Maps API Research Report

This report is to determine which maps API would be used for the smartcity project. Multiple map APIs have been thoroughly researched to ensure the best API is used.

Google Maps

Google's Google Maps is currently the most popular maps api used by developers. According to programmableweb.com, Google Maps' smartphone app has over 79 million users every month (not considering users on other platforms).

This means that by implementing the Google Maps API, most users would already be familiar with how it looks and works. The Google Maps API also features various APIs such as Places API, Embed API, Web Services API, Maps Image API, and Google Maps API for Work.

Besides its wide use and popularity, Google Maps also has a very detailed and easy to follow API documentation (which includes code samples).

API Documentation:
https://developers.google.com/maps

Microsoft Bing Maps

Microsoft's Bing Maps is also a popular maps api used by developers. While Bing Maps is not as popular as Google Maps, Microsoft has been pushing on new features continuously such as high-resolution aerial image and 3D cities.

This indicates that by using Bing Maps, users are able to experience a more unique and cooler map when using our application.

The Bing Maps API documentation is highly detailed but slightly difficult to follow and this might slow down the implementation of maps into our application.

API Documentation:
https://www.microsoft.com/maps/choose-your-bing-maps-API.aspx

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OpenLayers

When it comes to open source map APIs, OpenLayers is one of them and it is somewhat popular due to it. Besides being open source, it is also a JavaScript library that uses HTML5, WebGL, and Canvas 2D to display maps.

A strong point of OpenLayers is that it is able to display data from different data formats such as GML, KML, GeoJSON, and TopoJSON.

Due to it being open source, the documentation is very well done and there are code samples found on its GitHub page.

API Documentation:
https://openlayers.org

Foursquare

Foursquare API is very client oriented as they incorporate places database, venue services, and merchant platforms. The Foursquare API is popular with developers when creating client based apps.

The documentation is well-organized and somewhat detailed. It also features a high amount of client libraries that were created by the Foursquare API community. This indicates that the community is alive and kicking and getting help would be quite easy.

API Documentation:
https://developers.foursquare.com

Conclusion

It was a hard decision to make considering how great all these map APIs are, but we believe that using Google Maps API is the best.

Reasons:

1. **Popular and Ease of use**
   We want our users to get the best out of our application. Due to Google Maps high popularity, it will be easy for our users, new and old, to be able to use our application with ease.

2. **Good Documentation**
   Because this is an Agile project, we need to be quick in development while getting the best. A good documentation means that development would be faster as we are able to follow and implement more easily without scratching our heads wondering why it's not working.

3. **Potential to Scale**
   When our application scales, we want to add more advanced map features to improve user experience. With Google Maps advanced features and continuous improvement, we believe that Google Maps have the potential to scale alongside our application.

Bibliography

1. Wagner, J. (2015, February 23). Top 10 Mapping APIs: Google Maps, Microsoft Bing Maps and MapQuest. Retrieved October 10, 2017, from https://www.programmableweb.com/news/top-10-mapping-apis-google-maps-microsoft-bing-maps-and-mapquest/analysis/2015/02/23