CMSC 447 - Code Fury - Map Webpage

Software Requirements Specification (SRS)

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# Scope

## System overview

This webpage aims to provide information about areas to move to within the United States consistent with specified criteria. Each specified criteria will appear as a search option on a webpage and will be used by a user to narrow down results for a new location to move to. Locations fitting the criteria of the search will be displayed on a map as points.

## 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.

# Requirements

## Webpage capability requirements

### Webpage provides parameters for searching for correct location to live in USA.

* + - 1. Search should only go as small as zipcodes.
      2. Results for search should display on webpage within five to six seconds.
      3. Results for search shall display on webpage only up to 15 seconds.
      4. Webpage shall provide search parameter indicating need of availability of highly ranked public schools in area.
      5. Webpage shall provide search parameter indicating need of availability of public transportation in the area.
      6. Webpage shall provide search parameter indicating need of low crime rates in area.
      7. Webpage shall provide search parameter indicating need of outdoor recreational activities in area.
      8. Webpage shall provide search parameter indicating type of climate needed in area.
      9. Webpage shall provide search parameter indicating need of quality healthcare in area.
      10. Webpage shall provide search parameter allowing distance from location of employment being inputted and used for search results.

### Webpage parameters can be turned on and off.

* + - 1. Webpage shall allow for parameters to be turned on and off so that they will be included or excluded in search queries for correct location to live

### Results of search will be displayed as points on map on webpage.

* + - 1. Webpage shall display results of search as points on a map

## Webpage external interface requirements

### Interface identification and diagrams

* + - 1. The webpage should make use of the Google Maps API to implement the interactive map.
      2. The webpage should make use of the Data.gov API to construct a database.

## Webpage environment requirements

### Webpage works on web browser

* + - 1. The webpage shall run on the Safari web browser.
      2. The webpage should run on other web browsers (i.e. Chrome, Firefox)

## Precedence and criticality of requirements

* + 1. Precedence is from highest to lowest, respectively. Requirements on the same level have the same precedence. Precedence is in the following order:
* Requirement 2.5.1.1
* Requirements 2.1.1.1 - 2.1.1.10
* 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 - 2.3.3
* Requirement 2.6.1.1

# Qualification provisions

(Requirement 2.5.1.1 ) Here, the test is implicit in the requirement’s 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 time of implementation. Hence, the requirement is fulfilled as long as the user cannot perform a more fine-grained search.

(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 the all of 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.

# Notes

This section shall contain any general information that aids in understanding this document (e.g., background information, glossary, rationale). This section shall include an alphabetical listing of all acronyms, abbreviations, and their meanings as used in this document and a list of any terms and definitions needed to understand this document.

# Appendixes

Appendixes may be used to provide information published separately for convenience in document maintenance (e.g., charts, classified data). As applicable, each appendix shall be referenced in the main body of the document where the data would normally have been provided. Appendixes may be bound as separate documents for ease in handling. Appendixes shall be lettered alphabetically (A, B, etc.).

DESCRIPTION/PURPOSE

The Software Design Description (SDD) describes the design of a Computer Software Configuration Item (CSCI). It describes the CSCI-wide design decisions, the CSCI architectural design, and the detailed design needed to implement the software. The SDD may be supplemented by Interface Design Descriptions (IDDs) and Database Design Descriptions (DBDDs).

APPLICATION/INTERRELATIONSHIP

Portions of this plan may be bound separately if this approach enhances their usability. Examples include plans for software configuration management and software quality assurance.

The Contract Data Requirements List (CDRL) should specify whether deliverable data are to be delivered on paper or electronic media; are to be in a given electronic form (such as ASCII, CALS, or compatible with a specified word processor or other support software); may be delivered in developer format rather than in the format specified herein; and may reside in a computer-aided software engineering (CASE) or other automated tool rather than in the form of a traditional document.

PREPARATION INSTRUCTIONS

General instructions.

a. Automated techniques. Use of automated techniques is encouraged. The term "document" in this means a collection of data regardless of its medium.

b. Alternate presentation styles. Diagrams, tables, matrices, and other presentation styles are acceptable substitutes for text when data required can be made more readable using these styles.

c. Title page or identifier. The document shall include a title page containing, as applicable: document number; volume number; version/revision indicator; security markings or other restrictions on the handling of the document; date; document title; name, abbreviation, and any other identifier for the system, subsystem, or item to which the document applies; contract number; CDRL item number; organization for which the document has been prepared; name and address of the preparing organization; and distribution statement. For data in a database or other alternative form, this information shall be included on external and internal labels or by equivalent identification methods.

d. Table of contents. The document shall contain a table of contents providing the number, title, and page number of each titled paragraph, figure, table, and appendix. For data in a database or other alternative form, this information shall consist of an internal or external table of contents containing pointers to, or instructions for accessing, each paragraph, figure, table, and appendix or their equivalents.

e. Page numbering/labeling. Each page shall contain a unique page number and display the document number, including version, volume, and date, as applicable. For data in a database or other alternative form, files, screens, or other entities shall be assigned names or numbers in such a way that desired data can be indexed and accessed.

f. Response to tailoring instructions. If a paragraph is tailored out of this document, the resulting document shall contain the corresponding paragraph number and title, followed by "This paragraph has been tailored out." For data in a database or other alternative form, this representation need occur only in the table of contents or equivalent.

g. Multiple paragraphs and subparagraphs. Any section, paragraph, or subparagraph in this DID may be written as multiple paragraphs or subparagraphs to enhance readability.

h. Standard data descriptions. If a data description required by this document has been published in a standard data element dictionary specified in the contract, reference to an entry in that dictionary is preferred over including the description itself.

i. Substitution of existing documents. Commercial or other existing documents, including other project plans, may be substituted for all or part of the document if they contain the required data.