

Milestone 2

SW Engineering CSC648/848 Summer 2020

Housing State

7/8/2020

Team 5

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- Buu Phan (github)
- Sarah Nafees (frontend)
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Prioritized Functional Requirements

Must have

1. All users shall be able to search and view listings.
2. Users are required to register to contact seller or create a new listing
3. Users shall register or login using their SFSU email and password
4. Users shall provide information of the listing like the cost, pictures of the rooms, and contact info
5. A new listing is required to be approved by the admin to be posted on feed
6. Users shall provide information of the listing like the cost, pictures of the rooms, and contact info
7. Admin shall have access to the database and most content. They need to login or register.
8. Admins shall not be able to view registered users' password
9. System shall not support any type of payment system.
10. System shall store all data of users and room listings in a secure database.
11. System shall show all descriptions of listings to all users
12. System shall be able to provide a secure way to communicate

Desired

1. Registered users shall have a profile page and be able to upload/change/delete their profile picture, and provide a short biography
2. Registered users shall be able to edit their listing preferences and see their account information
3. Registered users shall be able to check their dashboard for any messages/comments
4. Registered users shall be able to edit or delete their post
5. Users shall be contacted/be able to contact by one in-site message or by email

Opportunistic

1. User shall be able to report another user for inappropriate language
2. Admins shall be able to suspend the users
3. System shall provide a map of where the listing is located
4. System shall be able to provide listings similar to user's preference

Main Data Items & Entities

Mantasha 7/3

1. User: A user who will be able to register and create an account only with the SFSU email address. The email address will be validated since this website will be exclusively for SFSU students and faculties. The user will be able to create or inquire about a listing by contacting the seller. There will be different types of users that are admin and registered users.
2. Admin: The user whose approval will be required for a post to show in the listings. This user will have access to all the information stored in the database of the other users who will add listings to the website. Admin will be able to go through the records that were stored from the registration.
3. Registered User: A user who will be able to post listings for SFSU people to buy or rent. They will be able to create separate accounts that only allow them to login, post and contact the buyers.
4. Feed: This is the page where all the listings could be seen with the latest post being on the top of the page. This page will have all general functions such editing the profile, searching through the post, and logging out of the account
5. Listing: This is an entity that will contain all the information required for a place on sale. It could be a house, apartment or studio. All the listings will appear on the feed for the registered users. They can contact the seller via the contact information provided or by replying to that post by message.
6. Message: The seller and the buyer can chat over here regarding any concerns for the listings.
7. Locating item: This will be a Map that will show where the listing is located which could be used to evaluate the distance of that place from the SFSU campus.
8. Profile: All the user will be able to see their account information and edit any preferences.

UI Mockups & Storyboards

Sarah & Kamelia todo by 7/7

Home page: users are able to view updated feed of listings, search a location, or sign in/register.

Home Page

Housing State

[Sign In](#)

Name 2 Bed/2 Bath available. Message for details.

Like/Comment

Sign in page: Returning users will sign in with SFSU email/password. New users can register.

Sign in Page

Welcome!

[Home](#) [Sign in](#) [Messages](#)

[Sign in](#)

SFSU Email

Password

☐ Remember me [Log In](#)

[Register](#)

SFSU Email

Password

☐ I accept Housing State's terms and conditions [Register](#)

Add Listing: Registered users can create a new listing to be posted on the home page after admin's approval.

Create New Listing

Add Listing

Home **Profile** Messages

- Your Listings
- [Post Listings](#)
- Settings
- Your Listings
- Likes
- Sign Out

Post Your Listing!

Are you student or faculty?

☐ Student

☐ Faculty

Enter Address

Write Description

File browser

Chose file Browse

Post

Users Listing: Registered users can view their posted listings under the Profile tab

Users Listings

Housing State

Home **Profile** Messages

- [Your Listings](#)
- Post Listings
- Settings
- Your Listings
- Likes
- Sign Out

Your Listings

1 Goodbridge Lane San Francisco, CA 94112
Posted on 2/23/19
[Edit](#) [Delete](#)

2 582 Golden Ridge Road San Francisco, CA 94121
Posted on 8/13/20
[Edit](#) [Delete](#)

3 7182 River Ave. San Francisco, CA 94121
Posted on 12/18/20
[Edit](#) [Delete](#)

4 2445 North Avenue San Francisco, CA 94121
Posted on 4/10/20
[Edit](#) [Delete](#)

Messaging: Registered users are able to see/reply to messages or compose a new message.

Messages

Messages

[Home](#) [Profile](#) [Messages](#)

Your Messages

[New Message](#)

Your Messages!

John Smith

Hi, can I get more info?

[Go to Profile](#) [Go to Message](#)

Madelin Mitchell

Hello! I'm interested.

[Go to Profile](#) [Go to Message](#)

Alex W.

Is this listing still available?

[Go to Profile](#) [Go to Message](#)

New message

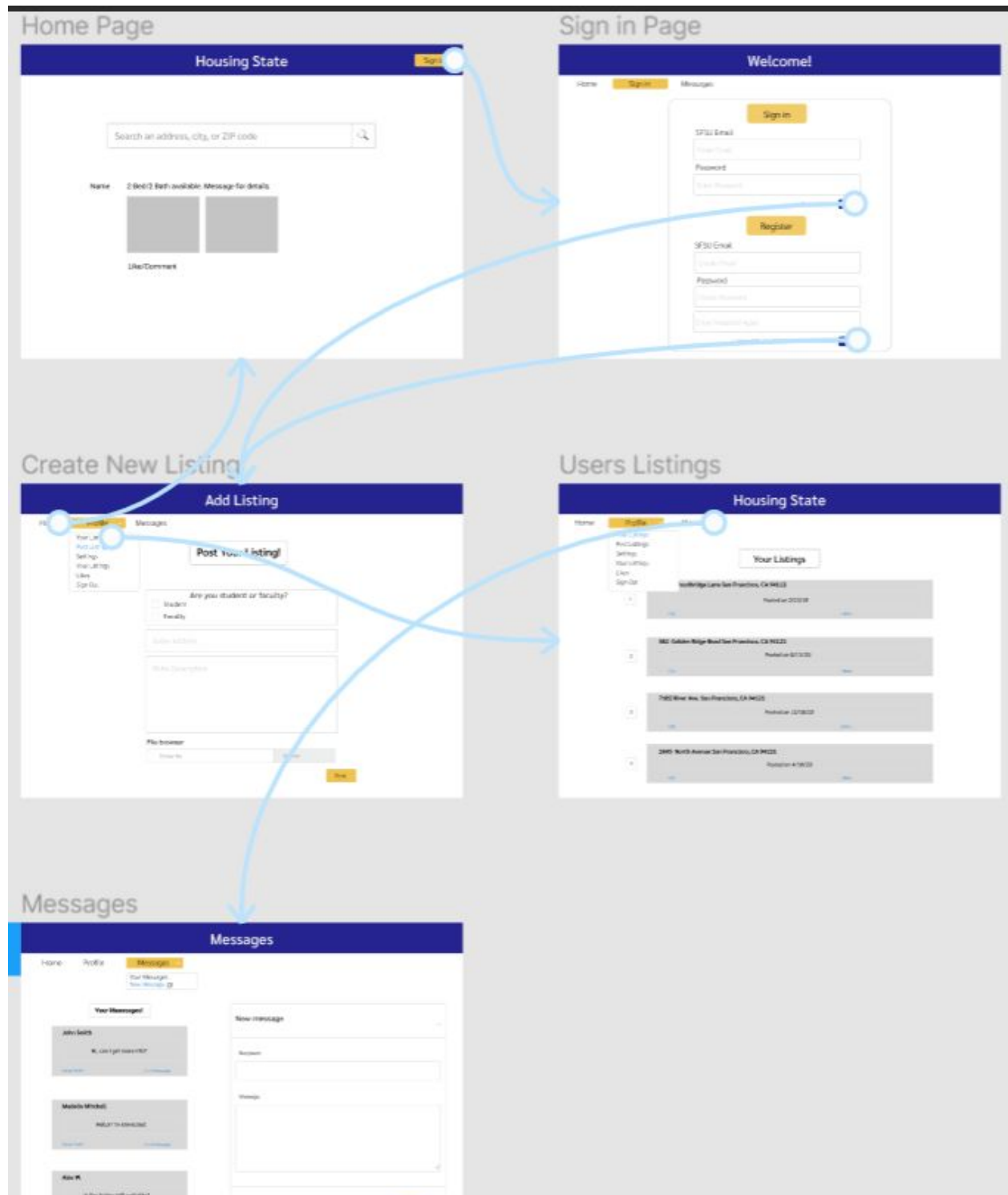
Recipient:

Message:

Cancel

Send

Storyboard



High Level Architecture & Database Organization

Mantasha, Nick todo

Tables

User

Name	Type	Kind	Description
id	tinyint	pk	
email	varchar	pk	
first_name	varchar	nn	
last_name	varchar	nn	
Password	varchar	nn	
Type	varchar		(stu/user)
Verified	bool		T/F
created_at	timestamp		
updated_at	timestamp		

Listing

Name	Type	Kind	Description
id	tinyint	pk	
user_id	tinyint	fk	
address	varchar	nn	
zip_code	int	nn	
Street	varchar	nn	
apt_suite	varchar		

state	char	nn	
cost	int	nn	
type	varchar	nn	house/apt/studio
lease_length	int		Number of months
offer_type	varchar		rent/sell
bedroom_num	int	nn	
bathroom_num	float	nn	
furnish	boolean		furnished/ not furnished
area	float		
available_at	date		
created_at	timestamp		
updated_at	timestamp		
Description	varchar(1000)		description of posting
media_image	tinyint		

Message:

Name	Type	Kind	Description
id	tinyint	pk	
to_user	int	fk	
from_user	int	fk	
text	varchar(10000)		
created_at	timestamp		
updated_at	timestamp		

Media Storage

Name	Type	Kind	Description
media_id	tinyint	pk	
relative_path	varchar	nn	pathway to image
object	BLOB		

We are going to try and store our media with BLOBs.

Search Filter Implementation

For our search implementation we will be using SQL %LIKE then the results will be filtered down by category searched.

We are checking against 5 parameters:

- Address entered in search bar: (fuzzy match with %like)
- Unit type: (apartment, condo, house)
- Offer type: (rent, buy)
- Number bedrooms
- Cost

In order for the result to be returned, at least one of the conditions must be met

API's

Every database object (user, listing, message, media) will have GET (get), POST (add), PATCH (update), and DELETE (delete endpoints)

We will also be using the google maps API to return distance from SFSU for each listing.

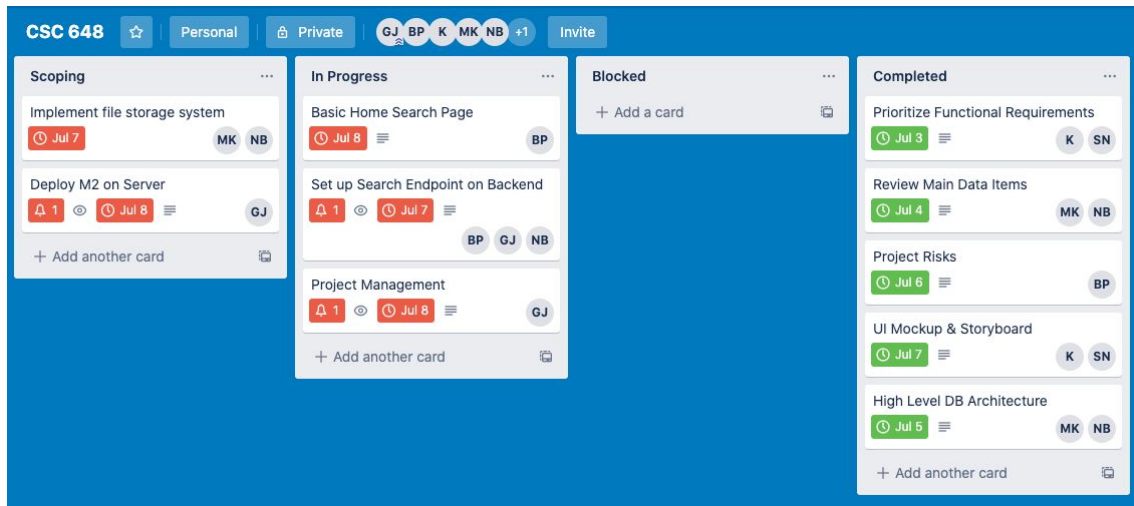
Project Risks

1. As the pandemic continues, real-life conflicts or unforeseen events could happen to the team and can delay the overall production speed. One absent member can lead the whole team to fall apart as the team no longer has the right mindset to continue or that they get angry because they have to take over another member's role. To counter this problem, we will start early and finish whatever we can before anything could happen to avoid as many issues as possible. We will also need to make sure that each member is ready to take over any member's part in case if anything happens.
2. Since we are no longer able to meet up with each other in real life, lack of communication and engagement might occur as we can only meet online via Zoom. Members can become too shy to speak up about their problems or too afraid to ask for help. By using Slack, we don't need to force people to speak up and minimize any fear or shyness that people might have since typing is less pressure for many people. We can also improve our team disengagement by using Slack since we can chat, share images, or post any discussions that we want to share without the need to use email to reach out to each other.
3. Not everyone in the team is familiar with the tools that we are using for this project and required some time to familiarize themselves with the tools before they get to start building the product. Especially when everything is online today, learning by themselves can be difficult for some people and will require a lot of time to learn the basics. If everyone is taking a long time to familiarize themselves with the material, then we will have less time for team discussing or review sessions as we have to be rushing to finish our product before the deadline. As a result, our final product might be poorly made and have tons of bugs. Learning for many people can get a lot easier if they can get some help from other people. As a team, we need to make sure that everyone is on the same page with whatever they need to learn and help each other out if possible. We also need to give those who need to learn a suitable and comfortable learning time to get familiar with the materials to ensure that they know what they are doing rather than letting them copy and paste.
4. As we add more and more features to the product, we spend more time and effort on writing codes for them rather than testing out our current product. Lack of testing could lead our final product to become unstable and not function correctly. To avoid this problem, we will test and review our product multiple times to ensure that everything is fully working before we add a new feature to it. Doing so will allow us to have more time to fix any bugs we have before the deadline and be less stressed when we add more features to it.

Project Management

In order to stay aligned and execute effectively, we are doing the following:

- Tracking all of our major tasks on Trello



- Meeting after class on Monday/Wednesdays in a “standup” fashion to discuss completed tasks, current tasks, and future tasks.
- Team lead hosts working sessions to collaborate and help each group member share knowledge. This can also create more buy-in from team members.
- Assign one team member a lighter load and use them as a “flex” worker who can go around and help others who have become blocked.
- Make sure the team has consensus on any new tools added to the tech stack
- Engage in rigorous PR review