Code Fury

Software Requirements Specification (SRS)

I hereby accept this document as complete.

Signature: Date: 5/15/2018

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1 Scope

1.1 System overview

This system aims to provide users with an interactive map of the United States marked with areas that satisfy their lifestyle preferences.

1.2 Document overview

This purpose of this document is to outline application specific and logistical requirements. Additionally, when relevant, links to external documentation have been provided. Each requirement has been given a unique project identification number to the left of the requirement's description.

2 Requirements

2.1 Webpage capability requirements

2.1.1 Webpage provides parameters for narrowing search by lifestyle preferences.

2.1.1.1 Search results should be at the county level when map is at a county context level and below.

2.1.1.2 Search results should be displayed within 5 to 6 seconds.

2.1.1.3 Search results shall be displayed in less than 15 seconds.

2.1.1.4 There shall be a parameter for filtering on availability of highly ranked public schools by graduation rate of high schools.

2.1.1.5 There shall be a parameter for filtering on availability of public transportation by usage of public transportation in the area.

2.1.1.6 There shall be a parameter for filtering on crime rate by number of violent crimes per thousand people.

2.1.1.7 There shall be a parameter for filtering on availability of outdoor recreation activities by availability of activity within the area.

2.1.1.8 There shall be a parameter for filtering on climate conditions by the following parameters:

- Annual average temperature, annual precipitation, and annual snowfall

2.1.1.9 There shall be a parameter for filtering on availability of quality healthcare by ration of number of doctors to patients.

2.1.1.10 There shall be a parameter for filtering on average commute time in minutes.

2.1.1.11 Search results shall be displayed at the state level when map is at a state context level.

2.1.1.12 Search results shall be shown to be correct by displaying information about the area next to pins

2.1.2 Webpage parameters can be turned on and off.

2.1.2.1 Webpage shall provide the user with the ability to switch parameters on and off so that filtering on that parameter is turned on and off respectively.

2.1.3 Search results will be displayed as markers on a map.

2.1.3.1 Webpage shall display search results as markers on a map.

2.2 Webpage external interface requirements

2.2.1 Interface identification and diagrams

2.2.1.1 The webpage should make use of the Google Maps API to implement the interactive map.

2.3 Webpage environment requirements

2.3.1 Webpage works on web browser

2.3.1.1 The webpage shall run on the Safari web browser.

2.3.1.2 The webpage should run on other web browsers (i.e. Chrome, Firefox)

2.4 Precedence and criticality of requirements

2.4.1 Precedence is from highest to lowest. Requirements on the same level have the same precedence. Precedence is in the following order:

- Requirement 2.3.1.1
- Requirements 2.1.1.1 - 2.1.1.12
- Requirement 2.1.3.1
- Requirement 2.1.1.1
- Requirement 2.5.1.2
- Requirements 2.2.1.1 - 2.2.1.2
- Requirement 2.4.1
- Requirements 2.3.1.2
- Requirement 2.6.1.1

3 Qualification provisions

(Requirement 2.3.1.1) Here, the test is implicit in the requirements specification. To pass, the application must run in Safari and pass the tests for all other requirements.

(Requirement 2.1.1.1) The depth of the search is fixed at the view level of the map. Hence, the requirement is fulfilled as long as the user cannot perform a more fine-grained search at the county context level.

(Requirement 2.1.3.1) Run several searches for each combination of criteria. If each search gives a distinct and correct result, the requirement has been fulfilled.

(Requirement 2.1.1.2) Run several searches with a normal load on the server. If results are returned within 6 seconds, the requirement has been fulfilled.

(Requirement 2.1.1.3) Run several searches with a high load on the server. If results are returned within 15 seconds, the requirement has been fulfilled.

(Requirements 2.1.1.1 - 2.1.1.10) The following describes a test for all search parameters. Select the parameter in question as the only search criterion. Then, select a preference or threshold value for that parameter. If all results returned satisfy that user-specified preference or threshold, the requirement has been fulfilled. For example, to test the climate parameter, one would turn on climate as the only search criterion and specify their preference (e.g. rainy). If all the locations returned have rainy climates, the test has been passed.

(Requirement 2.1.2.1) This will be tested along with requirements 2.1.1.1 - 2.1.1.10. If those requirements have been fulfilled so will this one.

(Requirement 2.1.3.1) Run a search. If each data point returned from the query corresponds to a pin on the map, the requirement has been fulfilled.

(Requirement 2.1.5.2) Repeat the tests for the preceding requirements in Chrome, Firefox, and Internet Explorer. If all of them are passed, the requirement has been fulfilled.

(Requirement 2.1.1.11) The depth of the search is fixed at the view level of the map. Hence, the requirement is fulfilled if the user cannot perform a more fine-grained search at the state context level.

(Requirement 2.1.1.12) This requirement is fulfilled if the parameters shown by the pin coincide with the choices made by the user