**SW ENGINEERING CSC 648/848**

**SECTION 02 FALL 2016**

**RentSFSU**

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**Milestone 1:**

**Use cases and High Level Requirements and Architecture**

**10/4/2016**

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**Content and structure for Milestone 1 document for review**

**1. Executive Summary**

RentSFSU is a rental site that caters to both students at San Francisco State University looking for an apartment close to the university, and potential landlords looking to rent to responsible students. Future expansions to other universities are possible as our initial website becomes more and more example Our service ensures that a student looking for a rental and a landlord looking for a renter can find someone who meets their specifications quickly and easily.

When a user registers with RentSFSU, they will be asked whether they are making this account as a renter or a landlord. This lets the system know whether it should verify that they are an SFSU student. Renters registering an account will be asked to provide an sfsu.edu email address. This ensures that all renters are going to be SFSU students. This email will be kept private from other users, including potential Landlords, for privacy reasons.

Students at RentSFSU will be able to search for an apartment based on the distance from the school. This allows students to be more usability as they search through the their potential options as opposed to competitors. RentSFSU also have the unique advantage of being a rental only site. Competitor sites also focus on people trying to sell homes. This would give users of our market options that they will not want. When a student searches on RentSFSU, all of the options in their search Criteria would be options they could seriously consider.

**2. Use Cases**

Potential renter browsing  
Crystal is a college student looking for a one bedroom **rental** while attending SFSU for the Spring 2017 semester. She is a heavy internet user and comes across our application during her search. Crystal does not want to drive to school but does not mind walking half a mile. She has a puppy and will need her place to allow dogs. She selects her preferences such as, bedrooms, distance from school, price range, pets, and duration of her stay to filter out the **listings** she will not consider.

Renter booking  
Alexander is a freshman at SFSU and has found a **listing** to book on our application. He wants to book a one room **rental** for the 2016-2017 academic year. He creates a **renter** account proving he is a student at San Francisco State University. He contacts the **landlord** of the **listing** with the potential move in and move out dates, and requests a viewing of the place. Alexander then awaits for an email from the **landlord** to discuss the viewing.

Landlord

Martin is retired and has decided to put his house for rent on our application since he will out of the country for a year. He loves pets and does not mind if the **renter** has any. He uses his desktop moderately and is able to sign up for a **landlord** account and create his **listing**. Martin specifies the date range that the **listing** will be available for, the address, how many rooms are in the house, he adds images of the house, and he selects that dogs, and cats are allowed. Martin checks his email regularly and loves that potential **renters** have their inquiries sent to his email through our application. Once Martin’s house has been rented he logs into his **landlord** account to manage his **listing** and disables the house he rented.

Admin

Mia is in charge of monitoring our website’s content. She is a proficient internet user and sees that there is a **listing** that has inappropriate images. She logs in to her **admin** account to manage the **listings** and removes the **listing** containing the inapropriate images. She then notifies the **landlord** that the **listing** was taken down. The same **landlord** continues to post irrelevant images on their **listings** so Mia deactivates their account. The **landlord** is notified about the deactivation.

**3. Data Definition**

User

A user of the site. Can be a renter, landlord, admin, or some combination of the three (based on context).

Renter

A user of the site renting an apartment from a landlord. Is not mutually exclusive from landlord or admin.

Landlord

A user of the site that lists a rental via a listing for renters. Is not mutually exclusive from renter or admin.

Admin

A user of the site that has the abilities to remove others’ listings, ban users, and other administrative actions on the site. Is not mutually exclusive from renter or landlord.

Rental

An apartment, house, or other type of rental unit that is up for rent. Includes units up for lease.

Listing

A rental listing that includes the rental terms, such as monthly rent, inclusion of utilities, maintenance, and so on.

**4. Initial List of Functional Specs**

|  |  |
| --- | --- |
| **Priority** | **Description** |
| 1 | User shall be able to create an account. |
| 1 | User shall be able to search the listings without login/registering. |
| 1 | Users shall be able to search by number of rooms, bathrooms and distance. |
| 1 | Users shall be able to communicate with the owners of rentals through registered accounts via email. |
| 1 | Users shall be able to upload images of their property to their listings. |
| 1 | Landlords shall be able to select begin/end dates for availability. |
| 1 | Landlords shall be able to accept/deny requests from potential renters. |
| 1 | Administrative users shall be able to disable inappropriate listings. |
| 1 | Administrative users shall be able to disable accounts. |
| 2 | Application shall be able to display a Google map of the listing. |
| 2 | Users shall be able to see listings based on their criteria on the map after searching. |
| 2 | Users should be able to move through the map to see locations of the listings. |
| 2 | Application shall be able to display short description of listing on the map. |
| 3 | Users shall be able to search based on distance from SFSU. |
| 3 | Users shall be able to search based on distance from transportation |

**5. Initial List of Non-Functional Specs**

1. Application shall be developed using the provided LAMP stack.
2. Application shall be developed using the pre-approved set of SW development and collaborative tools provided in the class. Any other tools or frameworks shall be explicitly approved by Marc Sosnick on a case by case basis.
3. Application shall be hosted and deployed on Amazon Web Services.
4. Application shall be optimized for standard desktop/laptop browsers, and shall render correctly on the two latest versions of all major browsers: Mozilla, Safari, and Chrome. It shall degrade gracefully for different sized windows using the approved programming technology and frameworks so it can be adequately rendered on mobile devices.
5. Data shall be stored in the MySQL database on the class server in the team's account.
6. Application shall be served from the team's account.
7. No more than 50 concurrent users shall be accessing the application at any time.
8. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users.
9. The language used shall be English.
10. Application shall be very easy to use and intuitive. No prior training shall be required to use the website.
11. Google analytics shall be added for major site functions.
12. Messaging between users shall be done only by class approved methods to avoid issues of security with e-mail services.

**6. Competitive Analysis**

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| --- | --- | --- | --- | --- |
| Feature | RentSFSU | Apartments.com | Rentjungle.com | Zillow.com |
| Boolean Search | + | + | + | + |
| Google Maps integration | + | + | + | + |
| Email messaging system | + | + | + | + |
| Distance from listing to SFSU | + | - | - | - |

The advantages that our product offers over other more general sites is that it caters specifically to Students and people looking to rent to students. This allows our site to be tailored to the needs of our specific clientele. For instance we can show potential renters the distance the unit is from the school. We also look at potential public transportation options for the Students that do not have a car. Renters on the other hand have the unique opportunity to rent specifically to students, as opposed to people they might consider to be less desirable for their units. These are not things that you can do with a large multi-city site competitors are offering. This allows us to corner a niche market, one full of a constant consumer market as new students move into the area every year.

**7. High-Level System Architecture**

* LAMP stack hosted on Amazon Web Services
  + Ubuntu 16.04 LTS (Xenial Xerus)
  + Apache 2
  + MySQL 5.7.12
  + PHP 7.0
* MINI PHP Framework: a simplified Model View Controller (MVC) framework
* Netbeans IDE
* Bootstrap: CSS framework to for responsive design, scales for Desktop and Mobile
* JavaScript
  + jQuery: DOM manipulation
  + Angular: Additional front end functionality
* Git repo management - GitLab
* Google Analytics for major site functions
* Supports any desktop/laptop compatible browser
  + Mozilla, Safari, Chrome
  + No mobile development, but site shall resize to fit mobile screens

**8. Team**

**Team Lead:** Joseph Costa

**Tech Lead:** Ed Young

**Team Members:** Martha Gomez

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