Casa Domus

CMSC 447

Software Requirements Specification (SRS)

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Version: 1.3

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1 Scope

1.1 Identification

This Software Design Document (SDD) document applies to Casa Domus 1.0, a web-based home finding software for the lower 48 States of the US.

1.2 System Overview

The purpose of this web-based software is to enable users to easily find counties to live in based off their living preferences. The web-based software will perform these tasks by obtaining user preferences from a questionnaire and comparing those preferences to information gathered from various APIs (Application Programming Interface), .csv (Comma Separated Value) files, and databases. A map will display county shapes that gradient based off the comparability of the housing options in various areas to the user preferences. The project sponsor is Professor Charles Nicholas. The development team is Casa Domus. This software was developed over the spring of 2018.

1.3 Document Overview

This document contains the feature, graphic user interface, and performance requirements for the Casa Domus program. The purpose of Casa Domus is to narrow down counties in the continental United States that the user would want to live in.

The project is sponsored by Russ Cain. The customer is Charles Nicholas. The developers working on this project are: Elia Deppe, Cynthia Chou, Ryan Coleman, William Gao, Haoran Ren, and James Williams.

2 Referenced Documents

1. Software Design Document (SDD)
    a. Version 1.2
2. Software Test Document (STD)
    a. Version 1.2

3 Requirements

Each requirement shall be assigned a project-unique identifier to support testing and traceability and shall be stated in such a way that an objective test can be defined for it.

- The **Functional Area** column specifies to which functional area the requirement applies.
- The **ID** specifies the Requirement ID.
- The **Requirement** column specifies the requirement
- The **Priority** column specifies the priority of the requirement on a scale of 0 - 10, the latter being the highest priority.
- The **Status** column specifies the requirement's current status in development on a scale of 0% - 100%.

- The **Tested** column specifies if the requirement has been tested. Possible values: No ⇒ Has not been tested, IT ⇒In Testing (Being Debugged), PT ⇒Passed Testing (Functional)
- “shall” is used below to indicate a feature that must be implemented for the final product.
- “should” is used to indicate a feature that may or may not be implemented due to time and resource constraints.

Functional Area	ID	Requirement	Priority	Status	Tested
PLATFORM	PLAT-1	The product shall be web-based.	10	100%	PT
PLATFORM	PLAT-1.1	The product shall function on the specified desktop browser clients.	10	100%	PT
PLATFORM	PLAT-1.1.1	The product should function on Firefox Version 58.0+.	10	100%	PT
PLATFORM	PLAT-1.1.2	The product should function on Chrome Version 60.0+.	10	100%	PT
PERFORMANCE	PER-1	The product shall have a response time of 10 seconds or less after the user finishes their initial questionnaire.	7	100%	PT
PERFORMANCE	PER-1.1	The product should locally cache all API data needed by the initial questionnaire by the time the user has submitted their preferences.	6	100%	PT
FUNCTIONAL	FUNC-1.1	The product should provide the median ages of the houses for the areas matching the user’s requested median age for houses.	3	0%	FT
FUNCTIONAL	FUNC-1.2	The product shall provide the median price of ~~house~~ property value for the areas matching the user’s request for median price for property value. (Updated: Customer’s Request)	10	100%	PT
FUNCTIONAL	FUNC-1.3	The product shall provide the median rent for an apartment for the areas matching the user’s request median rent for an apartment.	10	100%	PT
FUNCTIONAL	FUNC-1.4	The product shall provide median salary ~~for age range~~ for the area matching the user’s requested median salary for age range.	10	100%	PT

		(Updated: Fixed on customer request)			
~~FUNCTIONAL~~	~~FUNC-1.5~~	~~The product shall should provide the median salary for the entry software engineer for each county.~~ ~~(Customer Change: shall → should)~~ (Removed: No longer required by customer)	~~0~~	~~N/A~~	~~N/A~~
FUNCTIONAL	FUNC-1.6	The product shall provide the median summer temperatures for the regions matching the user's requested summer temperatures, as a means of communicating climate data.	9	100%	PT
FUNCTIONAL	FUNC-1.7	The product shall provide the median winter temperatures for the regions matching the user's requested winter temperatures, as a means of communicating climate data.	9	100%	PT
~~FUNCTIONAL~~	~~FUNC-1.8~~	~~The product shall provide the median food costs, in terms of groceries, for the regions matching the user's requested median food cost for groceries.~~ (Removed: No longer required by customer, check FUNC-1.15)	~~0~~	~~N/A~~	~~N/A~~
~~FUNCTIONAL~~	~~FUNC-1.9~~	~~The product should provide the median food costs, in terms of eat-out locations, for the regions matching the user's requested median food cost for eating out.~~ (Removed: No longer required by customer, check FUNC-1.15)	~~0~~	~~N/A~~	~~N/A~~
~~FUNCTIONAL~~	~~FUNC-1.10~~	~~The product should provide information regarding proximity to long distance travel, for the regions of the user's preference, in terms of miles .~~ (Removed: no longer required by customer)	~~0~~	~~N/A~~	~~N/A~~
~~FUNCTIONAL~~	~~FUNC-1.11~~	~~The product should provide information regarding proximity to professional sports, for the regions of the user's preference, in terms of miles.~~ (Removed: No longer required by customer)	~~0~~	~~N/A~~	~~N/A~~
~~FUNCTIONAL~~	~~FUNC-1.12~~	~~The product should provide information regarding proximity to higher education institutions, for the regions of the user's preference, in terms of miles.~~ (Removed: No longer required by customer)	~~0~~	~~N/A~~	~~N/A~~

~~FUNCTIONAL~~	~~FUNC-1.13~~	~~The product should provide information regarding proximity to cultural institutions, such as museums, concert halls, etc., for the regions of the user's preference, in terms of miles.~~ (Removed: No longer required by customer)	~~0~~	~~N/A~~	~~N/A~~
~~FUNCTIONAL~~	~~FUNC-1.14~~	~~The product should provide information regarding the party affiliation, for the regions matching the user's preferences.~~ (Removed: No longer required by customer)	~~0~~	~~N/A~~	~~N/A~~
FUNCTIONAL	FUNC-1.15	The product should provide information regarding the Cost of Living Index (COLI) per state. (Replace: FUNC-1.8 - 1.9)	10	100%	PT
FUNCTIONAL	FUNC-2	The product shall work within the specified boundaries. (Updated: Replaced 'county boundary of the United States' with 'specified boundaries')	10	100%	PT
FUNCTIONAL	FUNC-2.1	The product should meet all other functionality requirements (Func-1.*, Func-3.*,Func-5.*) for at least the lower forty-eight states.	8	100%	FT
FUNCTIONAL	FUNC-2.2	The product should perform searches at the county level. (Updated: Replaced 'down to' with 'at')	10	100%	PT
FUNCTIONAL	FUNC-3	The product shall include an initial questionnaire, of at least six questions, that collects the user's preferences.	10	100%	PT
FUNCTIONAL	FUNC-3.1	The product's initial questionnaire should inquire about the user's preferred climate extremes.	10	100%	PT
FUNCTIONAL	FUNC-3.1.1	The product's initial questionnaire should inquire about the user's preferred winter average temperature.	10	100%	PT
FUNCTIONAL	FUNC-3.1.2	The product's initial questionnaire should inquire about the user's preferred summer average temperature.	10	100%	PT
FUNCTIONAL	FUNC-3.2	The product's initial questionnaire should inquire about the user's preferred salary.	10	100%	PT

FUNCTIONAL	FUNC-3.3	The product's initial questionnaire should inquire about the user's preferred cost of ~~housing~~ property value. (Updated: Per customer's request)	10	100%	PT
~~FUNCTIONAL~~	~~FUNC-3.4~~	~~The product's initial questionnaire should inquire about the user's preferred costs of food.~~ (Removed: No longer required by customer)	~~0~~	~~N/A~~	~~N/A~~
~~FUNCTIONAL~~	~~FUNC-3.5~~	~~The product's initial questionnaire should inquire about the user's preferred proximity to long distance travel.~~ (Removed: No longer required by customer)	~~0~~	~~N/A~~	~~N/A~~
~~FUNCTIONAL~~	~~FUNC-3.6~~	~~The product's initial questionnaire should inquire about the user's preferred proximity to professional sports.~~ (Removed: No longer required by customer)	~~0~~	~~N/A~~	~~N/A~~
FUNCTIONAL	FUNC-3.7	The product's initial questionnaire should inquire for potential states, for which, users do not want results for.	4	0%	FT
FUNCTIONAL	FUNC-3.8	The products' initial questionnaire should inquire for the Cost of Living Index (COLI) per state. (Replace: FUNC-3.4)	10	100%	PT
~~FUNCTIONAL~~	~~FUNC-4~~	~~The product should keep track of correlations between preferences and housing locations.~~ (Removed: Vague)	~~0~~	~~N/A~~	~~N/A~~
FUNCTIONAL	FUNC-5	The product should offer county suggestions to the user.	7	100%	PT
FUNCTIONAL	FUNC-5.1	Should offer county suggestions based on user preferences relative to available county data.	7	100%	PT
~~FUNCTIONAL~~	~~FUNC-5.2~~	~~Should offer county suggestions based on other users with similar preferences.~~ (Removed: Vague, and no longer required by customer)	~~0~~	~~N/A~~	~~N/A~~
GUI	GUI-1	The product shall use sliders for users to input their preferences in an initial questionnaire, surveying the user's preferences.	10	100%	PT

GUI	GUI-2	The product shall provide an interactive map of counties the lower 48 United States. (Updated: added ‘counties’ before ‘the lower’)	10	100%	PT
GUI	GUI-2.1	The product should enable users to gather provided information about the counties via a mouse click on the county shape on the map. (Old Requirement: The product should enable users to gather provided information about the regions matching their preferences via a mouse rollover).	6	100%	PT
GUI	GUI-2.2	The product shall color the map to highlight areas matching the user’s preferences.	10	100%	PT
GUI	GUI-2.3	The product should gradient the map, utilizing the gradients in color to demonstrate the degree to which the areas match the user’s preferences.	8	100%	PT
GUI	GUI-2.3.1	The color for each county should interpolate on the hue on the HSL color model from 0° to 260°.	8	100%	PT
GUI	GUI-3	The product should provide the capability for users to utilize sliders to modify their preferences after the initial questionnaire.	8	100%	PT

4 Qualification Provisions

Please see Document: STD, Version 1.2.

5 Requirements Traceability

Please see Document: SDD Section 5.1 specifies the Requirements from the Client and SDD Section 5.2 specifies Derived Requirements.