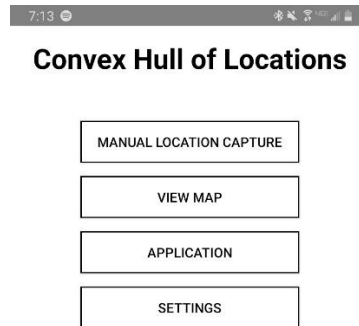May 2, 2019

**How to use Convex Hull**

The main menu look likes this:



Perhaps it is best to give a brief description of what each of these buttons does.

Manal Location Capture will bring you to an activity that enables you to start a Timed Manual Capture, a Single Location Capture, and a Fully Manual Location capture.

View Map brings you to an activity that will let you see the convex hull on a map overlay while also enabling users to find the union or intersection of N convex hulls. It will also enable users to display multiple convex hulls.

Application leads the user to activity that displays "application" for convex hulls…a viral outbreak.

Settings takes you to a page that lets you pick a start and end time for the automatic start capture option as well as select the intervals for the various captures.

**Displaying a single convex hull**

1. Press the "View Map" button

2. Select the set you desire from the dropdown labeled "coordinate set displayed"

3. The map will have the convex hull as a map overlay.

**Displaying multiple convex hulls**

1. Press the "View Map" button

2. Press the "Map Options" button

3. Select which convex hulls you would like to display from the "Display Multiple Convex Hulls" scroll view.

4. Press "Display Multiple"

5. The map will now have multiple convex hulls, each a different color and each with a label.

**Displaying the Intersection of N convex hulls**

1. Press the "View Map" button

2. Press the "Map Options" button.

3. Scroll down until the "Calculate the Intersection" scroll view is visible

4. Select which convex hulls you desire the app to compute the intersection of

5. Select "Calculate Intersection"

6. The map will now display the intersection of the selected convex hulls

   a. If there is not an intersection, the app will notify you.

**Displaying the Union of N convex hulls**

1. Press the "View Map" button

2. Press the "Map Options" button

3. Scroll down until the "Calculate the Union" scroll view is visible

4. Select the convex hulls you desire the app to compute the union of

5. Select "Calculate Union"

6. The map will now display the intersection of the selected convex hulls

**Displaying the area of a convex hull**

1. Once the desired convex hull is displayed as a map overlay, simply tap anywhere in the convex hull that is not a coordinate.

2. IF MULTIPLE CONVEX HULLS are displayed on the map, it is necessary to hit the label of the desired convex hull to display the area.