

# Distributed Systems Project Report

## CSE486

### Weather-Map

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#### Abstract:

*I am using php, mysql and js to create an application that shows the weather along a route including waypoints. I am going to use a weather lair to display the weather and then show a route with waypoints. This paper focuses on how and what we need to complete this.*

#### 1. Introduction :

The google maps is very convenient and we all use it almost everyday to get from one place to another unknown place. It has many features to show us the route to a place, for example displaying alternative routes, or places near by the destination or start point. Google is very interactive with its users and gives us many features but for this project i only used the directions feature to show a route from one city to another and then display the weather for the cities.

This is my first time using javascript and php so i had to learn a lot of new information. Plus i used google documentation and weather documentations to use the api's correctly. The rest of this paper will explain some of the functions being used in the project.

#### **Technologies:**

#### 2. Directions API :

```
<script async defer
src="https://maps.googleapis.com/maps/api/js?key=YOUR_API_KEY&callback=initMap"
>
</script>
```

This is the basic script needed to call an api specifically the google direction api. It has two parameters, the API key and the call back function which will make the map in this case called the initMap function. Then on the bottom i added a basic function for the initMap to create a map centered on Uluru with a zoom parameter and center parameter.

```
var uluru = {lat: -25.344, lng: 131.036};
var map = new google.maps.Map(document.getElementById('map'), {
  zoom: 4,
  center: uluru
});
```

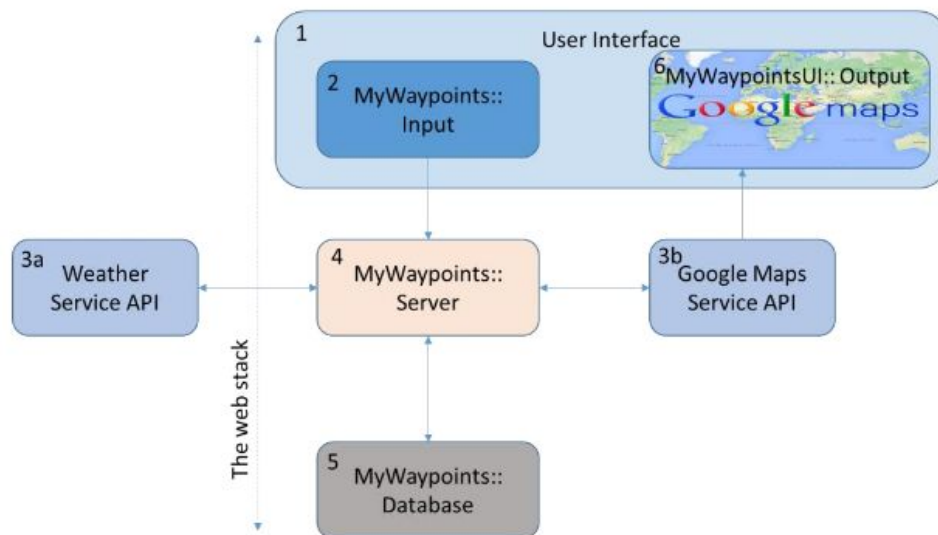
#### 3. Weather Api :

The weather Api works in the same manner as the google Api. Here is a call to the api:

Url=<http://api.openweathermap.org/data/2.5/find?q=Palo+Alto&units=imperial&type=accurate&mode=xml&APPID=api-key>

This is to call for weather at Alto, Palo and it has units set to imperial and it also requires api key which in this case is the api-key. If one needs to get to another city just change the city after ?q= and they should be able to get information on another city in a json file. You then have to parse that json file so you can display the results onto the web screen, otherwise you will only get a response from the api in the console not in the page. I used makers as well to set markers and then display the weather for the certain marker along with the location.

4. Project Diagram :



This is the project diagram used to bring the project to fruition. The top boxes ie 1,2,6 display the user interface, where the user will select waypoints and start and end positions. The 3a and 3b are the api we used and how we call them is described above. Box 4 is the waypoints selected and weather being displayed into the box 1. The last box is the last step to store the information into a database and use to run a much faster system from cached data.

5. Conclusion:

This project has helped me step into the world of JS and PHP, this being my first time i did not get everything to work for the project, but i learned a lot of new information about a new language. It is very interesting to see and learn how applications we use everyday are working in the back end. It was amazing using api keys from google and making apps like google and then adding our own flavor to the mix to make it our own. I was able to display the waypoint and the weather for the location.

#### 6. Future Plans:

For the future, I would like for the database to work and plus i would like to add more point of access rather than just the given cities. I would also like to add user comments for the google like in Waze app so we can have real time update from people that are also driving or driven through route. I would also like to add an option weather to show the weather or to turn it off.

#### 7. References:

A- <https://developers.google.com/maps/documentation/javascript/adding-a-google-map>

B- Recitation Slides for MySql

C- Recitation Slides for OpenWeatherMap api

D- [https://www.youtube.com/watch?v=ecT42O6l\\_WI](https://www.youtube.com/watch?v=ecT42O6l_WI) tutorials from this guy were really

helpful