

JavaScript Polygon Google Map Overlay

Waterford Institute of Technology

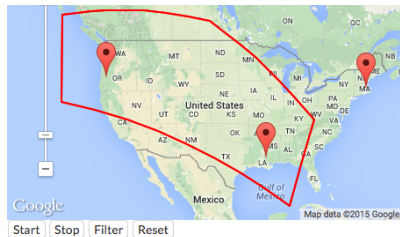
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Google Map

Drawing a polygon on the map

- Objective to enable bespoke polygon overlay applied map
- Supply push buttons to:
 - Start
 - Stop
 - Filter
 - Reset
- Tabulate marker positions



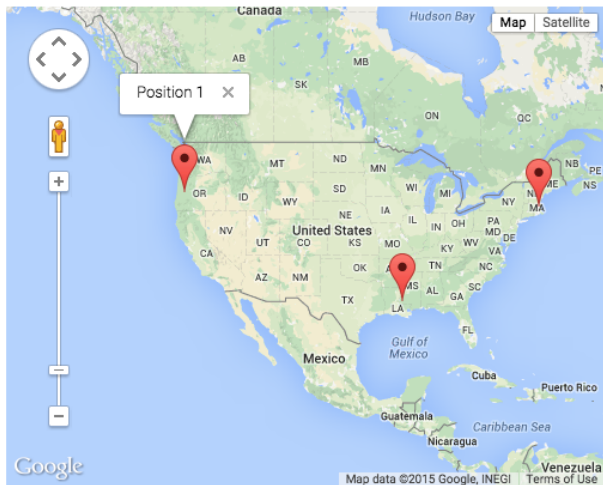
Google Map

Drawing a polygon on the map

- Accompanying lab develops app in 3 iterations
 - v0 displays map and sample marker set
 - v1 facilitates manual application polygon overlay
 - v2 displays marker data as table

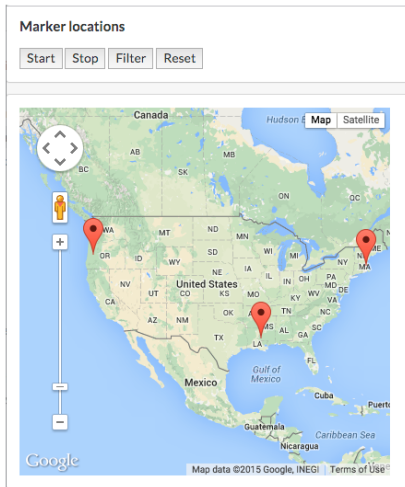
Demo Play app

Iteration v0



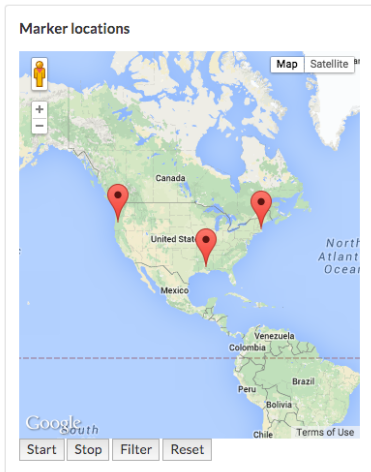
Demo Play app

Iteration v1



Demo Play app

Iteration v2



Markers within search area

Description	GPS(latitude, longitude)
Position 1	44.008620 -123.074341
Position 2	42.360082 -71.058880
Position 3	31.360082 -91.058880

Google Map

Create sample location data

```
/**
 * Create list sample positional data
 */
public static void listGeolocations()
{
    List<List<String>> list = new ArrayList<List<String>>();
    list.add(0, Arrays.asList("Position 1", "44.008620", "-123.074341"));
    list.add(1, Arrays.asList("Position 2", "42.360082", "-71.058880"));
    list.add(2, Arrays.asList("Position 3", "31.360082", "-91.058880"));
    renderJSON(list);
}
```

Google Map

Create sample location data

Routes: Home page

GET

GET


/application/geolocations

Application.index

Application.listGeolocations

```
function retrieveMarkerLocations()
{
  $(function () {
    $.get('/application/geolocations', function (data) {
      $.each(data, function (index, geoObj) {
        console.log(geoObj[0] + ' ' + geoObj[1] + ' ' + geoObj[2]);
      });

      callback(data);
    });
  });
}
```



Google Map

Render ajax-retrieved markers

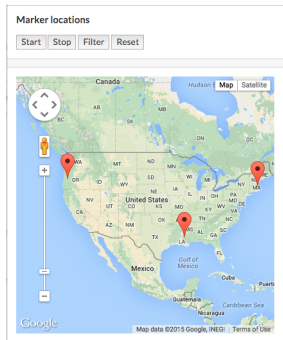
Console output

Navigated to http://localhost:9000/	
Position 1 44.008620 -123.074341	polygon.js:40
Position 2 42.360082 -71.058880	polygon.js:40
Position 3 31.360082 -91.058880	polygon.js:40

Google Map

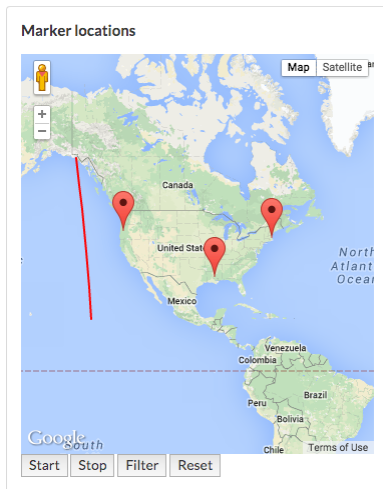
Add polygon overlay

- Start: Enable begin overlay
- Stop: Adds final polyline
- Filter: Removes markers outside polygon
- Reset: Refreshes screen



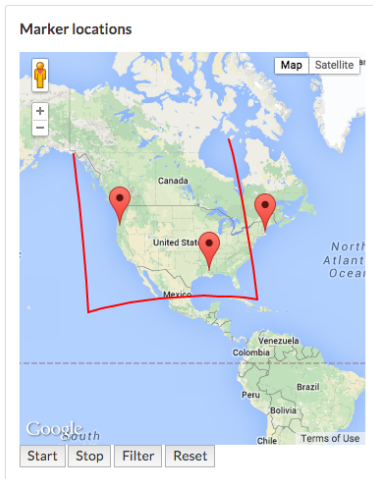
Trial run

Second click following Start generates first polyline



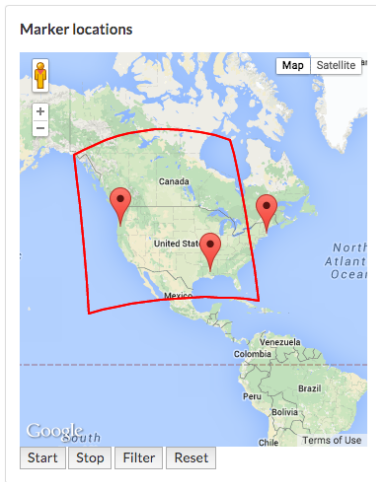
Trial run

On third polyline



Trial run

Click Stop button to close polygon



Trial run

Click Filter button to view markers within polygon and associated data table

Marker locations

Click marker to view description

Marker data

Markers within search area

Description	GPS(latitude, longitude)
Position 1	44.008620 -123.074341
Position 3	31.360082 -91.058880

Start Stop Filter Reset