SW Engineering CSc 648-848 Section 02 FA 17

Real Estate Website
"Agent 007"
Group 07

Team Members

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Milestone 1

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Revision	Changes
01	Initial start of the Milestone 1 documentation
02	Final Milestone 1, FROZEN

1. Executive Summary

Traditionally, buyers and sellers have been matched by professional entities that specialize in Real Estate. The cost of doing business with the additional layer in the process is high in various forms such as realtor processing fees and commission and it is the buyers, in the end, who bear the extra cost . We, as   IT professionals and entrepreneurs see an opportunity to minimize cost level in residential Real Estate market. Our web portal product will be easy to use, self-guiding and will provide sufficient information and structure needed to complete the purchasing and selling of a residential property. We are confident that our perspective shareholder will be able to realize benefit.

Housing market has been driven by professional sellers where buyers are the takers. Families and small-business owners do not have time or knowledge to make sound decision when purchasing a house, which often is the largest purchase in their lifetime. So, they turn to professionals such as real estate agent, banking professional, online media etc. Unfortunately, these options are not in the interest of buyers. The commission paid to agents are high, turning off many buyers away from otherwise affordable residential property. The information provided are not sufficient and are presented with profit motivation. Traditional media such as newspaper are not rich in information. Current online portals and websites are designed with sellers in focus for higher number of listings to provide seemingly various options to buyers. Such strategy has turns buyers away from market. Record number of renters in the US (US Census Bureau of housing Data, 2016) are waiting to own a house. The sound state of economy, low unemployment and high consumer sentiment in the US economy (University of Michigan, 2017 Survey) provide a right moment for our client to invest in this market. However, to take advantage of this opportunity, we need a right organization.

Our goal is to create a website and user experience that is easy to use and self-guiding. With seamless transition from Browser to Buyer, and offering all the amenities a Seller would ask for when listing a property. Our website will make the seemingly impossible task of finding, buying and selling properties quick and easy, without all of the normal headaches one experiences in the real-estate market.

We are a team of 6 experienced programmers from San Francisco State University. Our global skills, from time management to communication, teamwork, frontend, backend, and a knowledge of many languages make us well equipped to complete this website on time and on budget.

Sources:
1. United States Census Bureau. (2016) - *https://www.census.gov/topics/housing.html*, retrieved on Sep 28th, 2017
2. University of Michigan, (Sept, 2017)- http://www.sca.isr.umich.edu/, retrieved on Sep 28th 2017

2. Use Cases

1. Browser

Betty is browsing for houses on our website *Agent 007*. From the home page, Betty is met with many options as to what to do during her time on *Agent 007*. Predominantly placed is a showing of recently sold and or featured homes listed on the site. Betty is directed to a page, with all of the homes available for sale. Here she can sort homes by zip-code, price, number of bedrooms etc. Pictures and short descriptions of the homes are links to the listing page. From here, Betty can see more details about the house, view more pictures, view where the home is located, and is given the option to contact the seller in regards to inquiries about the house.

2. Buyer

Betty tellers her friend, Brian, about our website *Agent 007*. Brian is a very eager buyer, and is shopping around homes for him and his family. Brian starts the same way out as Betty, simply browsing the site, until he comes across one he is very interested in and requests to contact the seller. Brian is redirected to a login page, which notifies Brian that in order to contact the seller, Brian must either login to his existing account or create a new one. Seeing as how this is Brian's first time on the site, he asks to create a new account. On this page, agrees to the terms and conditions, he is asked for basic account registration information (first name, last name, email etc.), and is asked to complete a CAPTCHA proving he is not some form of a robot. After registering as a buyer, Brian is redirected back to the contact the seller page, where he can fill in text boxes to ask any questions to the seller.

3. Seller

Sam is an up and coming realtor. She is looking for new places to list her homes for potential buyers to see. After finding our website, *Agent 007*, Sam wants to post her house that is for sale. The home pages asks Sam if she is interested in selling a house, and redirects her to a login page, just as above. Registering as a seller is much like registering as a Buyer, except Sellers can post houses and Buyers can contact sellers. After registering as Buyer, Sam is prompted to list a house for sale. She enters in basic information about the site (price, rooms, address etc.) along with uploading pictures.

4. Admin

Adam is an administrator for our website, *Agent 007*. Adam is notified whenever someone registers as well as whenever a new listing is posted on the site. Along with his other duties, the administrator is responsible for monitoring users and postings, deleting inappropriate listings and removing frequent offenders from *Agent 007*.

3. Data Definition

Listing: <u>Browsers</u>, <u>buyers</u> and <u>sellers</u> will have the ability to see properties for sale, including, but not limited to these details:
- Address
- Pictures
- Number of Rooms
- Asking price

<u>Buyers</u> shall be able to contact the <u>seller</u> in regards to a <u>listing</u>. <u>Sellers</u> shall be able to post a <u>listing</u> to our site.

Browsers: Individuals who are vising website without registering. Their purpose is to search for options available. They will NOT be able to contact <u>sellers</u> but can contact <u>admin</u>.

Registered users: Individuals who have registered with required information and will have separate <u>account</u>. They can contact <u>sellers</u> and <u>admin.</u> Each registered user will be classified as either <u>Buyer</u> or <u>Seller</u>**.**

Account: Arrangement to each user under which information of each user is stored as provided by the user; identified by Primary ID**.**

Primary ID: Unique computer- generated number assigned to each user.

Buyers: <u>Registered users</u> who are looking to buy house.

Sellers: <u>Registered users</u> who are selling house.

Residential Property: House used primarily for residence. May be used for home-based business.

Commercial Property: Real estate property that are used for commercial purpose.

Admin: Administrator or individual employee of the company who is authorized to
-Access accounts
-Delete accounts
-Contact account holder and modify as reasonable.

4. Initial list of functional Requirements

I.   Browser
   - Shall be able to see what was recently sold or listed
   - Shall be able to browse properties for sale by
     o Zip code
     o Price
     o Number of rooms
   - Shall be able to see where, on Google Maps property is located
   - Able to see photos and extended information on properties
   - Ability so sign up for account

II. Buyer
   - Shall have all the capability of Browser
   - Shall be able to contact Sellers

III. Seller
   - Shall be able to create account as a seller
   - Shall be able to enter in property information
   - Shall be able to add photos of homes
   - Shall be able to respond to Buyers who contacted Seller

IV. Admin
   - Shall be able to view who is registered with the site
   - Shall be able to delete inappropriate content
   - Shall be able to remove users who frequently post inappropriate content

5. List of non-functional Requirements

TODO: Add any extra non-functional requirements that may be needed.

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

Features in Website	Trulia	HomeFinder	Zillow	Agent 007 *(Working Title)*
Pictures	+	+	+	+
No. of beds and bath before selecting	+	+	+	+
Sorting	+	+	+	+
Ads	+	++	+	
Google Map	+	+		+
Simplicity	+	+	+	++

The Tech industry is very competitive when it comes to their products. Everyone wants to the best. But the number of products are too many to go through and the infinite number of features is too much to deal with. So, at the end of the day, it all comes down to simplicity and efficiency. This straightforward approach is what our website offers and provides to our users. We provide an easy navigation system without abundant types of information thrown on your face. We offer all the important details and crucial information about homes you wish to know, just as any other well informed real-estate website. We also offer google maps for easy access identification and also street view. We have a clear focus on our website without the cluster of ads. This means that there are no distractions of any ads so that our users can put their focus and priority on finding their new home. We are sure that this straightforward approach will help boom our website because it provides freedom to anyone for easy usability, free of distraction and not having ample number of useless features.

7. High-level System Architecture

Front End:
   Bootstrap
Back-End:
  Node.js
  Mysql
  Mysql Workbench
Server: AWS
Browser System Compatibility
Compatible with latest two versions of each of the followings.
- Internet Explorer: IE10 and IE11.
- Chrome: Chrome 6 and Chrome 5.
- Safari: Safari 4 and Safari 5.
- Mozilla: Firefox 59 and Firefox 58

8. Team

- Dillon Brosnan: Team Lead
- Roy Anguiano: Frontend Team Lead
- Indra Gairhe: General Team Member
- Vikram Grewal: Backend Team Lead
- Anirudh Mohan: General Team Member
- Darryl Raveche: Frontend Team Member

9. Checklist

Checklist Item	Has the item been accomplished?	If no, explain below
Team decided on basic means of communications	DONE	
Team found a time slot to meet outside of class	DONE	
Front and back end team leads chosen	DONE	
Github master chosen	DONE	
Team ready and able to use the chosen back and front end frameworks	DONE	
Skill of each team member defined and known to all	DONE	
Team lead ensured that all team members read the final M1 and agree/understand it before submission	ON TRACK	