Gator Housing

SW Engineering CSC648/848 Spring 2019

TEAM 03

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Table of Contents

1. History Table

Tasks	Completion Date
Milestone-01Submitted for Feedback	02/06/2019
Received Feed Back from Professor	03/10/2019
Milestone-01 Completed with changes	03/18/2019

2. Executive Summary

Our application, Gator Housing, is made to help San Francisco State University students find apartments to rent. Gator Housing can not only make it easier for SFSU students to find affordable places they can rent around campus, but it can also help out hundredths of students who are waitlisted for university housing and have no idea if they are going to have a place or not. Instead of waiting and risking the chance of not getting a place, all those students can use our website to find a place, maybe even cheaper than what they would have paid for university housing.

Gator Housing will allow customers to post and share information about apartments that they want to rent to SFSU students. Those who post an apartment for rent on our site must go through administration, who will approve the post before we actually allow it to be on our website. Gator Housing will also allow customers to search for places they might like and when they do find a place, they can contact the landlord and meetup to talk. Gator Housing is made to accommodate SFSU students who can search for apartments that are closest to school. Another unique thing about our website is that we will be using Google Maps to make sure our customers can easily see where apartments are located and get a good feel for where everything is located and we will have a feature that shows the exact distance to school.

Our team consists of 7 people. We are all SFSU students and we wanted to make this website because this is something that we wish we could have had access to. When we first started going to SFSU and were looking for a place to stay, everything was just so complicated and we all had a tough time trying to find a place that was affordable and most importantly, close to campus, so we can have access to SFSU facilities, which could help us save even more money.

3. Personas and Use Cases

3.1 Personas

About Mark: "There are 800 people on the waiting list for on-campus housing''

Mark is a senior student at SFSU. When he came to SFSU in fall 2017 he lived on-campus. The next semester he was late to submit his housing application when the housing portal opened and he was placed on the waiting list. Since the school offered housing on first come, first-serve basis, he couldn't get on-housing that semester. He hops onto his laptop to look for off-campus housing. The first websites he saw were Zillow, Trulia and then Gator Housing.

Gator Housing website catches his eye. He read that the website is exclusively for SFSU students. Using Gator Housing, Mark got a room for a reasonable cost.

About John:

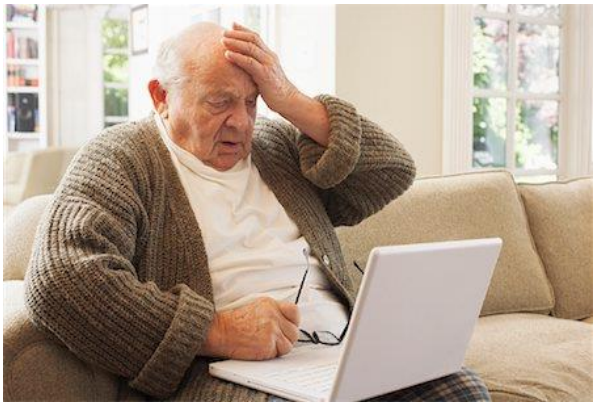
After living on campus for a year, John has met people from classes and extra-curricular activities and wants to live with them rather than being randomly assigned a roommate. He also assumes that getting a place off-campus with friends or acquaintances can be a great first step into adulthood. They believed that there

will be more factors to consider when living off-campus, such as utility bills, recycling and garbage pickup. Thus, it's a safe space to learn responsibility and enjoy living with people who have similar interests.

About Sara: "When Given the social nature of on-campus housing, my grades are suffering"

When living on campus, there is always something going on around her. From parties to on-campus clubs and associations, it is easy to keep herself so immersed in on campus activities that her grades began to suffer. As a result, she starts to look for off - campus apartments that will likely allow her to be focused on her studies and leave behind the hustle and bustle of on- campus life.

About George: "Tech industry forgets that older people exist!"



George is a retired SFCTA bus driver. He started to use the internet very recently. He has two properties near SFSU. Most of the time, his property renters are SFSU students. The internet has made it easy and cheap to list and market his properties. However, the websites that he markets his rental properties on, are not easily understood by him. His vision is diminishing with age, yet several sites use tiny fonts that makes it difficult for him to comfortably navigate the site.

3.2 Use Cases

Use case I : Unregistered user searching for off-campus housing

John is an unregistered renter interested to find house, room, condo, or apartment for rent. Upon opening our website, he can search and browse our page to look for houses that may interest him. First, he chooses the type of property he is looking for, which can be a house, an apartment, condo or a room. Then, he gets a list of properties, based on his choice. Then, he filters the results based on distance from SFSU, price, number of bedrooms and number of bathrooms. For each property, he is able to see the number of bathrooms, bedrooms and the square footage of the house. While browsing, he became interested in one of the houses and he added it into his favorites list and continue searching. After adding few houses to the favorite list, he tries to contact the landlord and will be prompted to register or login before proceeding to contact the landlord. Since he is first time user, he creates an account by providing basic information (first name, last name, SFSU email, etc..). Then, he will be prompted to agree to the terms and policy. After registering to the website, he will be redirected to the contact landlord page.

Use Case II: Registered users searching for off-campus housing

Ana is a registered user on our website. Upon opening our website, she can search and browse our page to look for houses that may interest her. She can add her favorite houses to Favorite list after viewing the detail description of the house including the number of bathroom, number of bedroom, the square footage of the house and the photo of the house. Whenever she is ready, she can go back to her Favorite List, leave a message to the Landlord and the Landlord contact her back.

Use Case III: Registered Landlord

Robert is a registered Landlord. He can browse our website and is able to post his properties that he wants to let out for renting. To post his property Robert is directed to Landlord's dashboard where he can upload photo of his property and provide detailed information about his property including the price, number of bedrooms, number of bathrooms, square footage of the house, etc. After adding all the information to the dashboard, he can post his property. He can check the status of his post and can contact those renters who are interested in his property and that have left a message.

Use Case IV: Admin

Allen is Admin for Gator Housing. He gets notification when someone registers as well as a new listing is posted on the site. His job is to approve and reject posts of registered user. He rejects posts if it has inappropriate content. If the registered user continuously posts inappropriate contents, he can ban the user from using the website.

List of main data items and entities

- **Registered user:** A user who is logged into a session using his authentication data (username, password…). This type of user has access to all the features implemented on the interface.
- **Unregistered user:** A user who is considered as a guest and has a default set of permissions and privileges given to non-registered users. Most of the times, these privileges are the most constrained and don't include transaction and messaging features.
- **Admin:** A person who is controlling the data flow and public content on the website. The admin has "write" privileges and can add, update and delete the website's content.
- **Landlord:** A person who owns a house, apartment, condominium or real estate which is rented or leased to a tenant using our platform.
- **Tenant:** A person who used our platform to rent or lease a room, house, apartment, condominium or real estate.
- **User dashboard:** A user interface that organizes and displays authorized user's information and data in an efficient and scalable way for an easy access.

- **Profile:** A feature that allows authorized users to share their personal information on the website with other users. A simple profile page would include, but not limited to, a full name, a date of birth, a city, and a picture.
- **Filter:** A feature implemented to narrow down the data search
    - **1-** By price: the cost range of the property searched
    - **2-** By zip code: a five-digit number that defines the property location
    - **3-** By distance: the distance between SFSU and the property searched
    - **4-** By type: the category of the property searched. It can be either a house, a condo, a studio or an apartment
- **Messaging:** An implemented feature that allows bilateral communications between registered users (landlord ← → tenant)
- **Registration records:** is an information that includes username, email and password. The user is supposed to provide his registration records every time he wants to logs in.
- **Listing:** It is a type of the property, and it can be either a house, a condo, a studio or an apartment. Listings are used to narrow down the data search.
- **Price:** An amount of money in US Dollars set by the landlord as the value of money he wants to rent his property
- **Distance:** A distance can be defined as the difference between two points on the map. On our app, distance will be used to define how far the house is with respect to the school's location
- **Rooms:** A number of rooms in a house. It gives an idea on how big is a house, and how many people would be living in it.
- **Zip code:** A set of digits (usually 5 digits) used to locate areas (neighborhoods, districts…) on the map.

4. Initial List of Functional Requirements

4.1 Unregistered Users:

4.1.1 Unregistered users shall be able to browse through the different posts.
4.1.2 Unregistered users shall be able to browse by housing type.
4.1.3 Unregistered users shall be able to sort by distance, size, price.
4.1.4 Unregistered users shall be able to search by keyword.
4.1.5 Unregistered users shall be able to see others posts related to their search.
4.1.6 Unregistered users shall be prompted to sign in or register in order to contact landlord.
4.1.7 Unregistered users shall be able to register.

4.1.8 Unregistered users shall be required to accept terms & conditions upon registering.

4.2 Registered Users:

4.2.1 Registered users shall have all of the functions of unregistered users.
4.2.2 Registered users shall be able to login.
4.2.3 Registered users shall be able to access their dashboard when logged.
4.2.4 User dashboards shall display the different landlord that the user has contacted.
4.2.5 User dashboard shall contain all messages sent or received.
4.2.6 Registered users shall be able to deletes their messages.
4.2.7 Registered users shall be able to edit or delete their post.
4.2.8 Registered users shall be able to see others posts posted by the landlord that they have contacted.
4.2.9 Registered users shall be able to mark posts so they can find them easily.
4.2.10 Registered user shall be able to report another user.

4.3 Admin:

4.3.1 Admin shall be able to see every different post made by users.
4.3.2 Admin shall be able to allow or reject posts before they go live

5. Non-Functional Requirements

5.1 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).
5.2 Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of two major browsers
5.3 Selected application functions must render well on mobile devices
5.4 Data shall be stored in the team's chosen database technology on the team's deployment server.
5.5 No more than 50 concurrent users shall be accessing the application at any time
5.6 Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users.
5.7 The language used shall be English.
5.8 Application shall be very easy to use and intuitive.
5.9 Google analytics shall be added
5.10 No e-mail clients shall be allowed
5.11 Pay functionality, if any (e.g. paying for goods and services) shall not be implemented nor simulated.
5.12 Site security: basic best practices shall be applied (as covered in the class)
5.13 Before posted live, all content (e.g. apartment listings and images) must be approved by site administrator
5.14 Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development
5.15 The website shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Spring 2019. For Demonstration Only"

at the top of the WWW page. (Important so as to not confuse this with a real application).

6. Competitive Analysis

		Zillow	Craigslist	Zumper	**Gator Housing**
Features	**Messaging framework**	+	-	+	+
	Sorting by price, distance and bedrooms	+	+	+	+
	Reviewing each house listening	+	-	+	+
	Rentals for SFSU students	-	-	-	+
	Houses only near SFSU	-	-	-	+
	Amenities nearby the apartment	-	-	+	+
	Blogs for School resources for students	-	-	-	+

+ feature exists. - feature doesn't exist

Our web application, Gator Housing, helps San Francisco State University students find affordable and safe housing solutions. Students can rent houses through this application and contact the landlord directly through the messaging feature. This feature is not present on the website of our competitor, Craigslist.

After a listing by the landlord, we provide an efficient sorting framework which uses different parameters such as amount of bedrooms, proximity to school and price to display optimum results to students. Sorting is adapted by our competitors, Zumper, Craiglist and Zillow too. However, we provide exclusive housing to SFSU students and also display rentals close to campus. We have an additional feature of providing landlords easy UI to make it easier for people of all age groups to use the website.

7. High-level system architecture and technologies used

Below is a list of the technologies used in our team's software stack:

Server Host: Amazon Web Server 1vCPU 1 GB RAM
Operating System: Mac OS High Sierra 10.13.3 and Windows 10
Database: MySQL 8.0
Web Server: Apache HTTP Server 2.4.38
Server-Side Language: PHP 7.3.2
Additional Technologies: Web Framework: Bootstrap 4.2
Project Management- Trello
IDE: Visual Studio Code 1.31.1
Front End Design- Figma
Web Analytics: Google Analytics
Front End Technologies- HTML,CSS,Javascript 1.8
API: Google Maps API for showing the distance/location of the apartment from SF STATE.

8. Team members

Team 03 working on "Gator Housing" web application is a team of **seven** people:

Team member	Focus
Dhwan Shah	Team Lead & Front End Member
Saad Bouayad	Back End Lead & Document Editor
Dawit Ayele	Front End Lead
Ahmad Rangeen	GitHub Master & Front End Member
Mubarak Akinbola	Back End Member
Rajvi Shah	Back End Member
Aye Win Sandy	Front End Member

9. Checklist

	STATUS
• Team found a time slot to meet outside of the class	✓
• GitHub master chosen	✓
• Team decided and agreed together on using the listed SW tools and deployment server	✓
• 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	✓
• Team lead ensured that all team members read the final M1 and agree/understand it before submission	✓
• GitHub organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.)	✓