

## sdmay19-18: Real time Route Optimization

### Report 8

April 12 - April 19

#### Team Members

**Junjie Wen** — *Backend Developer; Data Analytics Lead*

**Zhanghao Wen** — *Web Developer*

**Yuhang Xie** — *Web Developer; UI Lead*

**Xinhe Yang** — *Web Developer*

**Tianhao Zhao** — *Communication Leader; Technical Writing*

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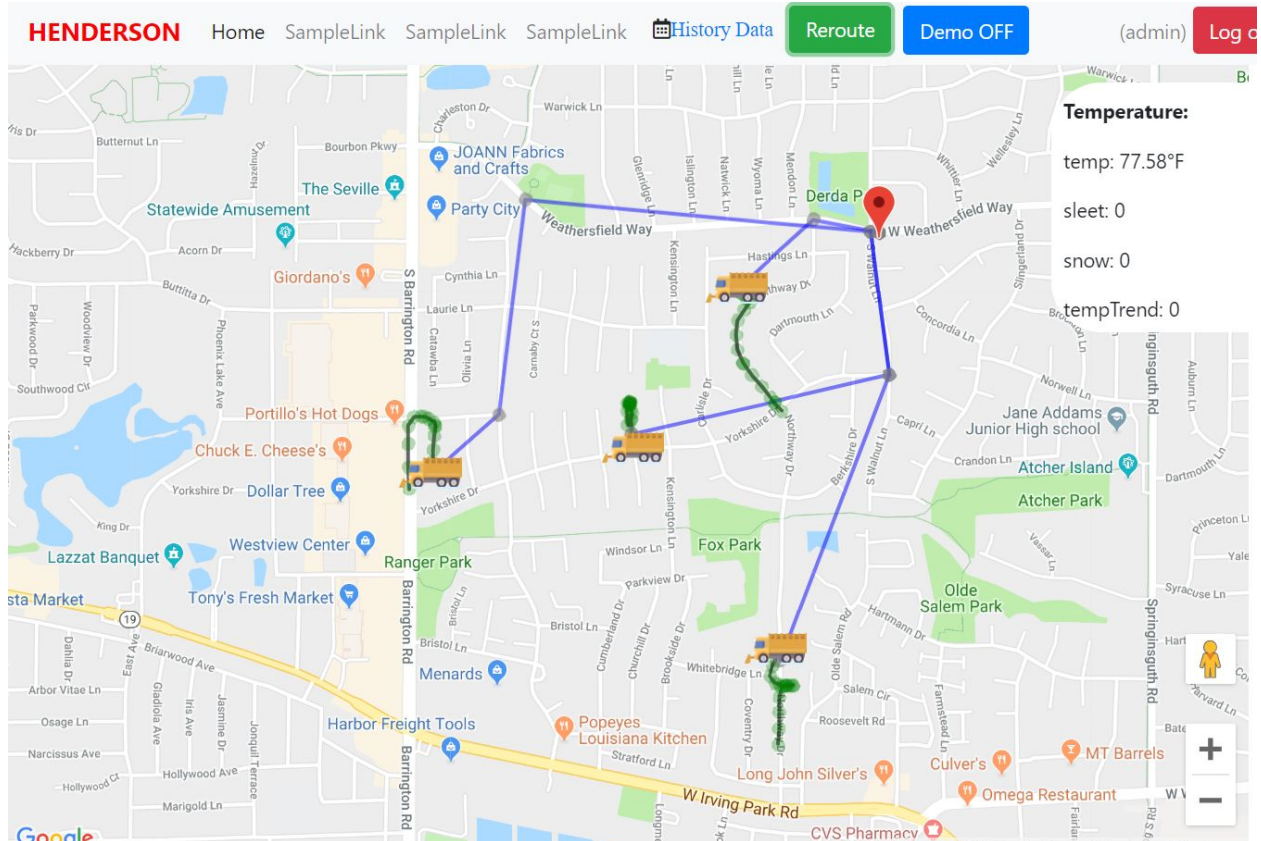
#### Summary of Progress this Report

- After completing the implementation of server side re-routing module, we decide to implement the re-routing function on the front end.
  - Using google route API to find out the shortest path between two points and implement the re-routing feature.
  - Implemented function: Click one point on the map, them all trucks could find and show the shortest map on the map
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#### Past Week Accomplishments

```
reroute ▾ {points: Array(3), distance: {...}} ⓘ home.component.ts:98  
  ▾ distance:  
    text: "1.0 mi"  
    value: 1607  
    ▶ __proto__: Object  
  ▾ points: Array(3)  
    ▶ 0: {lat: 42.0135768, lng: -88.13718709999999}  
    ▶ 1: {lat: 42.0110005, lng: -88.1445961}  
    ▶ 2: {lat: 42.0185773, lng: -88.144548}  
    length: 3  
    ▶ __proto__: Array(0)
```

After clicking one point on the map, Google route API will return the shortest path data. This picture shows the shortest path data which received from server



This picture shows the rerouting result on the map

## Pending Issues

- Need some unit tests for rerouting function
- The maximum number of trucks could achieve rerouting functions at the same time has not been tested

## Individual Contributions

<b>Team Member</b>	<b>Contribution</b>	<b>Weekly Hours</b>	<b>Total Hours</b>
Junjie Wen	Adjust backend api to give front data	11	83
Zhanghao Wen	Propose solution, create scenarios, and analyze how APIs work	5	66
Yuhang Xie	Through the reroute API to get the reroute data and show up on google map to dispatcher	13	92
Xinhe Yang	Design the rerouting interface and make sure the rerouting function works well on the front-end	11	86
Tianhao Zhao	Update information, finalize design and testing, prepare final document.	12	72