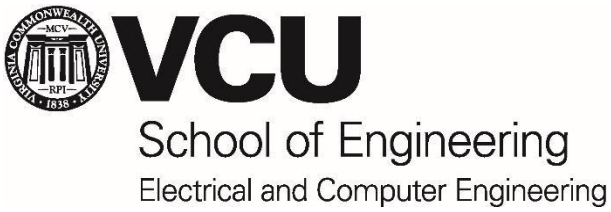

Google Maps Application User Documentation

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Introduction

FDP brakes requested a way to visualize the logged data and so a Google Maps application was developed to overlay the route taken on a given test drive. The application reads the logged csv file from the SD card, overlays the route taken and displays relevant information such as brake temperature, brake line pressure, acceleration and deceleration, and brake squeal detection, at different points in the drive. The allows heatmap-like visualization of selected data.

Downloading the Application From GitHub

Follow the link below, click "Clone or Download" and "Download Zip" to any location you prefer on your machine. Then extract the zip folder. If you have already generated and inserted an API key, skip to the Starting the Maps Application section.

https://github.com/0akleytb/senior_design/tree/maps-application

Obtaining and Installing The API Key

Follow the guide below to obtain your API key. You must have an API key to load the Google Maps API.

https://developers.google.com/maps/documentation/javascript/get-api-key

Once you obtain your API Key. Open up the index.html file (located in the root of the application folder) in a text editor. Although it has no syntax highlighting, Notepad will work fine. Consider trying Notepad++, Sublime Text or Atom for an improved experience. Once you have index.html open in a text editor, scroll down or search for "YOUR_KEY", and replace the words YOUR_KEY with your API key.

```
140    <script src="https://maps.googleapis.com/maps/api/js?key=YOUR_KEY"></script>
141    <script src = "map.js"></script>
142
143    </html>
```

Figure 1: Index.html File line 140 Showing API Key Insertion Location

Starting the Maps Application

To run the application, navigate to the extracted application folder and open the index.html file in Chrome or Firefox. A picture is shown below.

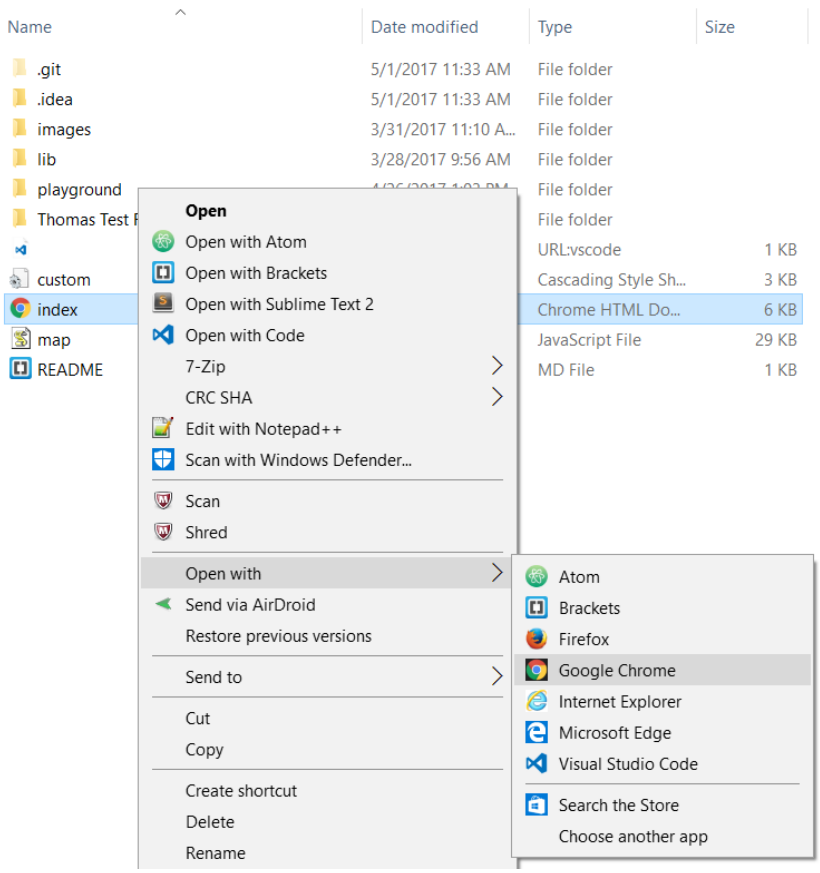

Figure 2: Starting Maps Application

General Usage of the Maps Application

Once the application is open and the SD card is inserted, click “Choose File” to upload the csv log file from the test run. Example log files are in the “Thomas Test Run” folder located in the downloaded application folder. This will run the application and a loading screen will appear. Once the loading is finished, all the data points will be placed on the map and a screen similar to the one below will be displayed (without the markup).

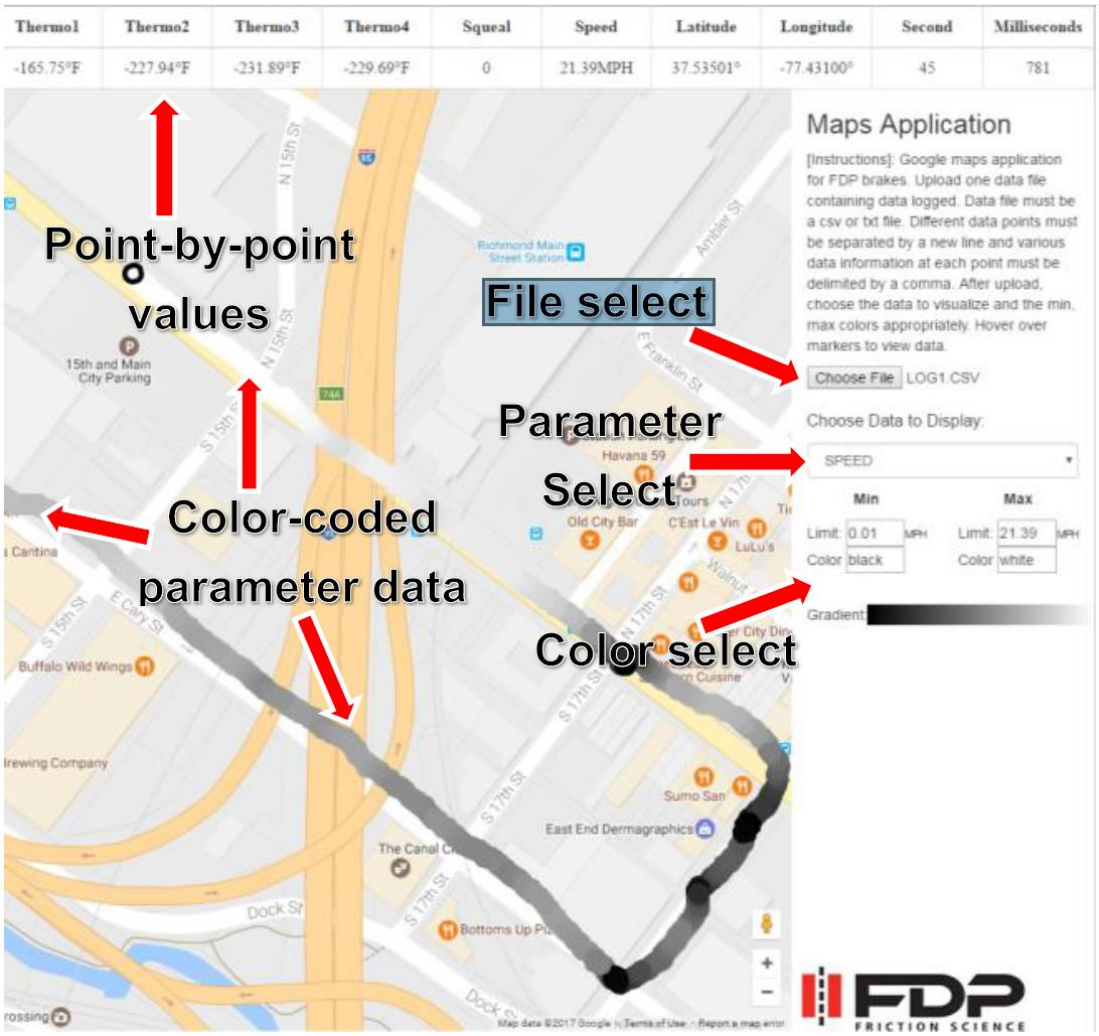

Figure 3: Annotated Maps Application

Modifying Information Shown On Hover And Dropdown

The data shown on hover and in the dropdown can be modified to suit specific needs by making small (easy) tweaks to the source code. The range of data that can be shown is anything that is logged in the header line of the csv file.

To modify the information shown (add or remove data), first open the map.js file. Then near the very beginning search for "include_on_hover" and "include_in_dropdown". A picture is shown below for "include_in_dropdown".

```
include_in_dropdown: ["Pressure","Thermo1","Thermo2","Thermo3","Thermo4", "Speed"],
```

Figure 4: Map.js file line 7 Showing "Include_in_dropdown" Configuration

For example, If I wanted to remove Thermo4 from the dropdown and add in Altitude, the new

array would look similar to the figure below:

```
include_in_dropdown: ["Pressure","Thermo1","Thermo2","Thermo3", "Speed", "Altitude"],
```

Figure 5: Include_in_dropdown Configuration Modified to Exclude "Thermo4" and Include "Altitude"

The order of the data in the array does not matter, and the same actions can be performed for the include_on_hover configuration which modifies the data shown in the table on hover of each data point. After modification, restart the application by refreshing the page.