Affordable Housing Search Application

Technical Design Document

Group 1

Project Managers:

Joanna Smith

Gary Johnston

Natalie Amaya

Devante McFarlane

Octavian Carteleanu

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Document Changes

|  |  |  |  |
| --- | --- | --- | --- |
| Revision # | Date | Author | Comments |
| 1 | 5/21/2022 | Devante McFarlane | Added Abstract |
| 2 | 5/21/2022 | Devante McFarlane | Added U3.5 - U3.9 |
| 3 | 5/21/2022 | Devante McFarlane | Added D1.1 - 1.7 |
| 4 | 5/21/2022 | Devante McFarlane | Added U1.1 |
|  |  |  |  |
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Abstract

## Objective

Deploy a maintainable site for finding affordable housing in Orlando, FL. Users will have the ability to quickly locate housing within their price range without performing additional research to calculate hidden or undefined expenses. Expenses such as utility pricing and routine travel expenses based on fuel consumption, will be configurable by the user.

Requirements

## Legend

|  |  |
| --- | --- |
| **Term** | **Definition** |
| Actor | Defines who the requirement pertains to |
| User | Client-side actor that will access the web application |
| Dev | Server-side actor that develops the web application |
| U#.# | Requirement ID pertaining to Actors of type “User” |
| D#.# | Requirement ID pertaining to Actors of type “Dev” |

## Product Requirements

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| --- | --- | --- |
| **Requirement ID** | **Requirement** | **Actor** |
| U1.0 | Affordable Housing Search landing page | User |
| U1.1 | Display average statistics for user to have a base/ reference point when seeking housing | User |
| U1.2 |  |  |
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| **Requirement ID** | **Housing Filters User Requirements** | **Actor** |
| U2.0 | Housing Filters | User |
| U2.1 | “Filters” button opens filters form | User |
| U2.1.1 | “Filters Button shows running total of filter selections. | User |
| U2.1.2 | “X” button or icon to close the “Filters” form. | User |
| U2.2 | Pet Policy Options: | User |
| U2.2.1 | Pet Friendly | User |
| U2.2.2 | No Pets | User |
| U2.2.3 | Cats | User |
| U2.2.4 | Dogs | User |
| U2.3 | Unit Amenities | User |
| U2.3.1 | Washer and Dryer Hookup | User |
| U2.3.2 | Washer and Dryer | User |
| U2.3.3 | Dishwasher | User |
| U2.3.4 | Patio / Balcony | User |
| U2.3.5 | Microwave | User |
| U2.3.6 | High Speed Internet | User |
| U2.3.7 | Wheelchair Access | User |
| U2.3.8 | Furnished | User |
| U2.4 | Community Amenities | User |
| U2.4.1 | Controlled Access | User |
| U2.4.2 | Fitness Center | User |
| U2.4.3 | Pool | User |
| U2.4.4 | Covered Parking | User |
| U2.4.5 | Garage | User |
| U2.5 | Price Range | User |
| U2.5.1 | Units under $1000 | User |
| U2.5.2 | Units $1001 - $1500 | User |
| U2.5.3 | Units $1501 - $2000 | User |
| U2.5.4 | Units $2001 + | User |
| U2.6 | Property by Property Name from Dropbox | User |
| U2.6.1 | List of all properties in Database | User |
| U2.7 | Bedrooms | User |
| U2.7.1 | Studio | User |
| U2.7.2 | 1 | User |
| U2.7.3 | 2 | User |
| U2.7.4 | 3+ | User |
| U2.8 | Bathrooms | User |
| U2.8.1 | 2 | User |
| U2.8.2 | 2 1/2 | User |
| U2.8.3 | 3+ | User |
| U2.9 | Energy Efficiency \*Total utility costs | User |
| U2.9.1 | < $100 | User |
| U2.9.2 | $101 - $150 | User |
| U2.9.3 | $150 - $200 | User |
| U2.9.4 | $200 + | User |
| U2.10 | “Apply Filters” Button to apply the selected filters | User |
| U2.11 | “Clear Filters” Button to clear the form. | User |
| U2.12 | If filter selections return 0 results “User sees “No Matches Found” | User |

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| **Requirement ID** | **Requirement** | **Actor** |
| U3.0 | Housing Details | User |
| U3.1 |  |  |
| U3.2 |  |  |
|  |  |  |
| U3.5 | Display rent for month (and year for convenience) | User |
| U3.6 | Display average utility prices by available vendor | User |
| U3.7 | Display internet and cable prices by available vendor | User |
| U3.8 | Field to enter weekly average driving mileage then multiplied by current gas price to quickly calculate driving expenses | User |
| U3.8.1 | Option to add additional vehicles to calculate additional driving expenses | User |
| U3.8.2 | Field to enter amount of vehicles for apartments that charge per vehicle | User |
| U3.9 | Display housing features such as amenities if apartment | User |

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| **Requirement ID** | **Requirement** | **Actor** |
| U4.0 | Google Maps | User |
| U4.1 |  |  |
| U4.2 |  |  |
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# Technical Requirements

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| **Requirement ID** | **Requirement** | **Actor** |
| D1.0 | Affordable Housing Search landing page | Dev |
| D1.1 | Display top (5) most affordable housing results | Dev |
| D1.2 | Quickly find affordable housing with predefined searches | Dev |
| D1.3 | Calculate average utility pricing in Orlando | Dev |
| D1.4 | Calculate average housing pricing in Orlando by type | Dev |
| D1.5 | Display histogram of previous average utility and housing prices | Dev |
| D1.6 | Quick view of map | Dev |
| D1.7 | Housing affordability rating based on all other Orlando housing  (E.G. 4 out of 5 with related icon that may be tree, windmill, sun symbol, etc.) | Dev |
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| **Requirement ID** | **Housing Filters Developer Requirements** | **Actor** |
| D2.0 | Housing Filters | Dev |
| D2.1 | “Filters” Button opens the Filters form | Dev |
| D2.1.1 | Keep running total of filters selected displayed inside “Filters” selector.  (On landing page) | Dev |
| D2.1.2 | An icon or Button “X” will close the form. | Dev |
| D2.2 | Selector type for Pet Policy U2.2.1 – U2.2.4 , medium buttons | Dev |
| D2.3 | Selector type for Unit Amenities U2.3.1 – U2.3.8 , checkbox | Dev |
| D2.4 | Selector type for Community Amenities U2.4.1 – 2.4.5 , checkbox | Dev |
| D2.5 | Selector type for Price Range U2.5.1 – U2.5.4 , dropbox | Dev |
| D2.6 | Selector type for Property U2.6.1 , dropbox | Dev |
| D2.7 | Selector type for Bedrooms U2.7.1 – U2.7.4 , dropbox | Dev |
| D2.8 | Selector type for Bathrooms U2.8.1 – U2.8.3 , dropbox | Dev |
| D2.9 | Selector type for Energy Efficiency U2.9.1 – U2.9.4 , dropbox | Dev |
| D2.10 | “Apply Filters” button will incorporate filters and initiate search. | Dev |
| D2.11 | “Clear Filters” button will reset the Filters form to an empty state. | Dev |
| D2.12 | If filter selection returns 0 results | Dev |
| D2.12.1 | AlertBox “No Matches Found” | Dev |
| D2.12.2 | Clear Filters Form | Dev |

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| --- | --- | --- |
| **Requirement ID** | **Requirement** | **Actor** |
| D3.0 | Housing Details | Dev |
| D3.1 |  |  |
| D3.2 |  |  |
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| **Requirement ID** | **Requirement** | **Actor** |
| D4.0 | Google Maps | Dev |
| D4.1 |  |  |
| D4.2 |  |  |
| D5.0 | Admin Dashboard/ panel | Dev |
| D5.1 | Pull new data from external APIs | Dev |
| D5.2 | Update/ Modify data | Dev |
|  |  |  |
| D6.0 | User authentication for admin dashboard/ panel | Dev |
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| D7.0 | Framework for front end UI | Dev |
|  |  |  |
| D8.0 | Web server to host site and database | Dev |
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| D7.0 | Database for storing housing information | Dev |
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# Technical Design

## Implementation

## Testing

Communications Plan

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| --- | --- |
| Communications Plan | |
| **Project:** Energy Efficient Apartment Search | Start Date: 5/9/2022 |
| **Project Managers:**  Joanna Smith  Gary Johnston  Natalie Ayala  Octavian Carteleanu  Devante McFarlane | Estimated Completion Date: |
| **Methods of Communications:** | Valencia email, Discord for chat discussions, ClickUp for Project Management, Zoom |
| Objectives | |
| Establish report with team members |  |
| Meet with professor for project requirements |  |
| Develop Technical Requirements Document |  |
| Develop database |  |
| Design web application |  |
| Develop web application |  |
| Test web application |  |
| Revise web application |  |
| Deploy web application |  |
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# Expected Outcomes

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| --- | --- | --- | --- | --- | --- |
| Type | Date | Assignees | Method | Time | Purpose |
| Project Requirements Meeting | 5/18/2022 | Project Team  Project Stakeholders | Zoom | 1 hour | To discuss with the stakeholders what the requirements of the project are. |
| Scrum Meeting | Weekly on  Mondays at 7:00 pm | Project Team | Discord or Zoom | 30 min | Discuss progress, establish and assign tasks during next sprint. |
| Informal Progress Updates | Asynchronous | Project Team | Discord | N/A | Discuss and development milestones, issues, complications, etc. |
| Planning Documentation Submission | 5/23/2022 | Joanna Smith | Canvas Submission |  | Establish project tasks, set deadlines and assign team members |
| Prototype Submission | 6/5/2022 |  | Canvas Submission |  |  |
| Test Plan Submission | 6/12/2022 |  | Canvas Submission |  |  |
| Technical Documentation Submission | 6/5/2022 |  | Canvas Submission |  |  |
| Beta Version Submission | 6/26/2022 |  |  |  |  |
| Beta Test and Revision Report Submission | 7/4/2022 |  | Canvas Submission |  |  |
| User Documentation |  |  | Canvas Submission |  |  |
| Developer Documentation | 7/17/2022 |  |  |  |  |
|  |  |  |  |  |  |

Project Plan

Graphical user interface

Description automatically generated

Graphical user interface, application

Description automatically generated