DAR Report

Hubba - Map Integration

Version 1.0
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Github Repository**:**
https://github.com/DevelopmentHellaHell/SeniorProject

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Revision History

Version	Overview	Date
1.0	Initial DAR report	12/10/2022

Decision

The following APIs will be considered as options for the mapping provider used for user communication within the application.

1. **Maps JS API**
    a. Mapping service provided by Google
2. **MapKit JS API**
    a. Mapping service provided by Apple
3. **Bing Maps V8 API**
    a. Mapping service provided by Microsoft

Analysis

	Maps JS	MapKit JS	Bing Maps V8
Pricepoint **(x 0.5)**	Various feature fees, $200 monthly credit 1.5	Free for 250K Map views and 25K service calls a month 1	Free up to 125K billable transactions 0.5
Account Required	Google Cloud Account $300 free credit 2	Apple Developer Program Membership 1 week free 1	Bing Maps Developer Account Free 3
Maximum Pins Allowed	2000 pins 3	2 pins (190 favorites) 1	200 pins 2
Mapping Update Interval	Every 1 second 3	Every 24 hours 2	Every Month 1
Public Geocoding with IP Addresses **(x 0.5)**	Unavailable 0.5	Available 1	Unavailable 0.5
TOTAL	10	6	7

Recommendation

Pricepoint: An important aspect of Hubba is to be as cost-reductive as possible. Since the implementation of a map API requires payment after a certain use, it is key to weigh the demands of our application to what each provider is willing to give. With Google, their rates are set per feature we can allocate through the use of Google Cloud. By gauging the overall costs of our system based on what features we will need to utilize, we can better work around the $200 monthly credit. With Apple, the amount of views and service calls is the main defining benchmark. This means depending on the user's traffic, this allocated resource may be used up quickly. However, once the amount of views or calls is used up, instead of automatically charging, Apple instead disconnects the feature until the following month. Microsoft's Bing Maps allows for up to 125,000 calls to their API, however it is not clear what is considered under "billable transactions". For this reason alone, Bing Maps would not serve optimally for our application.

Account Required: When registering for these services, Apple only allows for 1 week of a developer account before requiring an annual fee. Google allows for $300 of free credit during their trial period but Bing stands above its competition with a completely free developer account. Money is a main concern when choosing which technologies to adopt and as a result Apple is undesirable in this regard.

Maximum Pins Allowed: As our user base can have multiple different rental histories at different locations recorded, the minimum amount of pins we require of our mapping technology are 10 pins. Apple allows only 2 active pins on an application which make it fall short of its competitors in Google and Bing. Google as our option allows for future scalability of our product, as some users may use more than hundreds of workshops when trying to discover a new hobby or when corporations begin to signup and provide listings.

Mapping Update Interval: Having up-to-date maps allows our users to always have accurate information regarding streets and workshop locations. Bing updates its mapping information on a month-to-month basis, which is very slow for a new business and could possibly result in rare city changes disrupting the displayed virtual map. Apple and Google integration will allow new users to display their businesses and get the most relevant information available for new workshops as they are listed.

Public Geocoding with IP Addresses: In order to accurately display results relevant to the user, it is important that we are able to place the user within the correct geographical area. When we are unable to determine where the user is with the provided context of their geolocation or lookups, we can place them in a general region with their IP address.

Conclusion: Google beats out its competitors in nearly every category, with the only deficit being geocoding based on IP addresses. Apple does not provide enough pins for our use-cases and Bing is not as robust in regards to providing the most current mapping information.

References

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