Milestone 1

Team 11

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Date	Version	Description
9/25/2017	1.0	First draft
10/3/2017	2.0	Revised. Submitted for review.

1. Executive Summary

Buying a home is traditionally a long, tedious, and expensive process. It can be stressful which is understandable given the permanency and cost associated with the decision. This is why we created Gator Realtors. Our website will be dedicated to assisting consumers with purchasing and selling homes. The app will allow searching for homes within any area and allow for filtering and sorting to make the search process easier. Our agents can be easily contacted by potential buyers through the easy internal messaging process. Other contact methods can also be openly shared.

Listings will display high quality photos and all the important details when shopping for a home. A dropped pin on a map will allow for easy visual aid when looking for relative distances.

Gator Realtors targets those who are looking for the easiest and most secure way to buy or sell a home. Accounts created with Gator Realtors gain more benefits over unregistered users. Contact information will be kept private and never sold. Registered users can save home listings for later if they aren't ready to commit to it yet.

We, as students in San Francisco, know how hectic real estate can be in the city and in the Bay Area. Our team is dedicated to making this the most pleasurable buying or selling experience for all consumers and hope this allows us to connect with the most amount of customers.

2. Use Cases

1. Guest User
Youngster Joey recently graduated college with a degree in computer science and is looking for a place to live in a certain area. He is a **guest user** and he is allowed to browse listings without registration. Joey is browsing different sites to see which is most convenient for him and so far he is liking the simple yet effective design of this real estate website. He is able to browse through different **listing content** and filter or search by zip code and city name and budget to figure out a place he can call home. He'll be prompted to register and then be able to contact an agent to get started on the buying process.

2. Registered User - Buyer
Dawn is a famous animal trainer and is getting ready to settle down and purchase a place to live. As a potential **buyer** she has been looking for the perfect home to settle on for the longest time. She is able to look through the different **listing contents** for potential choices. Dawn registered through lazy registration after being prompted to when trying to contact a user. Dawn is now a **registered user** who is allowed to message agents as well as add listings to a wishlist**.**

3. Registered User - Agent
Gary is a real estate agent looking to start selling homes to make commision fees. As an agent, he is able to post listings for homes, information regarding the homes, and his contact information. Gary can receive messages from registered users in his dashboard and reply to these messages through his dashboard after logging in.

4. Administrator
Mr. Oak has been hired as an **administrator** to keep the website clean and friendly for all users. He is able to edit and remove any listings he deems not fit for the website or inappropriate for the purpose of the website. He will be able to message **registered users** about the content edited or removed. If the **administrator** deems that the terms and conditions of the website is violated he can issue a ban to these users.

3. Data Definition

1. **<u>Users</u>**: A user can be Registered or Guest.
   a. **<u>Registered User - Buyer</u>**: any user who has created an account.
      i. **Username**: name associated with a person or organization.
      ii. **Email**: Email address that was used to register an account.
      iii. **Password**: secret number of characters that provides access to the account.
      iv. **Phone**: particular phone number that associated with account.
   b. **<u>Registered User - Agent</u>**: Registered User who can create listings for homes and receive messages from other registered users.
   c. **<u>Guest User</u>**: any user who can browse the site for content (homes). This type of users *can not list homes*, but can reach out to any seller.
2. **<u>Administrator:</u>** is a special User who have some privileges that allow him or her to remove illegal content posted by sellers; or even ban sellers for not following the site rules (Terms and Conditions).
3. **<u>Listing Content:</u>** a house/ apartment/ condo/ townhome for sale.
   a. Type of Home
   b. Year Built
   c. Number of Bedrooms
   d. Number of Bathrooms
   e. Heating / AC
   f. Lot Size
   g. Image
   h. Location
   i. Price
   j. Additional details
      i. Parking
      ii. HOA
      iii. Appliances
      iv. Amenities
      v. Other

4. Initial List of Functional Requirements

1. Guest users shall be able to register and login
2. Terms of service shall be present during registration

3. All users shall be able to browse for listings
4. All users shall be able to filter listings
5. All users shall be able to sort listings
6. All users shall be able to see contact information

7. Buyers shall be able to contact agents
8. Agents shall be able to create listings
9. Agents shall be able to edit or remove listings

10. All data listings shall display contact information
11. All data listings shall require at least one image
12. All data listings shall show location on map

13. Administrators shall be able to suspend accounts
14. Administrators shall be able to delete listings

5. List of Non-functional Requirements

1. Application shall be developed and deployed using class provided deployment stack
2. Application shall be developed using pre-approved set of SW development and collaborative tools provided in the class. Any other tools or frameworks must be explicitly approved by Anthony Souza on a case by case basis.
3. Application shall be hosted and deployed on Amazon Web Services as specified in the class
4. Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of all major browsers: Mozilla, Safari, Chrome.
5. Application shall have responsive UI code so it can be adequately rendered on mobile devices but no mobile native app is to be developed
6. Data shall be stored in the MySQL database on the class server in the team's account
7. Application shall provide real-estate images and optionally video
8. Maps showing real-estate location shall be required
9. Application shall be deployed from the team's account on AWS
10. No more than 50 concurrent users shall be accessing the application at any time
11. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users.
12. The language used shall be English.
13. Application shall be very easy to use and intuitive. No prior training shall be required to use the website.
14. Google analytics shall be added
15. Messaging between users shall be done only by class approved methods and not via e-mail clients in order to avoid issues of security with e-mail services.
16. Pay functionality (how to pay for goods and services) shall not be implemented.
17. Site security: basic best practices shall be applied (as covered in the class)
18. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development
19. The website shall prominently display the following text on all pages "*SFSU Software Engineering Project, Fall 2017. For Demonstration Only"*. (Important so as to not confuse this with a real application).

6. Competitive Analysis

	Gator Realtors	**Zillow.com**	**Truila.com**	**Realtor.com**
Search / Filters	+	+	+	+
Map	+	+	+	+
Contact agent	+	+	+	+
Favorites	+	+	+	+
Ease of use	++	+	+	+

Legend:
+   Feature available
++   Feature excels compared to others
-       Feature unavailable

All the competitors referenced above provide countless types of filters for home searching such as number of bedrooms, bathrooms, by neighbourhood, and many other criteria. But in our plan, the search result will be displayed on both map and in a list side by side by default. This will give our users a better overview of the area they are searching in. Like all of our competitors, we providing our **registered user - regular** with the option to favorite the property they are interested in to narrow down their potential choices. Our biggest advantage is in the ease of use for our users. This will achieved by keeping a clean and minimalistic look, focusing on the guest.

7. High-level System Architecture

- Frameworks and Libraries
    - HTML, CSS, JavaScript
    - Platform - Node.js
    - Backend - Express.js
    - Frontend - Vue.js
    - Bootstrap
- Database
    - MySQL
- APIs
    - Google Maps API
    - Google Analytics API
- Deployment - Google Compute Engine
    - Great, reliable, and cheap
- Supported Browsers
    - Chrome: Version 60, 61
    - Mozilla Firefox: Version 55, 56
    - Safari: Version 10, 11
- Version Control
    - GitHub
- Additional Tools
    - WebStorm
    - Workbench
    - Sublime Text Editor

8. Team

- Alexander Tung (Team lead)
- Nicholas Szeto (Frontend lead)
- Ralph Acosta (Frontend)
- Yangshan Huang (Frontend)
- Sukhjit Singh (Backend lead)
- Ilya Nemtsov (Backend)

9. Checklist

- Team decided on basic means of communications
  - o DONE
- Team found a time slot to meet outside of the class
  - o DONE
- Front and back end team leads chosen
  - o DONE
- Github master chosen
  - o DONE
- Team ready and able to use the chosen back and front end frameworks
  - o DONE
- Skills of each team member defined and known to all
  - o DONE
- Team lead ensured that all team members read the final M1 and agree/understand it before submission
  - o DONE