PointMap

A Geospatial Mapping Tool

Point Details: Developer Docs

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Introduction

Map View utilizes the Google Maps API to allow the user to create various data points for keeping track of desired locations. The following document will cover in detail the various implementation for each of Map View's function.

Functionality

All users holding a valid token given through login are presented with the following operations

- Auto-Center
- Create a new point
- Load Existing points
- Point cluster
- Select an existing point

AutoCenter

The auto-center of mapview occurs with execution of the function geolocate

```
geolocate: function() {
  navigator.geolocation.getCurrentPosition(position => {
    this.center = {
      lat: position.coords.latitude,
      lng: position.coords.longitude
    };
    this.map.setCenter(this.center); //Needs timeout for the map to get a chance to center
  })
  var promise = new Promise((resolve, reject) => { //Sets a timeout for 1 second when called
    setTimeout(() => {
      resolve()
    }, 1000);
  })
  promise.then(() => {
    this.requestPoints(); //Request points after timeout
  })
},
```

As shown above geolocate retrieves the current position of the User through the variable position, which is available by Google Maps API. The center value of longitude and latitude is updated and the new map center is set. The value must go through a 1 second timeout to give the map enough time to switch to the user's location.

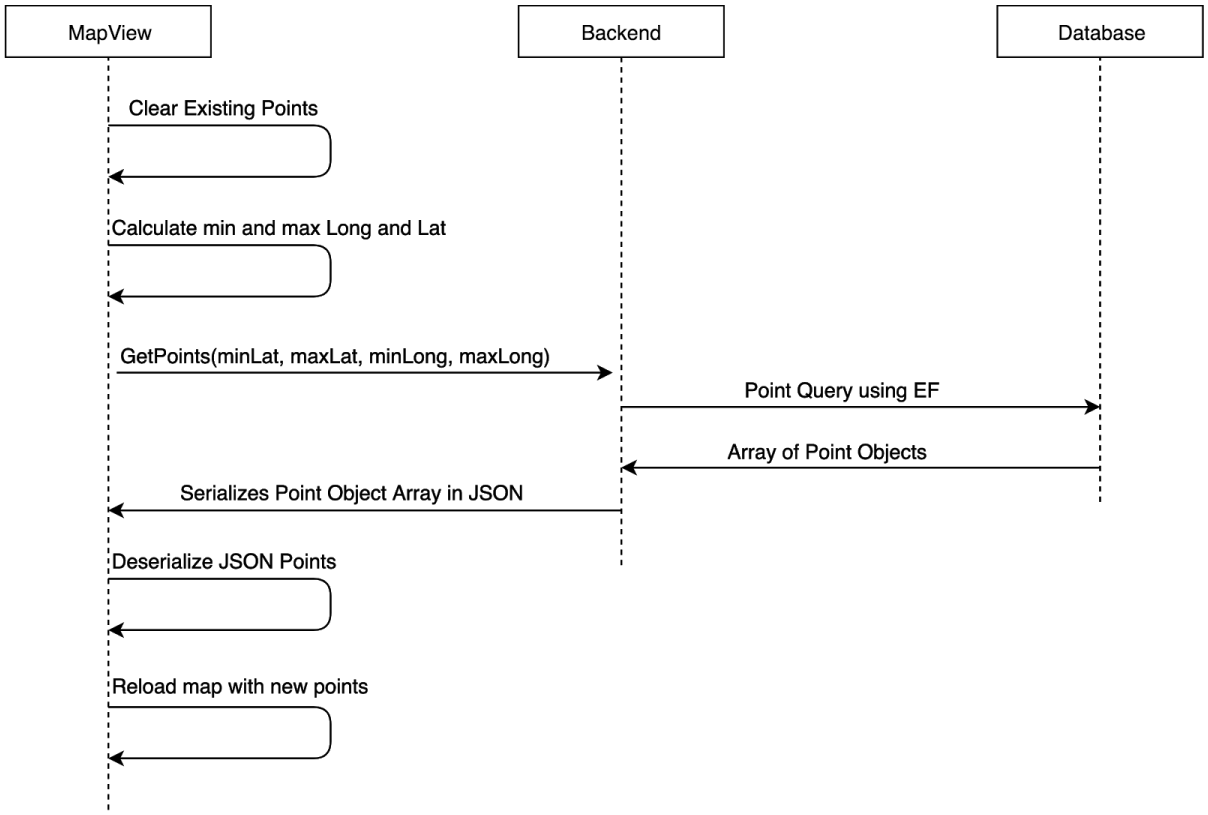
Create a new point

Clicking on the plus icon redirects the router to the Point Editor page by calling the createPoint function.

```
createPoint(){ //called when add point button is clicked
  this.$router.push('pointeditor');
}
```

Loading Existing Points

The following swimlane depicts the process of point retrieval



Point Cluster

Clusters are created with Google Maps Clustering capabilities. Adding the current list of points and the map object, points within view are auto-clustered together.

```
createCluster(){
  //Creates a cluster object which clusters all markers on the map
  this.markerCluster = new MarkerClusterer(this.map, this.markers,
    {imagePath: 'https://developers.google.com/maps/documentation/javascript/examples/markerclusterer/m'});
},
```

The features of the clusters include

- Displaying number of points inside cluster
- Auto zoom, and break up of cluster on click

Select an Existing Point

When clicking on an individual point the user will be prompt with a popup concerning the details of the point by an event listener that is associated with every point object.

```
//Adds an event listener to each point to reroute to pointDetails page
this.marker.addListener('click', function () {
  this.$router.push({ path: 'pointdetails', query: { pointId: point.Id } });
}.bind(this));
```