# SW Engineering CSC648/848 Summer 2020
# Chillow
# Team 6

Team Members:
Valdemar Puente-Gonzalez (Team Lead)
vpuentegonzalez@mail.sfsu.edu
Daniel Belmeur (Front-End Lead)
Sean Ellis
Philip Smith (Back-End Lead)
Salah Ali
Karan Gurung (Git Master)

Milestone 1
25 June 2020

| Revisions: |
| --- |
| 28 June 2020 |

# Table of Contents

# Executive Summary

Our mission at "Chillow" is to rethink the apartment hunting market for college students and staff. Chillow is a website poised to reach great heights by revolutionizing the apartment hunting market, specifically for students and staff at San Francisco State University. Our site helps to match students and SFSU staff with renters ready to lease and sell to students and SFSU staff, all at a convenient distance from campus.

The problem being faced by students and staff at San Francisco State is that all housing and rental sites are too broad. There has not been any site created specifically with the goals and interests of college students and staff. The housing market is a fast paced ever changing market with places popping up and disappearing in an instance. By limiting our site to students and staff, we can bring forth a more tailored experience. Our specially tailored search engine helps students and staff find housing. This search engine will help the users to find a great community and really get to explore their neighborhood, from transportation, shops, and entertainment. We also added the feature to match international students or students who English is their second language together with sellers of their native language.

At Chillow we are a small team of diverse, highly motivated, and reliable students at San Francisco State University. Our goal is to create a safe housing network for students and staff at San Francisco State. School is already hard, allow our team to relieve the burden of apartment hunting and deliver to you the best experience.

# List of Main Data Items and Entities

1. Registration record
   - Permissions ID [1, 2, or 3] (permissions of registration classified as follows):

   Administrator (1)
   - Attributes: First Name, Last Name, Email, Password
   SFSU User (2)
   - Attributes: First Name, Last Name, Email (must contain '@sfsu.edu'), Password
   Registered User (3)
   - Attributes: First Name, Last Name, Email, Password

2. Rental listing
   - Attributes: Address, Description, Pictures, Price, Unique ID of listing user, Approved by Admin (Y/N)
3. Messages
   - User ID of sender (must be student), User ID of recipient (listing user), Message Content, Date/Time Stamp
4. Login Queue
   - List of unique user IDs of users logged in (capped at 50)

# Personae and Main Use Case

| 1) **Student**<br><br>• goes to SFSU to achieve their desired goal<br>• most come from other cities, states, or countries to obtain their degree<br>• they come ready to face new challenges as independent adults<br><br>***Goals and Needs***<br><br>• to graduate as soon as possible for a satisfying career<br>• need a place to stay that is near campus<br>• as little commute to school<br>• safe neighborhood<br>• is ok sharing a room with fellow students<br>• homes near parks are preferred<br>• well-furnished homes<br><br>***Frustrations***<br><br>• long commute time that prevents students from getting to class on time<br>• time management issues |  |
|---|---|

Use cases for Student

1. Looking to Rent

   Anybody can browse the site and look for places to rent. Only when they are interested in renting a home or apartment, they will have to register to find more detailed information such as phone number and home features. Without registering on the site, the available places for rent will only display pictures posted by the landlord, the rental

price, address, and general information. Students will need to register with their student number and SFSU email. Anyone that tries to register with an invalid SFSU email and student ID will not be allowed to register as a student and instead shall be registered as a non-student user. Registered student users will be able to utilize all the features of the site that include but are not limited to sorting the listings of homes according to price, location, bedroom, bathroom, and size of the entire property. Other features for student users include estimated time to travel from that property to the school. Below the map will have an open house date if the student wishes to visit. Students can then contact the homeowner via email or text. They can also save listing for later review as well as being able to share the listing on social media.

2.  Host Family

International student and regular student looking for a host family situation will be able to look for one after they input a host family in search bar. Student will be redirected to page showing multiple host family. When they click on one, it will take them to the page that displays the contact information about the family and pictures of their home.

| | |
|---|---|
| **2) <u>Admin</u>**<br><br>• A selected individual by app owner<br>• Worked as admin in other apps or other pages<br><br>***<u>Goals and Needs</u>***<br><br>• Smooth running apps to deliver the best customer and student experience<br><br>***<u>Frustrations</u>***<br><br>• Rising security concerns |  |

<u>Use cases for Admin</u>

<u>Management Group:</u>

Admins are selected by app owner. They have gone through all the detailed features of the app and its functionality. After they sign with their admin credentials, they will have access to all pending posts. They will be allowed to go through each post and approve or deny the post to be published on the site. Denied posts will be returned to the user with a description on why it was denied. The admin will also be notified if the users flag any posts as scams or discriminatory. They admin will verify the validity of any flagged entries. Any users found posting fraudulent or inappropriate listings, photos, and more to the site, will be permanently blocks from the site. Admins will be authorized to add or remove any posts on the site.

| 3) **Landlord** | |
| --- | --- |
| <ul><li>They have a multitude of real estate and are looking to rent or sell</li><li>Have dealt with multiple other renting sites</li><li>Professional and transparent regarding the price to sell or rent</li><li>Have a good reputation among other renters</li></ul>***Goals and Needs***<ul><li>Tenant with reliable source of income and good credit score</li><li>No more than 2 pets are allowed in the apartment</li><li>Keeps the apartment and surrounding areas clean</li><li>Friendly family or individual is preferred</li></ul>***Frustrations***<ul><li>Tired of scammers contacting them on a regular basis</li></ul> |  |

Use Case

     A landlord can be anyone from SFSU or outside of SFSU. If somebody is looking to put an apartment or home for rent/sale on our site, they must be registered user. Admin will verify all information. After verification of the user's information is returned cleared. They can go on upload multiple pictures and write about the features of the rental unit. Once the apartment or house is taken off the market, it is the landlord's responsibility to notify our team, so the unit can be removed from available units.

| | |
|---|---|
| **4) <u>SFSU Staff</u>**<br><br>• Part-time or full-time worker at SFSU<br><br>• May be single or has a family<br><br>***<u>Goals and Needs</u>***<br><br>• Needs an affordable place nearby SFSU to commute faster to work<br><br>• A safe neighborhood with included garage or available street parking<br><br>• A unit that satisfies the needs of its renter in terms of square footage<br><br>***<u>Frustrations</u>***<br><br>• Non-availability of affordable housing | |

Use Case

Anyone currently employed at SFSU with a valid sfsu.edu email shall be allowed to rent/buy apartments or homes from Chillow. Since they are not a student they will be registered as staff and fill all required forms. They shall be afforded all the amenities of a non-registered user on Chillow but to move forward with contacting the landlord about renting/buying a home/apartment they shall be required to register. Admin will verify all the credentials/information provided by the staff.

# Initial List of Function Requirements

<u>1. Unregistered Users</u>
1.1 Users shall be able to browse homes on our marketplace
1.2 Users shall be able to search and browse by categories
1.3 Users shall be able filter by:
      1) Price
      2) Address
      3) Zip Code
      4) # of Bed/Bath
      5) Square footage
      6) Type of View
      7) Parking
1.4 Users shall be able to see rental listing information
1.5 Users shall be able to view reviews
1.6 Users shall be able to login and register to our site
1.7 Users shall be able to compare homes qualities
1.8 Users shall be able to determine local activities around property
1.9 Users shall be able to determine transportation availability
1.10 Users shall be able to see ratings
1.11 Users shall be able to utilize an in-home viewer
1.12 Users shall be able to share postings with friends

<u>2. Registered Users</u>
2.1 Registered Users have all functionality of a non-registered user
2.2 Users shall be able to sell, buy or rent property
2.3 Users shall have a transaction history on profile
2.4 Users shall be able to send messages to other users
2.5 Users shall be able to write reviews
2.6 Users shall be able to post listings
2.7 Users shall be able to reset their username or password
2.8 Users shall have a watchlist of favorite properties
2.9 Users shall have the ability to leave a rating after doing business
2.10 Users shall have all personal sensitive data saved on our servers encrypted

<u>3. Admin</u>
3.1 Admin Users shall have all functionality of a registered user
3.3 Admin shall be required to approve all posts
3.4 Admin shall ban suspicious users
3.5 Admin shall block suspicious posts

# List of Non-Functional Requirements

1. Application shall be developed, tested and deployed using tools and servers approved by Class CTO and as agreed in M0 (some may be provided in the class, some may be chosen by the student team but all tools and servers have to be approved by class CTO).

2. Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of two major browsers

3. Selected application functions must render well on mobile devices

4. Data shall be stored in the team's chosen database technology on the team's deployment server.

5. No more than 50 concurrent users shall be accessing the application at any time

6. Privacy of users shall be protected, and all privacy policies will be appropriately communicated to the users.

7. The language used shall be English (no localization needed)

8. Application shall be very easy to use and intuitive.

9. Google analytics shall be used

10. No e-mail clients shall be allowed. Interested users can only message to seller's vis in-site messaging. One round of messaging (from user to seller) is enough for this application

11. Pay functionality, if any (e.g. paying for goods and services) shall not be implemented nor simulated in UI.

12. Site security: basic best practices shall be applied (as covered in the class) for main data items

13. Media formats shall be standard as used in the market today

14. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development

15. The website shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Summer 2020. For Demonstration Only" at the top of the WWW page. (Important so as to not confuse this with a real application).

# Competitive Analysis

| Features | Homefinder | Rent | Trulia | Zillow | Chillow |
|----------|:----------:|:----:|:------:|:------:|:-------:|
| Searching/Filtering | + | + | ++ | + | ++ |
| SFSU Mapping | - | - | - | - | ++ |
| SFSU Exclusive | - | - | - | - | ++ |
| Financial Advising | ++ | + | + | + | - |
| Roommate Finder | - | - | - | + | ++ |
| Google Map Search | + | + | + | ++ | + |

**+** good        **-** not available        **++** excellent

The focus of Chillow is to minimize the stressors that San Francisco State University students and staff endure outside of the University. Our driving force is to create an environment that not only prioritizes students and staff within the housing market, but to diversify the experience and allow for any student and staff that joins the SFSU community to feel inclusive. Unlike traditional Rental websites, Chillow accomplishes this by enabling students and staff to connect and search with other students and staff that are in similar positions. This allows for students and staff to create their own comfortable environments with others who might share the same study field, work field, or even primary language. Other benefits that we provide, in comparison with other websites such as Zillow or Trulia, is an SFSU map that estimates campus distances. Chillow provides the tools to allow users to carefully plan out their distances from home to campus, giving students the ability to be closer to amenities. As an example, a registered user may choose to be closer to specific facilities such as the Fitness Center, or they may choose to be closer to the Computer Science hall where the majority of their studies may be. The aim and focus for Chillow is to diversify house-hunting for personal and unique searching, while prioritizing the student and staff community of San Francisco State University.

# High-Level System Architecture and Technologies Used

| Itemized List of all main Software Components | |
|---|---|
| Backend API | node.js |
| Database Management | MySQL |
| Deployment Platform | AWS (Amazon Web Service) |
| Frontend Framework | Bootstrap |
| Language | JavaScript |

# Team and Roles

| Name | Role(s) |
|---|---|
| Valdemar Puente-Gonzalez | Team Lead |
| Daniel Belmeur | Front-End Lead |
| Sean Ellis | Team Member Front-End |
| Philip Smith | Back-End Lead |
| Salah Ali | Team Member Back-End |
| Karan Gurung | Git Master |

# Checklist

1. So far, all team members are engaged and attending ZOOM sessions when requires?

DONE

2. Team found a time slot to meet outside of the class?

DONE

3. GitHub master chosen?

DONE

4. Team decided and agreed together on using the listed SW tools and deployment server?

DONE

5 Team ready and able to use the chosen back and front-end frameworks and those who need to learn are working on learning and practicing?

DONE

6 Team lead ensured that all team members read the final M1 and agree/understand it before submission

DONE

7 GitHub organized as discussed in class (e.g. master branch, development branch, folder for milestone documents, etc)?

DONE