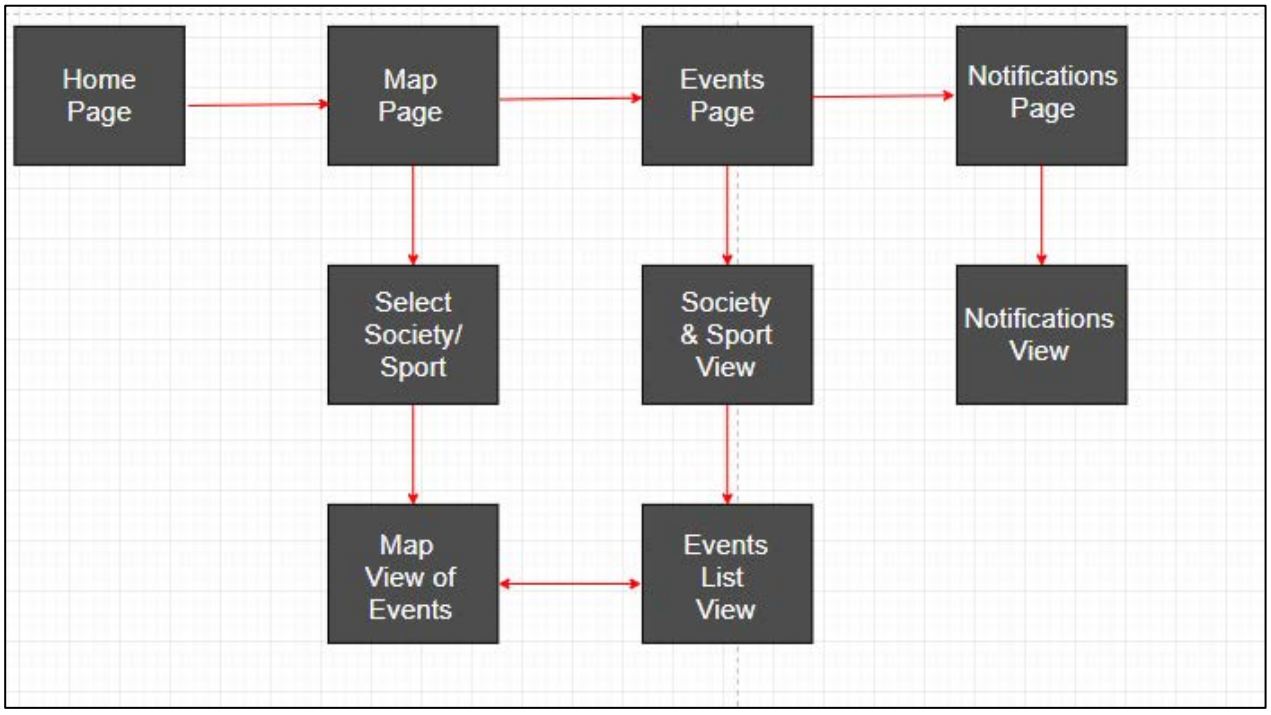


The skeleton plane is a design aspect in which shows the visual form of how aspects of the app are placed and designed to fit on the screen. The content for skeleton plane design must be presented clearly.

On this page, screenshots are shown of the skeleton plane in regards to the design aspect of the app being created for this assignment. The surface and skeleton plane will be used to showcase the apps features to the users, where they will give feedback on the initial design of the application. This feedback will then lead to an updated design for the app.

The Structure Plane

The structure plane shows how users navigate from one page to the next within the application. The structure plane defines where the buttons on the pages lead to in respect to where the pages lie on the application. Below is the a structure plane diagram showing the navigational layout of the application.



The Scope Plane

The scope plane identifies the features and functions the user can use within the app. The following features and functions are listed below:

Locate Events

- Can select a society or sport to view on the map
- Can see events on the map
- Can gather event information from the markers on the map

Locate User

- User can see their location on the map
- User can see their location on the map in comparison to where the events are

Plan Event

- User can select a society or sport and see events for the week, timetable view
- User can connect back to the map to see the locations

Receive Notifications

- The user receives notifications on upcoming events
- Can close notifications when read

The Strategy Plane

The strategy plane outlines what the users and the app creators want to gain from the app. This helps identify the Creators and users end goals, which for this application is:

App Creator:

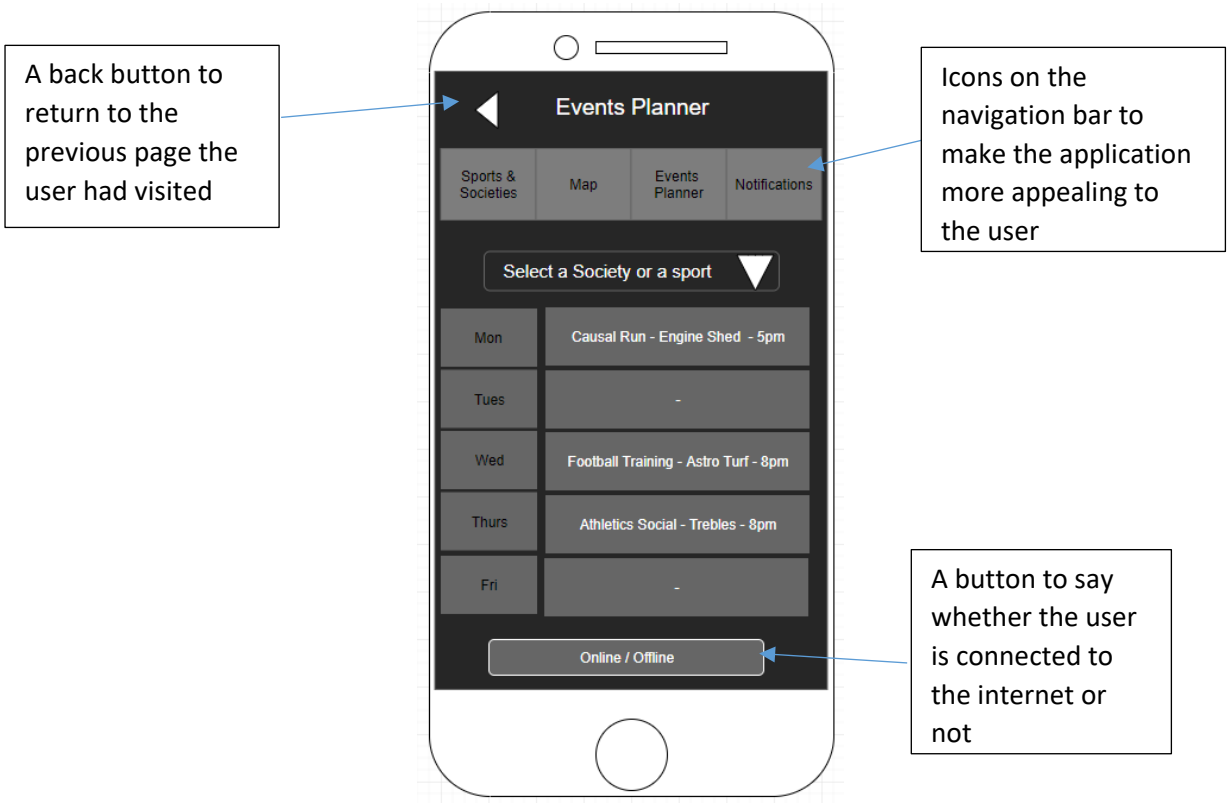
- Help students to manage their university lifestyle through sports and societies
- Promote different sports and societies and what events they have to offer

User:

- Locate where events are and to gather information on event details
- Gather information on different types of societies and the events they hold
- Use a timetable of events to manage their events around University work and scheduled contact hours

Prototype Feedback

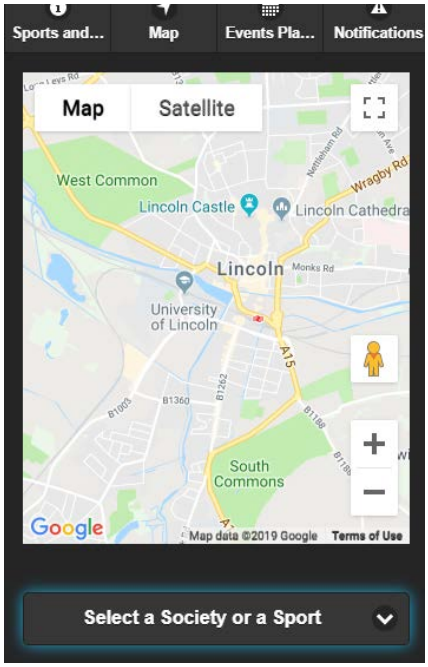
After consulting the prototypes with multiple users of the target audience I have made some small changes below which users have suggested can improve the usability of the app. These small features can be implemented on most, if not all pages of the application. These features will be added to the app when it comes to the development stage.

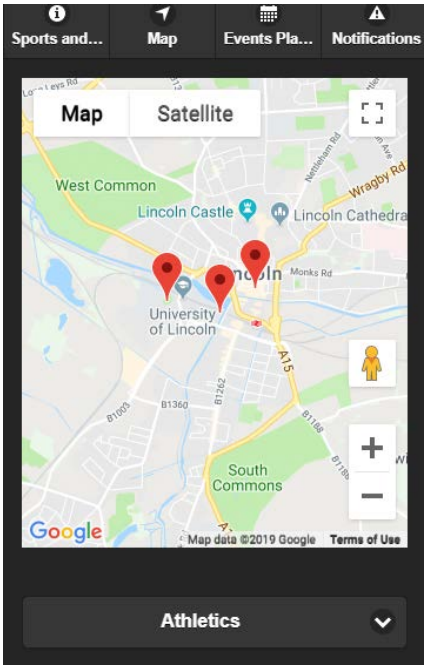


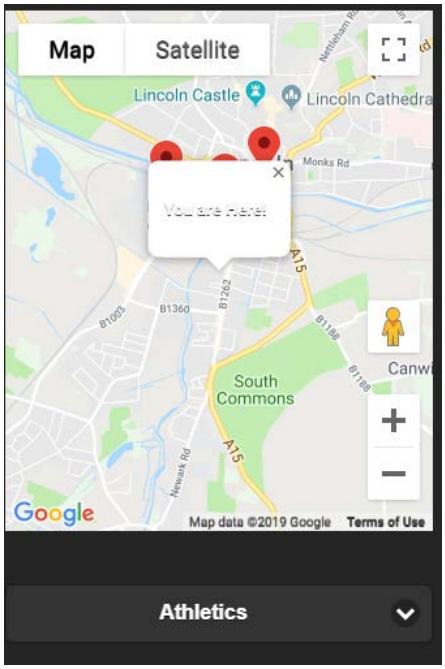
Final App

Event Location Finder:

The following screenshots showcases the first feature which is the events location finder. This feature is used by the user selecting the society or sport of their choice. The events are then shown on the map, through the use of markers being placed in the location of the set events.







Code Snippets:

```
var athleticsEvents = [
    {lat: 53.227056, lng: -0.544663}, //Engine Shed
    {lat: 53.228182, lng: -0.552487}, //Astro Turf
    {lat: 53.229256, lng: -0.539591}  //Trebles
    ];

//Football Locations
 var footballEvents = [
    {lat: 53.229357, lng: -0.554514}, //Astro Turf 1
    {lat: 53.228439, lng: -0.547725}, //Astro Turf
    {lat: 53.230479, lng: -0.540919} //Astro turf 2
 ];
```

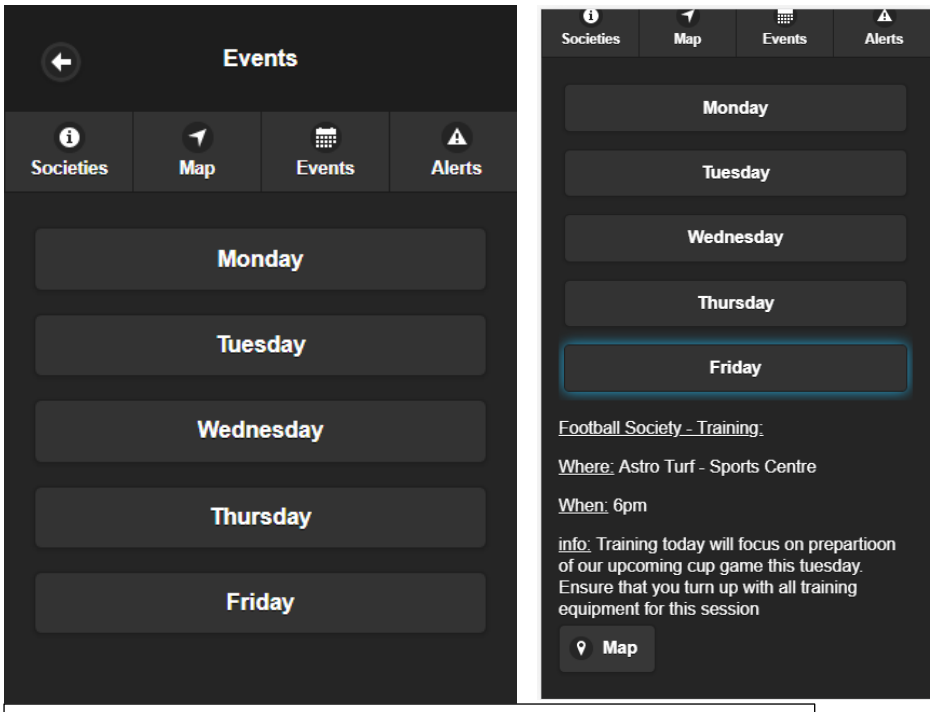
```
function initMap() {
    map = new google.maps.Map(document.getElementById('map-canvas'), {
    center: {lat: 53.227217, lng: -0.545492}, //Lincoln, UK
    zoom: 13
    });
}

function addMarker(position, map){
    var marker = new google.maps.Marker({
        position: position,
        map: map,
        animation: google.maps.Animation.DROP,
    });
    marker.addListener('click', toggleBounce);
    console.log(position);
}

function myLocation(){
        navigator.geolocation.getCurrentPosition(function(position) {

            var geolocate = new google.maps.LatLng(position.coords.latitude,
            position.coords.longitude);

            var infowindow = new google.maps.InfoWindow({
                map: map,
                position: geolocate,
                content:
                    '<h4>You are Here!</h4>'
            });
            map.setCenter(geolocate);

        });
}

function toggleBounce() {
        if (marker.getAnimation() !== null) {
          marker.setAnimation(null);
        } else {
          marker.setAnimation(google.maps.Animation.BOUNCE);
        }
      }
```

This code snippet consists of four different functions. The functions that are showcased in this code snippet have the following purposes on the app:

1) Map initialization
2) Adding markers to the map
3) Gathering and displaying the users location
4) And map marker animation features

When developing this feature, I ran into problems with adding markers to the map. The problem came when I was selecting different societies, the markers kept placing over the same map which meant if you clicked on 3 different societies there would be 9 markers instead of 3. The way I overcame this problem was to set the marker points into an array instead of variables and called the 'initMap' function every time a new option was selected, this created a new map to be set and the markers to be shown corresponding the correct society selection.

Events List Timetable:



Here is a screenshot of the events page. The events page is there for users to use to visually see that events they have for the upcoming week. The use can select the day of the week and an event will show up on that day. Furthermore there is a link back to the map where the user can then gather the location of the event so they know the location of the event.

Secondly, a feature that, if I had more time, I would have implemented would have been a schedule feature with a link to a database that allows the user to scroll through all weeks of the academic year.

Reflection:

Firstly, within this module I felt like the design aspect went well in terms of the idea around the app and the designs for the app, such as the surface designs. I liked the use of the 5 planes as it allowed an in depth insight to what the final outcome of the app would look like. In regards to the final outcome through following the design process, I feel like the app closely represents the design, with only a few adjustments on the app made through the development process.

For this assignment I came across some problems with the difference of the cross platform nature of the two different OS, android and IPhone. For example, when developing the map with the use of the markers and the users own individual location, it came apparent that this feature only worked on the web emulator and on the android phone. I was happy with the outcome of the map location feature on the map page, when it was showcased within the emulator. Although this didn't showcase on the IPhone it represented to how it would have looked well on the emulator.

My final experience to reflect on for this module is the use of the notification system. This was a feature that did not go well, but was one of the main features in which I wish I had spent more time implementing. If things were different I would have focused more time on the notification system so that when the day arrives of the event the user receives a notification on when and where that event was.

References:

Christian, W. (2019). [online] Blackboard - StudyMaterials - Week 3 - UX part 1. Available at: https://blackboard.lincoln.ac.uk/bbcswebdav/pid-2201755-dt-content-rid-3840705_2/courses/CMP-CPD-1819/CPD_3_mobile_user_experience_part_1.pdf [Accessed 24 Apr. 2019].

Christian, W. (2019). [online] Blackboard - StudyMaterials - Week 4 - UX part 2. Available at: https://blackboard.lincoln.ac.uk/bbcswebdav/pid-2201755-dt-content-rid-3840705_2/courses/CMP-CPD-1819/CPD_3_mobile_user_experience_part_1.pdf [Accessed 24 Apr. 2019].