



A Tourist Tour Planner Project

SIT302 Project - Group 2

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Existing Systems

Existing Mapping Applications

Many systems exist for the sake of mapping a route from one location to the other, the most popular ones include:

- Google Maps
 - Developer Portal - <https://developers.google.com/maps/>
- Bing Maps
 - AJAX Developer Portal - <https://msdn.microsoft.com/en-us/library/gg427610.aspx>
- Nokia HERE
 - Developer Portal - <https://developer.here.com>
- Apple Maps

These systems include APIs so that you may integrate the maps into your own applications.

The Apple Maps API is a native library and is only provided on Mac and iOS platforms, and can't be used within web applications as of writing. Yet it seems that a web API is in the works, but only for iCloud users.

Bing Maps has a fully featured AJAX based API for mapping applications, it provides a .NET style of programming to the developer, which can be beneficial for developers already accustomed to such a style of development.

Google Maps is regarded as the most frequently used mapping app in the world¹, with a comprehensive set of features provided through an AJAX framework. On smartphones it is used more often than Facebook. Consequently, users will feel at home when a mapping application provides a Google look.

Nokia HERE also has a fully featured mapping API, with the capability of pulling data through REST, and a Javascript wrapper for REST.

As a group we have made the decision to go with Google maps due to familiarity and comprehensiveness. The Google Maps API also does not charge the developer until a certain limit is hit, at 25,000 hits per day²

Existing Web Frameworks

The existing web frameworks that we have researched include:

- AngularJS + jQuery

¹ <http://mashable.com/2013/08/05/most-used-smartphone-apps/>

² <https://developers.google.com/maps/usagelimits/>

- Bootstrap

AngularJS gives us the ability to make dynamic single page websites, with no navigation, which can make for a seamless experience, especially on mobile devices and smartphones.

jQuery is a powerful extension to Javascript which is both helpful to the developers, and required by Bootstrap.

Bootstrap is a powerful, column based responsive API, which from version 3 onwards is a mobile first framework³. This will be indispensable in creating an application which works on any size device in a trivial manner. Most of the work in getting multiple size devices to work well with the application has been done by the Bootstrap team.

Methodology

The software development methodology that our team will be adopting is going to be the Waterfall model. As this is an early stage of development this decision may change down the road. This methodology follows a simple five stage process⁴, illustrated in Figure 1.

Methodology Justification

The Waterfall model is a simple synchronous process, and maps out well to the assignment goals itself with review portions after each Waterfall task is completed.



FIGURE 1

Tech Required

Mapping API

Google Maps

This will provide the imagery, route calculation, and provide points of interest with opening and closing times, this is necessary to fulfil all the requirements proposed by the client.

³ <http://getbootstrap.com/about/>

⁴ http://hyperhot.com/pm_sdm.htm

Javascript & Web Frameworks

Bootstrap, AngularJS, jQuery

These frameworks, together, can create an entire web application within a single page which is presented to the user as an application that works seamlessly, with no gaps for page loads. All content will be downloaded to the user agent as required, with loading spinners to ensure that the user is aware of the reason for any delays, and that the application is still working as intended.

Code Sharing

GitHub, git

git is a simple command line tool to handle code merges, syncing, uploads, and codebase maintenance. GitHub uses git to provide a simple cloud code hosting solution, and provides applications to users so that knowledge of CLI interfaces is not required for code sharing.

Interactive Development Environment (IDE)

Android/Java - Eclipse or other

iOS/Objective-C - Xcode

Web/HTML JS CSS - Coda 2, Dreamweaver, Notepad++ or other

The development environment that each developer will use is dependent on their preferences and available software.

Resources Required

Documentation

- Bootstrap Documentation⁵
- Google Maps API Developer Portal⁶
- AngularJS Documentation⁷
- jQuery Documentation⁸
- jQuery Learning Center⁹

These resources are indispensable in using these tools, frameworks, and APIs effectively.

⁵ <http://getbootstrap.com/components/>

⁶ <https://developers.google.com/maps/>

⁷ <https://docs.angularjs.org/api>

⁸ <https://api.jquery.com>

⁹ <https://learn.jquery.com>

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