Casa Domus

Software Requirements Specification (SRS)

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1 Scope

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

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.

“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.

1.1 CSCI external interface requirements

This program will not have any external interfaces.

1.1.1 Interface identification

This product will interface with the APIs that contain the data collected by the United States Government. This program shall interface with necessary libraries and frameworks to support a running website.

1.2 Safety requirements

No safety requirements

1.3 Security and privacy requirements

This program shall not have any user accounts or store private information, therefore there are no privacy or security concerns.

1.4 CSCI environment requirements

This program shall be web based (PLAT-1). It shall run on Firefox 58.0+ (PLAT-1.1.1). It shall run on Chrome 60.0+ (PLAT-1.1.2).

1.5 Software quality factors

The program shall have a response time of 10 seconds or less after the initial questionnaire (PER-1).

1.6 Precedence and criticality of requirements

All requirements have equal weight.

2 Requirements traceability

Functional Area	ID	Description	Priority	Status	Tested
PLATFORM	PLAT-1	The product shall be web-based			
PLATFORM	PLAT-1.1	The product shall function on the specified desktop browser clients			
PLATFORM	PLAT-1.1.1	The product should function on Firefox Version 58.0+			
PLATFORM	PLAT-1.1.2	The product should function on Chrome Version 60.0+			
PERFORMANCE	PER-1	The product shall have a response time of 10 seconds or less after the user finishes their initial questionnaire	1		
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	3	90%	
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%	
FUNCTIONAL	FUNC-1.2	The product shall provide the median price for a house for the areas matching the user's request for median price for a house.	10	90%	
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	90%	
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	90%	

FUNCTIONAL	FUNC-1.5	The product ~~shall~~ should provide the median salary for the entry software engineer for each county (Customer Change: shall → should)	3	0%	
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	10%	
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	10%	
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~~ (Customer: Removed)			
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.~~ (Customer: Removed)			
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			
~~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)~~			
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			

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			
FUNCTIONAL	FUNC-1.14	The product should provide information regarding the party affiliation, for the regions matching the user's preferences			
FUNCTIONAL	FUNC-1.15	The product should provide information regarding the Cost of Living Index (COLI) per state. (Replace: FUNC-1.8 - 1.9)			
FUNCTIONAL	FUNC-2	The product shall work within the country boundary of the United States.			
FUNCTIONAL	FUNC-2.1	The product should meet all other functionality requirements for at least the lower forty-eight states			
FUNCTIONAL	FUNC-2.2	The product should perform searches down to the county level			
FUNCTIONAL	FUNC-3	The product shall include an initial questionnaire, of at least six questions, that collects the user's preferences			
FUNCTIONAL	FUNC-3.1	The product's initial questionnaire should inquire about the user's preferred climate extremes			
FUNCTIONAL	FUNC-3.2	The product's initial questionnaire should inquire about the user's preferred salary			
FUNCTIONAL	FUNC-3.3	The product's initial questionnaire should inquire about the user's preferred costs of housing			
~~FUNCTIONAL~~	~~FUNC-3.4~~	~~The product's initial questionnaire should inquire about the user's preferred costs of food~~ (Updated: Remove, no longer required by customer)	0		
FUNCTIONAL	FUNC-3.5	The product's initial questionnaire should inquire about the user's preferred proximity to long distance travel			

FUNCTIONAL	FUNC-3.6	The product's initial questionnaire should inquire about the user's preferred proximity to professional sports			
FUNCTIONAL	FUNC-3.7	The product's initial questionnaire should inquire for potential states, for which, users do not want results for.	4		
FUNCTIONAL	FUNC-3.8	The products' initial questionnaire should inquire for the Cost of Living Index (COLI) per state. (Replace: FUNC-3.4)			
~~FUNCTIONAL~~	~~FUNC-4~~	~~The product should keep track of correlations between preferences and housing locations~~ (Removed: Vague)	~~0~~		
FUNCTIONAL	FUNC-5	The product should offer county suggestions to the user	6	90%	
FUNCTIONAL	FUNC-5.1	Should offer county suggestions based on user preferences relative to available county data	6		
~~FUNCTIONAL~~	~~FUNC-5.2~~	~~Should offer county suggestions based on other users with similar preferences.~~(Removed: Vague, and no longer required by customer)	~~0~~		
GUI	GUI-1	The product shall use sliders for users to input their preferences in an initial questionnaire, surveying the user's preferences	10		
GUI	GUI-2	The product shall provide an interactive map of the lower 48 United States.	10		
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..	6		
GUI	GUI-2.2	The product shall color the map to highlight areas matching the user's preferences	10	90%	
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.	7	90%	

GUI	GUI-2.3.1	The color for each county should interpolate on the hue on the HSL color model from 0 to 260	5	100%	
GUI	GUI-3	The product should provide the capability for users to utilize sliders to modify their preferences after the initial questionnaire	8	90%	