SW Engineering CSC 648/848 Section 02 Fall 2017

Dream Home

Team 05

Milestone 4:

Beta Launch

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History

Date	Description
12/8/2017	Created first draft

1) Product Summary

- Dream Home
- https://sfsuse.com/fa17g05/home
- Committed P1 Functions
    - Dream Home will be a website for users to both search and browse for home listings. Sellers will be able to list homes for users to view.
    - Users will be able to browse for a home listing by city, state, or zip code.
    - Users can also search for listings by address, city, state, or zip code.
    - From the search results page, users can filter results by price, number of bedrooms, and number of bathrooms.
    - Once a user has selected a specific listing, they can see the home's address, price, photos of the home, description, and location of the home on Google Maps.
    - User can also contact the home's seller directly from the home listing page
    - An unregistered user can create an account and contact sellers through the website
    - Sellers have access to the Seller Dashboard, which helps them keep track of their listings and the users that have contacted them about a listing. Sellers can edit their listings and contact the users that have messaged them about a listing.
    - Administrator will be able to monitor the application. He/she will be able to access the database, remove a listing (if deemed inappropriate), and ban a user for misappropriate use. He/she will also be able to view the website's analytics.

2) Usability Test Plan: Search

- ## Test Objectives

The purpose of our usability test plan is to ensure a simple user experience for users. A simple user experience will allow a wide population of users to enjoy searching for a home listing, without feeling confused by too many options or feeling frustrated by the website's complexity. We feel that a simpler website will ensure that users can quickly find a listing and quickly contact the listing's seller. By creating a simple user experience, we hope that users will make Dream Home their real estate resource for home buying. We will test for how many users successfully located a specific listing, how quickly users were able to locate a specific listing, and how satisfied users were with the search function of our website.

- ## Test Plan

To effectively test our search function, we plan to have users search for various listings and then assess how quickly and correctly users were able to complete the desired tasks. The first task will be for the user to enter over 40 characters into the search bar then the users will be asked to enter an invalid input into the search bar. Next, the users will be asked to enter a specific zip code, which is not in the website's database. Lastly, users will be asked to search for a specific listing. We will test the website with 3 different users of various ages and real estate website experience. By varying the user ages and skill level, we aim to simulate the various users who will be searching for homes on our application. To ensure consistency, all users will be completing the same set of tasks on the same laptop and supervised by the team lead. No user will receive external help, nor will they watch another user complete the tasks. After completing the assigned tasks,

users will be given a short questionnaire form which will ask them to assess their efficiency, effectiveness, and satisfaction levels for the search function.

- Questionnaire Form

I was able to successfully locate the specific listing				
_Strongly Agree	_Agree	_Neither agree nor disagree	_Disagree	_Strongly Disagree
I found the specific listing quickly				
_Strongly Agree	_Agree	_Neither agree nor disagree	_Disagree	_Strongly Disagree
I was satisfied with the search function				
_Strongly Agree	_Agree	_Neither agree nor disagree	_Disagree	_Strongly Disagree

3) QA Test Plan: Search

- ### Test Objectives

  The purpose of our quality assurance test plan is to ensure the search function is bug-free and works as expected. Tester will be doing black box testing, and will not have access to the application's source code. By using black box testing, testers will simulate a user and will be able to locate bugs and issues that a potential user might encounter. We feel like black box testing will be the most efficient method to find bugs in our application, as well as identify as potential issues users might have with the search function. The search function is expected to return a list of appropriate results, based on the user input. If a user enters an invalid input, the user will be notified to enter a valid input. If a user enters a valid input, but the database has no results for the input, then the user will be notified, and a list of featured homes will be displayed.

- ### HW and SW Setup

  - For hardware, we will test on different laptops (generic Windows laptop and Apple laptop) to ensure the application will work on both operating systems.
  - For software, we will be testing the search function on two browsers for Windows, Chrome and Firefox, and one browser for Mac, Safari. Testers will begin the test from the website's home page.

- ### Feature to Be Tested

  The features to be tested are the character limit, response to an invalid input, response to a valid input without results in the database, and a valid input with results in the database. To test the character limit, tester will enter over 40 characters into the search bar and should expect that no more characters will be displayed on the search bar. To

test the invalid input, testers will enter various symbols (@$%*, for example) into the search bar and should expect to get a notification saying, “invalid input”. To test a valid input with no results, testers will enter an input that they know is not in the database. However, testers should get a notification saying, “no results found” and be redirected to a results page with the featured listings. To test valid input with a result, testers will enter an input they know is in the database and should expect to see the input in the resulting listings. We will not be testing if the listing results are in a specific order, like chronological or geological order.

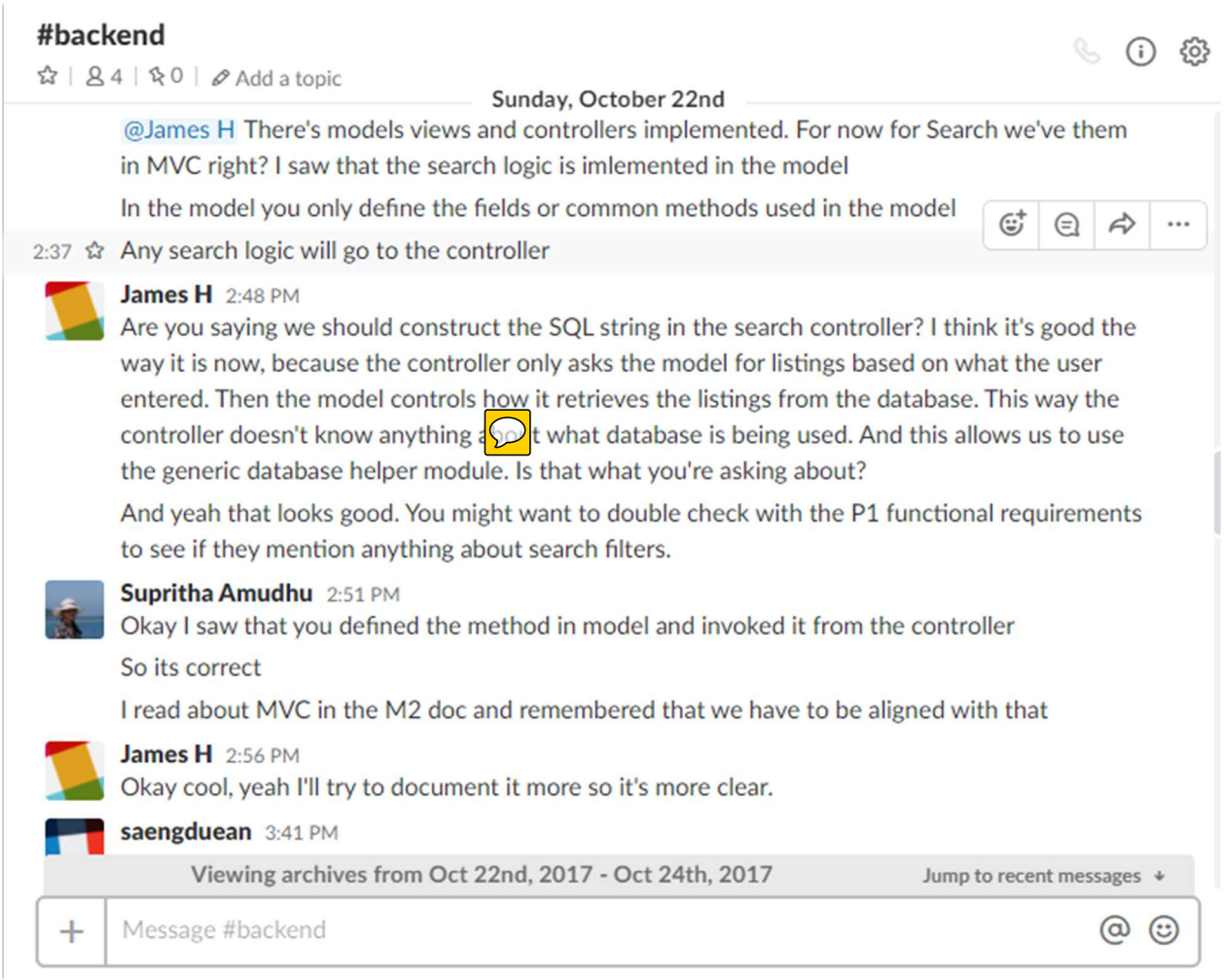
- Actual Test Case
  - The first test case will be for the character limit and invalid input. Testers will enter “41 a’s” into the search bar and click Search. Testers should expect that no more than 40 characters will be displayed on the search bar. For the invalid input, testers will enter “!@#$%” into the search bar. Testers should expect to see a notification that will say “Invalid Input” and a list of featured homes will be displayed.
  - The second test case will be for a valid input that has no results. Testers will enter zip code, 94401, into the search bar. Testers will expect to receive a notification that says, “No Results” and a list of featured homes will be displayed.
  - The third test case will be for a valid input with a result in the database. Testers will enter “CA” into the search bar. Testers will expect to see 12 results, all the results in the state of California. 

4) Code Review

- The chosen coding style is modular programming.
- The code to be reviewed was the function that lets user's search by a listing's address, city, state, and zip code.

```
exports.getListingsBySearch = function(q, cb) {

 var sql = "SELECT listing_id, address, city, state, pincode, price ";

 sql += "FROM listing ";

 sql += "WHERE ";

 sql += "LOWER(state) LIKE LOWER('%" + q + "%') OR ";

 sql += "pincode LIKE '%" + q + "%' OR ";

 sql += "LOWER(city) LIKE LOWER('%" + q + "%') OR ";

 sql += "LOWER(address) LIKE LOWER('%" + q + "%')";

 db.runquery(sql, cb); // Send query string and callback function

 }
```

- Below is a conversation between the back-end team for the peer review



5) Self-Check: Best Practice for Security

- For our application, the major assets we are protecting are the emails and passwords of the users. Usernames and passwords are encrypted in our application to protect user identity and privacy. We value our users' privacy and encrypt the usernames and passwords, so their personal information will not be stolen from our database and used in a malicious way.

- To protect users, we are encrypting user passwords in our database. To encrypt the user passwords, we are hashing the concatenation of the username and password. This ensures our users' personal information.

- We are also validating search input, to ensure a better user experience. We will be checking for invalid search inputs and results not found in the database.

```
<p>Your search returned <%= data.length %> results</p>

        <!-- If zero listings were found, display featured listings -->
        <% if(data.length !== 0) { %>

            <div class="row">
                <div class="col-sm-12 searchResults">
                    <!-- Display table of search results using ejs  -->
                    <div id="searchResultsTable">
                        <% include ../partials/searchResults.ejs %>
                    </div>

                </div>
            </div>
```

6) Self-Check: Adherence to Original Non-functional Specs

1. Application shall be developed and deployed using class provided deployment stack **DONE**
2. Application shall be developed using pre-approved set of SW development and collaborative tools provided in the class. Any other tools or frameworks must be explicitly approved by Anthony Souza on a case by case basis. **DONE**
3. Application shall be hosted and deployed on Amazon Web Services as specified in the class **DONE**
4. Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of all major browsers: Mozilla, Safari, Chrome. **DONE**
5. Application shall have responsive UI code so it can be adequately rendered on mobile devices but no mobile native app is to be developed **DONE**
6. Data shall be stored in the MySQL database on the class server in the team's account **DONE**
7. Application shall provide real-estate images and optionally video **DONE**
8. Maps showing real-estate location shall be required **DONE**
9. Application shall be deployed from the team's account on AWS **DONE**
10. No more than 50 concurrent users shall be accessing the application at any time
11. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users. **ON TRACK**
12. The language used shall be English. **DONE**
13. Application shall be very easy to use and intuitive. No prior training shall be required to use the website. **DONE**
14. Google analytics shall be added **ON TRACK**
15. Messaging between users shall be done only by class approved methods and not via e-mail clients in order to avoid issues of security with e-mail services. **DONE**
16. Pay functionality (how to pay for goods and services) shall not be implemented. **DONE**

17. Site security: basic best practices shall be applied (as covered in the class) **DONE**
18. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development **DONE**
19. The website shall prominently display the following text on all pages *"SFSU Software Engineering Project, Fall 2017. For Demonstration Only"*. (Important so as to not confuse this with a real application). **DONE**