

# Milestone 1

SW Engineering CSC648/848 Summer 2020

## Housing State

### Team 5

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- Buu Phan (github)
- Sarah Nafees (frontend)
- Mantasha Khan (backend)
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## Executive Summary

San Francisco is one of the most expensive cities in the U.S. right now. Rent and/or buying a home has skyrocketed from affordable to downright outrageous. Whether you're dealing with flakey landlords or getting outbid on a studio with no bathroom, it can be extremely hard. Luckily a new option will be available to everyone attending San Francisco State University called Housing State. Housing State is a web application designed for students and faculty to find a new cozy home ideally close to their school or workplace. There are many other applications already available to help one find an apartment to rent or buy, but Housing State is unique because it is created specifically for students and faculty. Housing state takes in account how close knit our community is and through alumni, networking, and outside benefactors it will help one find the perfect home for the right price, in the right place.

What sets Housing State apart from other web applications is the community in which it has been created, but also the simplicity that the app provides. Looking at other large websites can get overwhelming with all the options that developers provide. Housing state is simplistic and straight forward. Here is what's out there, and here is what you can get. Simplicity is key to ensuring that all ages can use the site functions without having to think too much on how they work. Other sites also will let scams and fraudulent postings poison their website. We realize how important students and faculties information is, so our application takes this into account. Due to outside participants that may not attend SFSU, whether its landlords or housing companies, having the ability to post onto the application we came up with the feature called "administrator double check". This feature will make it so every post has to be screened and approved by an administrator. Once the administrator ensures that only viable non fraudulent information is being posted it will then be added to the website. Another key factor that our application will provide is that ability to filter through rentals and see if students or faculty are looking for roommates. When running around campus one will notice fliers for vacancies in a house to fill a bedroom. Since rent is so high this is sometimes the best route to take when wanting to cut costs. When signing a rental up on the application we will have an option that must be filled out to specify if the rental is a full house or if it's a student/faculty member looking for roommates. This will ensure that all available options are being provided to our community. Our app will also take into account if it's a student looking for roommates or faculty. This is set in place to provide an optimal living situation for both groups. By doing so students will only be able to live with fellow students and vice versa for faculty. Using our web application will provide optimal avenues for students and faculty alike. By bringing in outside avenues and also using the community to rent, buy, or sell a home anyone attending or working at SFSU should be able to find a buyer or new place to live.

Our team understands the hardships and misfortunes that one must go through when finding a new home. This has motivated us to come up with something streamline and easy for our users to use, while also benefiting students, faculty, and buyers alike. Being that some of us live in the San Francisco and other bay area locations, we realize what makes a great app.

From using the community of students within SFSU to outside avenues, we will be able to facilitate a good experience for all.

## Personae

### Dylan

- Characteristics
  - SFSU student
  - Avid gamer
  - Transfer student, will be a junior
  - Not loyal to brands
  - Willing to try new things
  - Skateboarder
- Goals
  - To find places and set up tours before moving to SF
  - To live with other like minded students
- Skills
  - More mobile than www experience
  - Above average techy-ness



Image from [thispersondoesnotexist.com](http://thispersondoesnotexist.com)

### Sophie

- Characteristics
  - SFSU student
  - Works at SFSU housing office
  - Involved in several student organizations
- Goals
  - Excel in her classes
  - Have a positive impact on the student body
- Skills
  - Average tech experience
  - Most familiar with www sites



Image from [thispersondoesnotexist.com](http://thispersondoesnotexist.com)

### Minji

- Characteristics
  - Professor and grad student at SFSU
  - Doing research while teaching
  - Avid Biker
- Goals
  - Find affordable housing
  - Live close within biking distance to campus
- Skills
  - Knows a small amount of programming
  - Most familiar with www sites

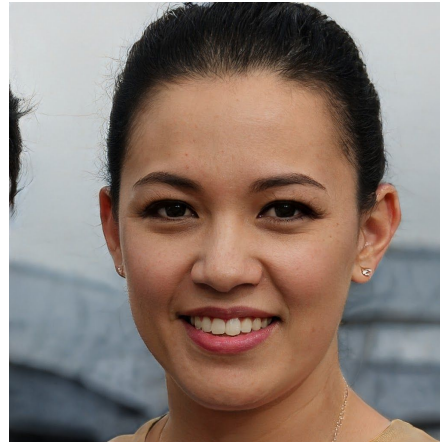


Image from [thispersondoesnotexist.com](http://thispersondoesnotexist.com)

### Francis

- Characteristics
  - Retired homeowner
  - Wants to live abroad
  - Father
- Goals
  - Rent house for passive income
  - Keep house in good condition to leave to his kids
- Skills
  - Not tech savvy



Image from [thispersondoesnotexist.com](http://thispersondoesnotexist.com)

## Use Cases

**Dylan** is a transfer student coming to SFSU who completed his first two years of school at a community college near his home in San Diego, California. Eager for more freedom and independence, Dylan wants to live in an off-campus house- hopefully with roommates who share his passion for architecture. Dylan is looking to start his search for housing from the comfort of his home in San Diego. Dylan starts his search off on craigslist but is frustrated with the huge number of listings to sort through, as well as the myriad of mislabeled posts. Dylan heads over to Housing State and immediately notices that all the postings are by SFSU students, for SFSU students. Dylan visits the site and filters for postings within skateboarding distance from school, and within his price range. After reading the bios of the postings shown, Dylan narrows his list down to 10. He responds to each posting to set up an in-person tour for his first week in SF.

**Sophie** volunteers her time at the SFSU student housing office to help ensure her fellow classmates' housing needs can be met. After living through a less than ideal roommate situation, Sophie became committed to making sure everyone can find safe and affordable living options. The SFSU student housing office maintains a list of housing sites that have been condoned by the school. Sophie would like to take this further and use a service that was built specifically for SFSU students. Sophie was contacted by the site administrators and asked to vet the site to make sure it contained only safe and relevant postings. Sophie was also given admin privileges to remove any postings that did not comply with site rules. At the end of every day, Sophie reads through the unapproved listings and reviews them one by one.

**Minji** just finished her undergrad at SFSU but is looking to further her education and receive her master's degree. To help cover her costs she decides to teach a class as well. Minji wants to live on her own, and within biking distance of campus. She logs onto the site and searches for single bedroom listings within a 5 mile radius of campus. After reading through some descriptions, she identifies a quaint studio for a reasonable price. She contacts the owner of the posting and they set up time to take a tour of the house.

**Francis** has just left the workforce and is starting his first year of retired life. He hopes to cross off his bucket list goal of living in another country for a couple of years, but eventually wants to return home to be with his extended family. Francis hears about the site and realizes he can post his home for rent, since it is close to campus. Francis creates a posting and is informed he was to wait for admin approval before his posting goes live. After the posting is approved the next day, Francis is contacted by over 20 students expressing interest in renting his house.

## List of main data items and entities

1. 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.
2. 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.
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.

## Initial list of functional requirements

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. Registered users shall have a profile page and be able to upload/change/delete their profile picture, and provide a short biography
5. Registered users shall be able to edit their listing preferences and see their account information
6. Registered users shall be notified when another user sends a message or comments on their listing
7. Users shall provide information of the listing like the cost, pictures of the rooms, and contact info
8. Registered users shall be able to edit or delete their post
9. Users shall be able to keep records of chats after closing or reopening the webpage.
10. User shall be able to report another user for inappropriate language
11. Admin shall have access to the database and most content. They need to login or register.
12. A new listing shall be approved by the admin to be posted on feed
13. Admins shall be able to suspend the users
14. Admins shall not be able to view registered users' password
15. System shall store all data of users and room listings in a secure database.
16. System shall not support any type of payment system.
17. System shall provide a map of where the listing is located
18. System shall show all descriptions of listings to all users
19. System shall be able to provide a secure way to communicate
20. System shall be able to provide listings similar to user's preference

## List of non-functional requirements

1. The application shall be in English.
2. The application shall be simple and user friendly.
3. The application shall display the exact text "SFSU Software Engineering Project CSC 648-848, Spring 2020" on top of the page.
4. The application shall be deployed in AWS.
5. The application shall render well in both desktop and mobile browsers.
6. The application shall only be for SFSU students and teachers.
7. All users' data shall be stored in MySQL.
8. All users' data shall be encrypted and protected equally. Only the user themselves can review and edit their data.
9. All posts shall be reviewed by admins before posting.
10. Google API shall be used.
11. No payment function shall be added.
12. Best practices for security and privacy shall be applied.



## Competitive Analysis

	Our website	Zillow	Redfin	Facebook Housing
Search Bar (neighborhood, address, city, etc.)	X	X	X	
Rent Housing/Sell Housing	X	X	X	X
Buy Housing	X	X		
Roommate Option	X			X
Agent Finder		X	X	
Administrator Double Check	X	X	X	
For SFSU Students/Faculty Only	X			

Our main competitor is Zillow, and although we share similar features we have a “find roommate” feature that will make housing much easier for people. This feature will allow the user to filter through listings and have the option to choose student/faculty roommates. They will also be allowed to filter through people who share similar interests, and this will benefit users by giving them their ideal living situation.

## High level system architecture and technologies used

### Tech Stack

#### Frontend

- React
- Express
- SCSS
- Webpack

#### Backend

- Node.js
- MySQL

#### API

- Google maps

#### Deployment

- AWS EC2

## Team and Roles

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## Checklist

Item	Status
All team members attending Zoom	✓
Found a slot outside class to meet	We did a doodle poll, but not everyone was free at the same time. We have a couple times most of us are free though.
Decided on stack	✓
Organized github	✓
Team learning about frameworks to be used	Honestly not sure about this one. I will be following up with my team regarding this.

