SW Engineering CSC648/848 Section 01 Fall 2017

Milestone 2
Future Homes
Local Team 10

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1. **Data Definitions**

a. *property listings*: Future Homes' shall list many different types of property, including: homes, apartments, condominiums, townhomes and homes for rent.

b. *account:* Real estate agents, real estate firms, and buyers/browsers shall be able to create an account, which shall include features unavailable to those without an account (i.e. contact agent, save listings).

c. *step-by-step guide*: When a user is undergoing account creation, there shall be a set of instructions for the user to follow for successful account creation. Each step shall have a specific description, and each specific description shall be displayed at the appropriate step of account creation.

d. *search tools*: Allows the user to specify the type of homes that shall appear in a more detailed way.

e. *primary search bar:* An input bar which prompts the user to enter a city or zip code.

f. *minimum number of rooms:* A feature of the search tools which shall prompt the user to add or subtract the minimum number of rooms.

g. *guests:* a registered or unregistered user.

h. *features bar:* another input bar which shall accept additional features of a home if applicable.

i. *maximum price:* Another feature of the search tools which shall allow the user to choose from a range of prices, making the displayed homes the ones with maximum price.

j. *user dashboard*: Users with an account shall have access to a dashboard, where they shall be able to: view their inbox communications; and view property listings that they have saved.

k. *seller dashboard*: Sellers shall have access to a dashboard, where they shall be able to: view their inbox communications; view property listings that they have posted; and edit or archive their past property listings.

l. *comparisons:* If any user would like to compare listings, they can select up to four listings to be viewed side by side. This will enable them to easily compare their top choices.

2. Functional Requirements

1.1 Guests shall be prompted to enter a city or zip code into the search bar. Priority 1.

1.2 If guests enter an invalid address then the search bar will give the user suggestions of the correct addresses which is similar to the invalid address. Priority 1.

1.3 If the user enters address with spelling errors then the search bar will give options of correct addresses with the similar spellings. Priority 1.

2.1 Guests shall have access to a features bar which will further sort the listed homes. Priority 1.

2.2 Guests shall have access to view the listings in a grid or list view. Priority 3.

2.3 Guests shall specify their desired minimum number of rooms of a home and see those homes first. Priority 2.

2.4 Guests shall specify their desired maximum or minimum price of a home and see those homes first. Priority 3.

2.5 Guests shall be able to sort the homes from lowest to highest price, highest to lowest price, most recently added, or most to least amount of rooms. Priority 1.

3.1 Guests shall be able to enter specific keywords such as "pool" or "ranch style" and only see those homes. Priority 3.

3.2 Guest shall be able to enter keywords such as "pets allowed" to only view the listings which allows the pets. Priority 3.

4.1 Guests shall have access to information about the listing's real estate agent. Priority 1.

4.2 Guests shall have details about the house such as: house picture, address, and value of the house. Priority 1.

5.1 Registered users shall be able to submit a form providing their name, phone number or email, and additional comments if preferred in order to send to a real estate agent. Priority 2.

5.2 Registered users will be able to get in contact with the seller when the seller initially contacts the registered user. Priority 3.

6.1 Sellers shall have an inbox of forms submitted by potential buyers. Priority 1.

6.2 Sells shall be able contact the buyers who are interested in their listings. Priority 1.

7.1 Future Homes' website shall list homes, rooms for rent, pieces of land, condominiums, apartments, and townhomes that are available or have been recently sold. Priority 1.

8.1 Future Homes' website shall enable users to register for an account if desired. Priority 2.

9.1 Future Homes' website shall provide additional features for a registered user such as a save-for-later feature, pictures of sold homes, and more. Priority 2.

10.1 Sellers shall be required to register before uploading any sort of listings. Priority 1.

11.1 Guests shall have the ability to flag an inappropriate listing. Priority 2.

11.2 Guests can flag houses due to multiple reasons, if they see and duplicate listing, listing for a sold house, and etc. Priority 3.

12.1 Admins shall have the ability to view flagged listings and take them down if necessary. Priority 2.

12.2 Admins shall have the ability to view the message of the listings to see why it was flagged. Priority 3.

13. Users shall use side-by-side comparison feature to compare specs/previews of up to four homes all on one page. Priority 3.

3. UI Mockups and Storyboards

Case 1: A realtor, David, is using our website to list their new homes in the area. Upon entering the website, he presses the "sign in" button on the upper right hand corner.

David then enters his email and presses submit. He is then prompted to create a password and he will check the box since he wants to create an account as a realtor.

Now, as a registered realtor, David can upload his listings. After going to his seller dashboard, he presses "upload."

Upon pressing upload, David can enter the information of his listing and submit it to the database.

Case 2: Jack is a registered user who wants to go back to the listings that he has favorited. He enters Future Homes website and signs into his existing account.

Future Homes   BUY SELL RENT   [sign in]

Login or Register   ✕

[enter your email]

[submit]

Future Homes   BUY SELL RENT   [sign in]

welcome back!   ✕

[enter your password]
[Enter]

Jack can see his previously selected favorite listings upon pressing on the upper right hand corner on the button that will be labeled "Jack."

Future Homes   BUY SELL RENT   user

favorited listings   more homes around you...
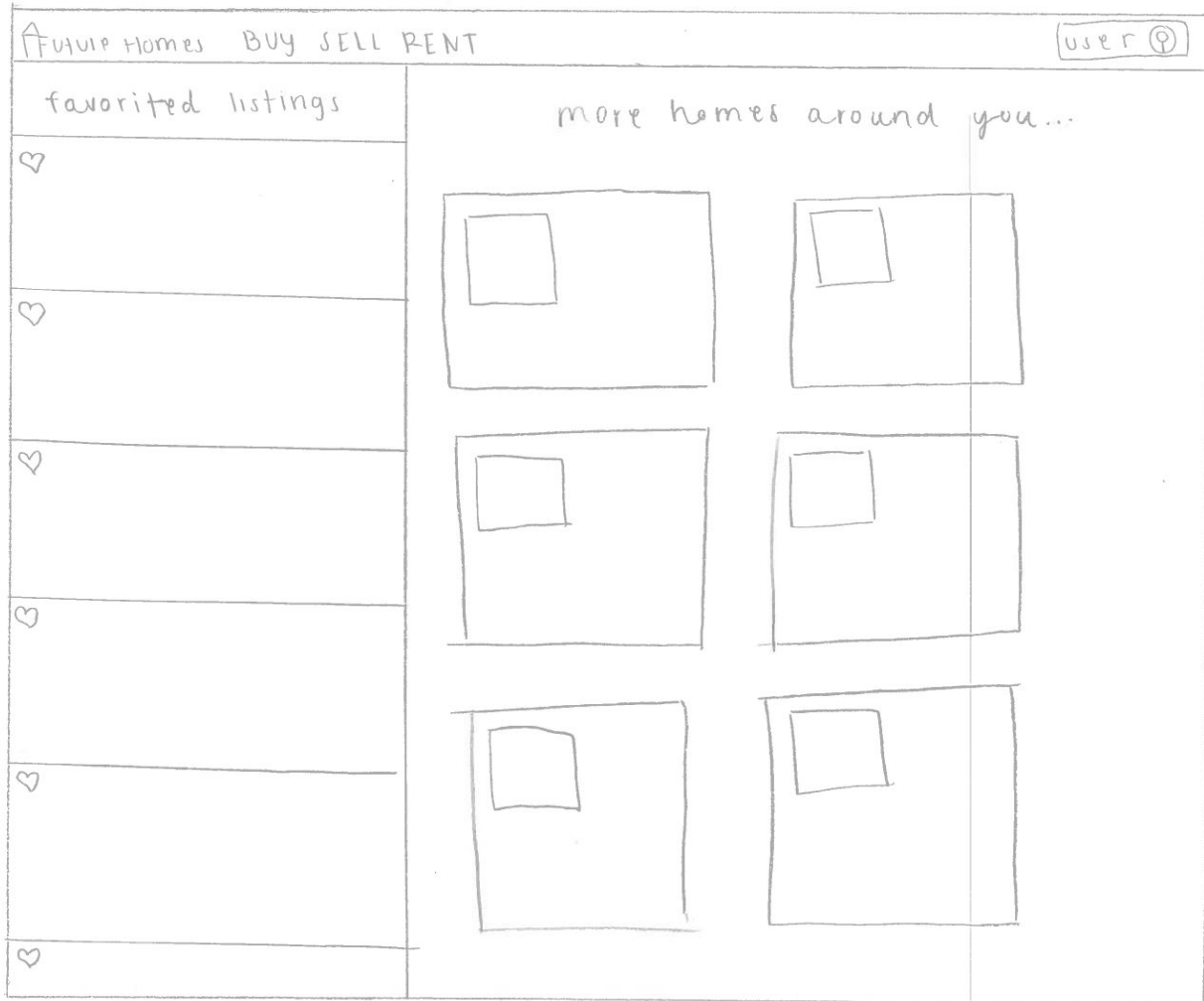
Jack sees that he really likes this home on 9th avenue. Since he is a registered user, upon filling out his information on the contact user section of a listing, his form will be sent to the realtor.

Future Homes   BUY SELL RENT   sign in

San Francisco, CA

◄ back to search results   save this home   ♡
                                             add for comparisons +

contact Agent

full name

email

phone number

additional comments

send form ——— If an unregistered user clicks it will prompt guest to log in

$900,000   4 bedrooms 3.5 bathrooms   2,100 square feet

711 9th Avenue
San Francisco
California, 94109

Map

Case 3:

A potential buyer Lisa stumbles upon our website, and is asked to "enter a city or zip code"; in order to search for homes that are on the market in her specified city. Immediately after pressing the search icon to the right of search bar, she will be redirected to the Listing Page.

Home page

While on the listing page Lisa will be able to use filters in order to customize her search. For example there will be tabs on the top of the page in order for Lisa to specify price range, number of beds/bathrooms, type of listing, and whether to sort in ascending or descending order. Lisa then browses through the homes listed below based on the parameters she specified.
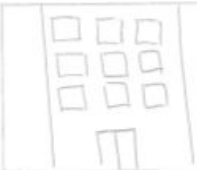
Listings
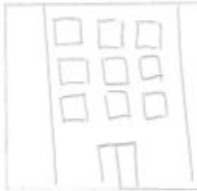
Case 4:

A potential buyer Sarah has selected a home from the Listing's page. She is redirected to a page that gives further details regarding the home selected.

Sarah then decides to add the selected home to her personalized "comparisons" by pressing the "add to comparison +" button on the top right of the page. This is the fourth house Sarah has added to her "comparisons".

Future Homes   BUY SELL RENT   Sign in

San Francisco, CA

◄ Back to search results   Save this home ♡

                add for comparisons +

111 10th Avenue
San Francisco
California, 94109

Map

9th Ave
8th Ave
10th Ave
11th Ave

Featured nearby homes

101 Julie ln	888 san jose st	510 Aspen dr.
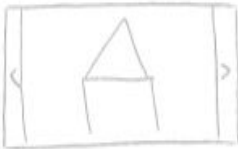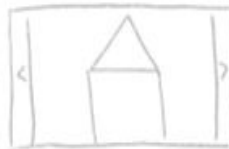
Sarah goes back to the Listing's page and presses "See your Comparisons" which redirects her to the her personalized comparisons page.

Sarah then sees a side by side comparison of the four homes she has selected. The homes are compared by price, number of bedrooms and bathrooms, and any other special attributes such as having a tennis court, or pool, etc. Sarah will also view four separate maps of showing the relative location of each separate house

comparisons

⌂ Future Homes	BUY SELL RENT		sign in

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comparisons

⌂ Future Homes   BUY SELL RENT   sign in

your side-by-side comparison

A	B	C	D
$500,000	$600,000	$700,00	$800,000
2 bedrooms	3 bedrooms	4 bedrooms	5 bedrooms
1 bathroom	1.5 bathrooms	2 bathrooms	3 bathrooms
features:	features:	features:	features:
· A+ nearby schools	· walking distance to stores	· pool	· 2 car garage
· pool		· basement	· A+ schools

(maps) →

4. High Level Architecture, Data Base Organization

Model – Uses mySQL and BLOBs for data organization
- Real_state_agent account
  - Organization name
  - Employee ID
  - Listing
    - Street
    - City
    - zip_code
    - state
    - image
    - price

View – Uses HTML and CSS for display

- Search Result Page
- Login Page
- Logged in user page
- Contact seller/renter page
- Listing page
- Main Page

Control – Uses Node.js for control

- Search Module
  - Parse the "name of the location" string and categorize them into 'street', 'city', 'zip_code' and 'state' and search houses based on similar street, city, zip and/or state and information will be sent to "View" section of the codes
  - Will use % wildcard to roughly output result that contains the certain keyword
- Listing Module
  - Generate a new page for the new listing of a house/apartment and the result will be sent to the "View" section of the codes
- Contact Module
  - Email the seller/renter the information given by potential renter/buyer, which the information will be
    - Name
    - Contact e-mail (optional)
    - Contact phone number

- Message
- Create Login Module
    - Generate an account by the given information
        - User name
        - Password
        - Employee name
        - Organization
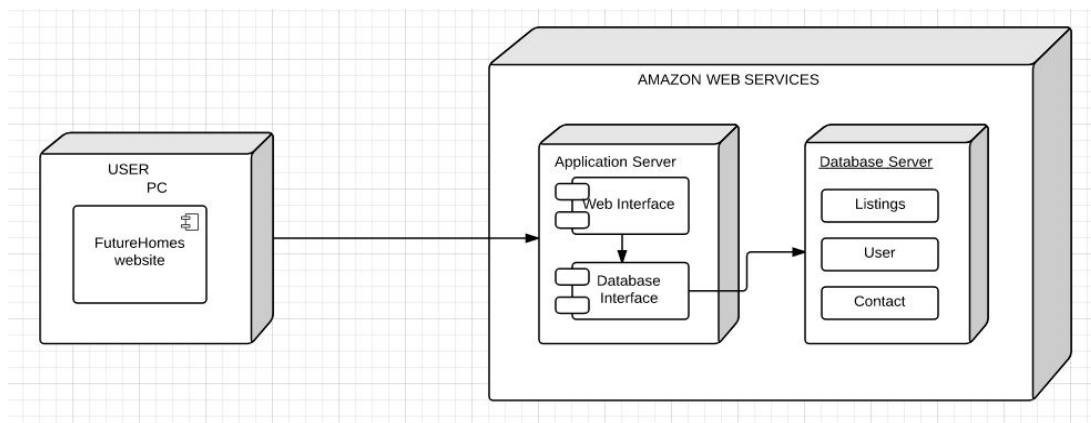   - Employee ID
- Login Module
    - Pulls user information and allows modifications to the user account and send user information to "View"

5. High Level UML Diagrams
a) UML Class Diagram
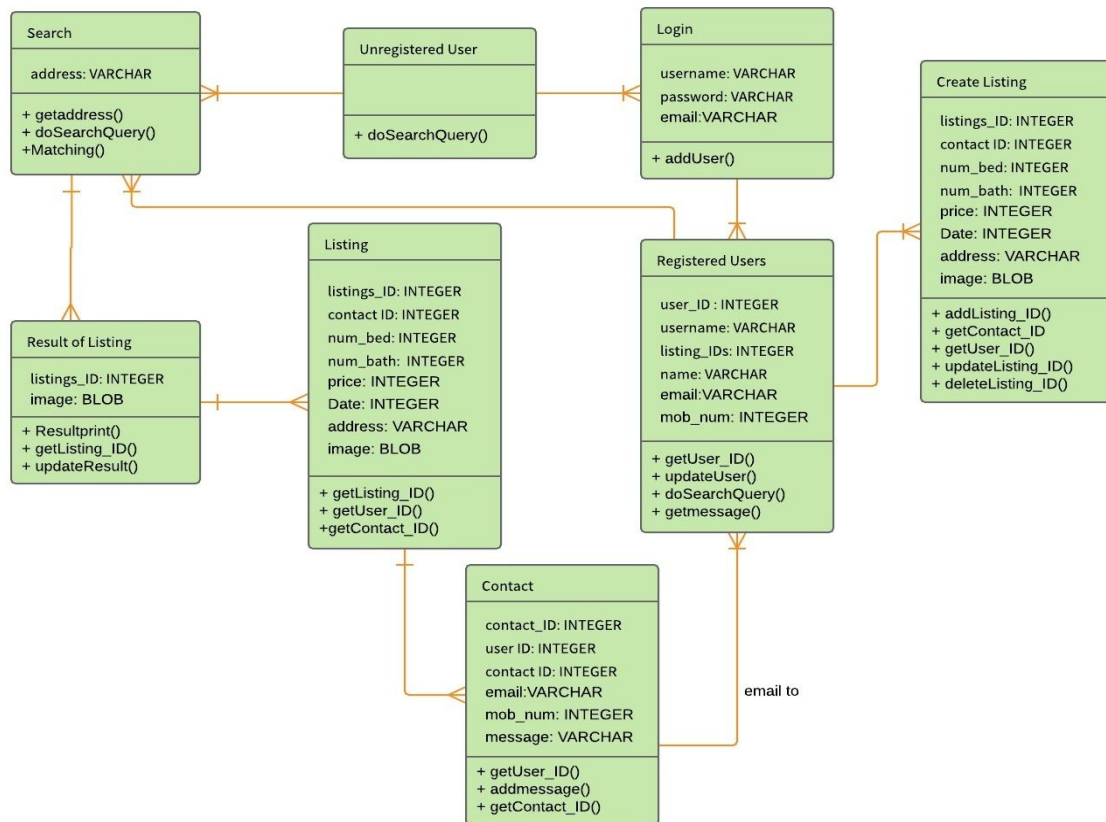
b) Component Diagram and Deployment Diagram

5. Key Risks

    i. Skills
        1. MySQL, BLOBS, and Node.js are all new to our team. We have read about them as much as possible before beginning the development; however, there will always be a learning curve, therefore, a potential risk is being able to properly

    ii. Schedule
        1. As long as there are checkpoints and smaller sub-projects each week, the scheduling of this project should have no risks.

    iii. Technical
        1. There should be no technical risks unless a third party host is having difficulty with the server (i.e. Amazon Cloud).

    iv. Teamwork
        1. It is a difficult task for multiple software engineers to work together on one final product due to the many conflicting opinions that will ensue. As of right now, there is difficulty on getting a prototype to work; therefore, a risk is that team members will try to do a task on their own.

    v. Legal/content
        1. There are no huge risks for legality in this project. We will ensure that the pictures of homes are not copyright and/or we have permission to use them. The format of a real estate website does not have a patent on it so we may use the same format as other websites freely.