SW Engineering CSC648/848 Section 01 Fall 2017
HOMIEZ
Team 15 – International team

Mena Morkos (*menamorkos@gmail.com*)
Andrew Patterson
Norald Alejo
Benedikt Anselment

Milestone 2
10/27/2017

Version control

Date	**Version**
10/27/2017	Milestone 2 submission
XXXX	Revised after comments, frozen

Summary of Content

1. Data Definition V2

- ACTORS
  - Unregistered User
    - An Unregistered User looking for housing *(see M1 Use Case 2.1)*
  - Registered User
    - A Registered User managing its enquiries *(see M1 Use Case 2.2)*
  - Users
    - Term used for referring to "Unregistered User" and "Registered User" at the same time
  - Real Estate Agent
    - A Real Estate Agent managing its listings *(see M1 Use Case 2.3)*
  - Administrator
    - An Administrator making sure that the website is well maintained and up-to-date *(see M1 Use Case 2.4)*

- DASHBOARDS
  - Real Estate Agent Dashboard
    - Real Estate Managers can manage their messages and listings
    - Real Estate Managers can manage their viewing schedule
    - Registration via username and password
  - Registered User Dashboard
    - Registered Users can manage their favourites, requests and messages
    - Registered Users can manage their viewing schedule
    - Registration via username and password

- LISTINGS
  - Apartment
    - A listing at the website. Element contains the following attributes:
      - size in square feet
      - address
      - number of bedrooms
      - number of bathrooms
      - kitchen available
      - living room available
      - furnished
      - parking possibilities
      - for rent
        - lease
        - security deposit
        - monthly rent
      - for sale
        - price
        - fees
      - image *(optional)*
        - maximum file size: *20 MB*
        - format: *.jpeg* or *.png*
      - video *(optional)*
        - maximum file size: *1 GB*
        - format: *.avi* or *.mov*

- House
  - A listing at the website. Element extends “Apartment” and contains the following additional attributes compared to “Apartment”:
    - number of floors
    - size of property

  - *Important:*
    Attributes written in blue can be considered as metadata, since they describe the LISTING-items in terms of text or numerical data which is used for searching.

2. Functional Requirements V2

2.1 Backend

1. Searching – *Priority 1*
    1. Search shall query the database for listings matching desired criteria
        - location
            - zip code
            - city
            - address
        - type of accommodation
            - apartment
            - house
        - number of bedrooms
        - number of bathrooms
        - size in square feet
            - housing space
            - property *(only for houses)*
        - furnished
        - parking possibilities
        - number of floors *(only for houses)*
2. Logging in – *Priority 1*
    1. Registered Users attempting to login shall query the database to check for their proper credentials. Once verified, they shall be able to access their account
3. Store/Upload/Delete home listings – *Priority 1*
    1. Real Estate Agents shall be able to store and upload information regarding home listings on the SQL-database
    2. Real Estate Agents shall be able to delete their listings after posting
    3. Administrators shall be able to delete listings
4. Store/Upload/Delete user information – *Priority 1*
    1. Users and Real Estate Agents shall be able to create new accounts (upload)
    2. Registered Users and Real Estate Agents shall have their accounts stored on the SQL-database
    3. Administrators shall be able to delete user information
5. Messaging – *Priority 1*
    1. Registered Users and Real Estate Agents shall be able to speak to each other via messaging by having it be sent to the database and back
6. Dashboard – *Priority 1*
    1. Real estate managers shall be served relevant information from the database regarding their listings
    2. Registered users shall be provided their messages and requests from the backend
7. Resetting passwords – *Priority 2*
    1. Administrators shall be able to reset Registered User passwords

2.2 Frontend

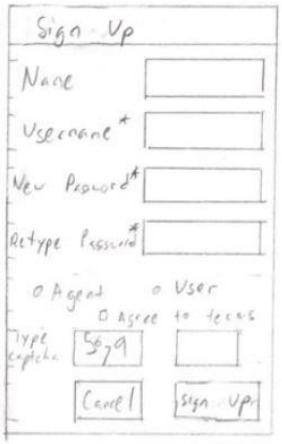
1. Browsing – *Priority 1*
    1. Users shall be able to view and access listings by housing address
2. Messaging – *Priority 1*
    1. Real Estate Agents and Registered Users shall be able to communicate with each other through messaging
3. Login – *Priority 1*
    1. Registered Users and Real Estate Managers shall be able to login and to access their dashboard
4. Real Estate Agent Dashboard – *Priority 1*
    1. Real Estate Managers shall be able to manage *(view, add, edit and delete)* their listings and their messages
    2. Real estate managers shall be served relevant information from the SQL database regarding their listings
    3. Real Estate Agents shall be able to communicate with Registered Users through messaging
5. Filtering – *Priority 2*
    1. Users shall be able to screen listings when browsing by housing features such as number bedrooms/bathrooms, listing price, square feet, etc.
6. Google Maps Integration – *Priority 2*
    1. Users shall be able to view listings on a map based on the address of listings
7. Registered User Dashboard – *Priority 2*
    1. Registered Users shall be able to manage *(view, add, edit and delete)* their requests
    2. Registered User shall be able to communicate with Real Estate Agents through messaging
8. Viewing Scheduling – *Priority 3*
    1. Registered Users shall be able to see viewing schedule of a certain listing they are interested in and shall be able to schedule a viewing without having to wait for the confirmation of the Real Estate Agent
    2. Real Estate Agents shall be able to manage the viewing schedule of a certain listing they posted

3. UI Mock-ups and Storyboards

3.1 Homepage

Clicks Agents:
- If not logged in, login box pops up
- If logged in, dash-board page pops up

Clicks Sign Up:
- Sign Up Box Pops Up
- If logged in, sign up tab invisible

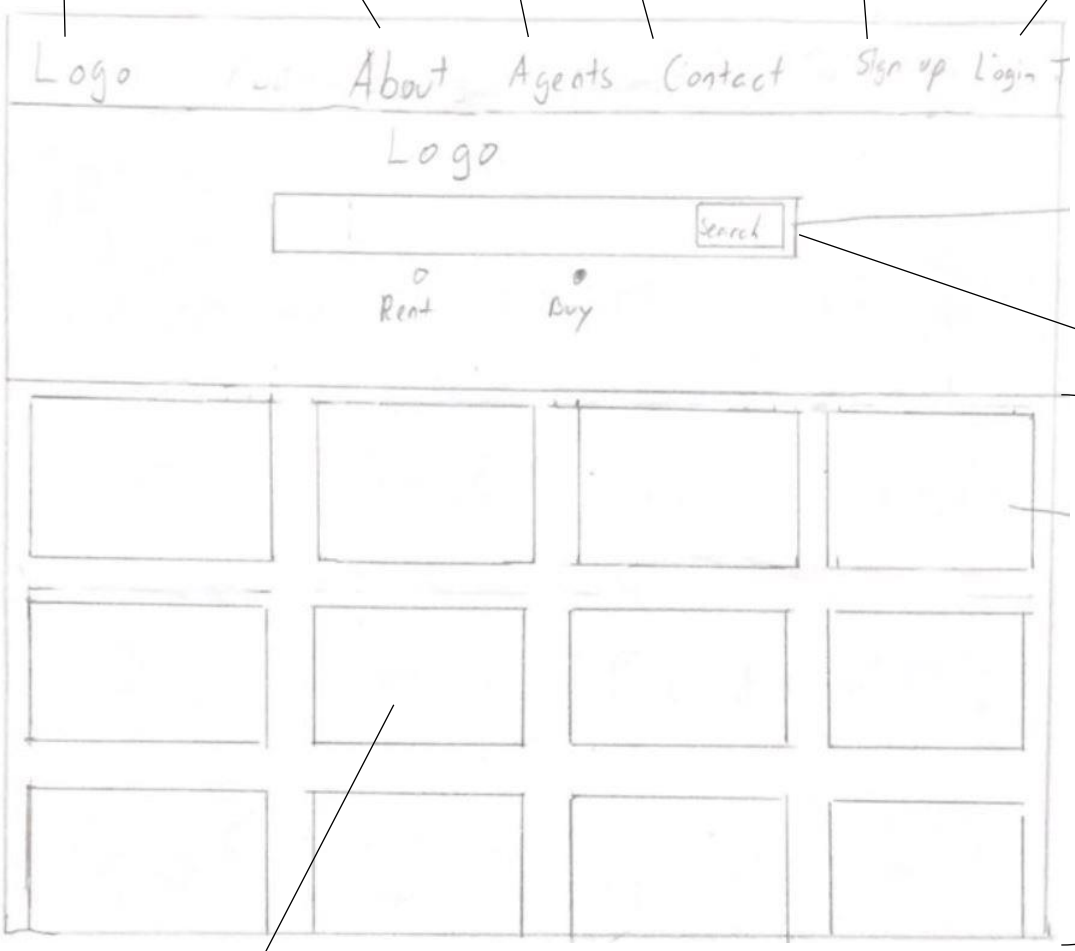


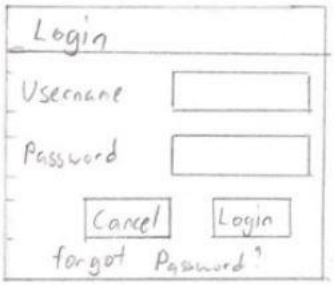
Clicks About:
Goes to about page

Clicks Contact:
Goes to contact page

Clicks Logo:
Stays on Page

Clicks Login:
- Login Box Pops
- If logged in, login tab replaced with





Uses Search Bar, selects rent or buy:
Browser displays listings associated with specific search item

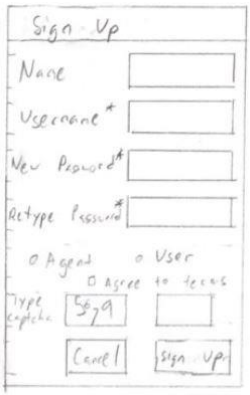
<u>Listings Browser</u>:
- Displays exemplary listing before first search
- After first search, Browser displays listings associated with specific search item

Clicks Listings:
Goes to page of listing

3.2 About Page

Clicks Agents:
- If not logged in, login box pops up
- If logged in, dash-board page pops up

Clicks Sign Up:
- Sign Up Box Pops Up
- If logged in, sign up tab invisible

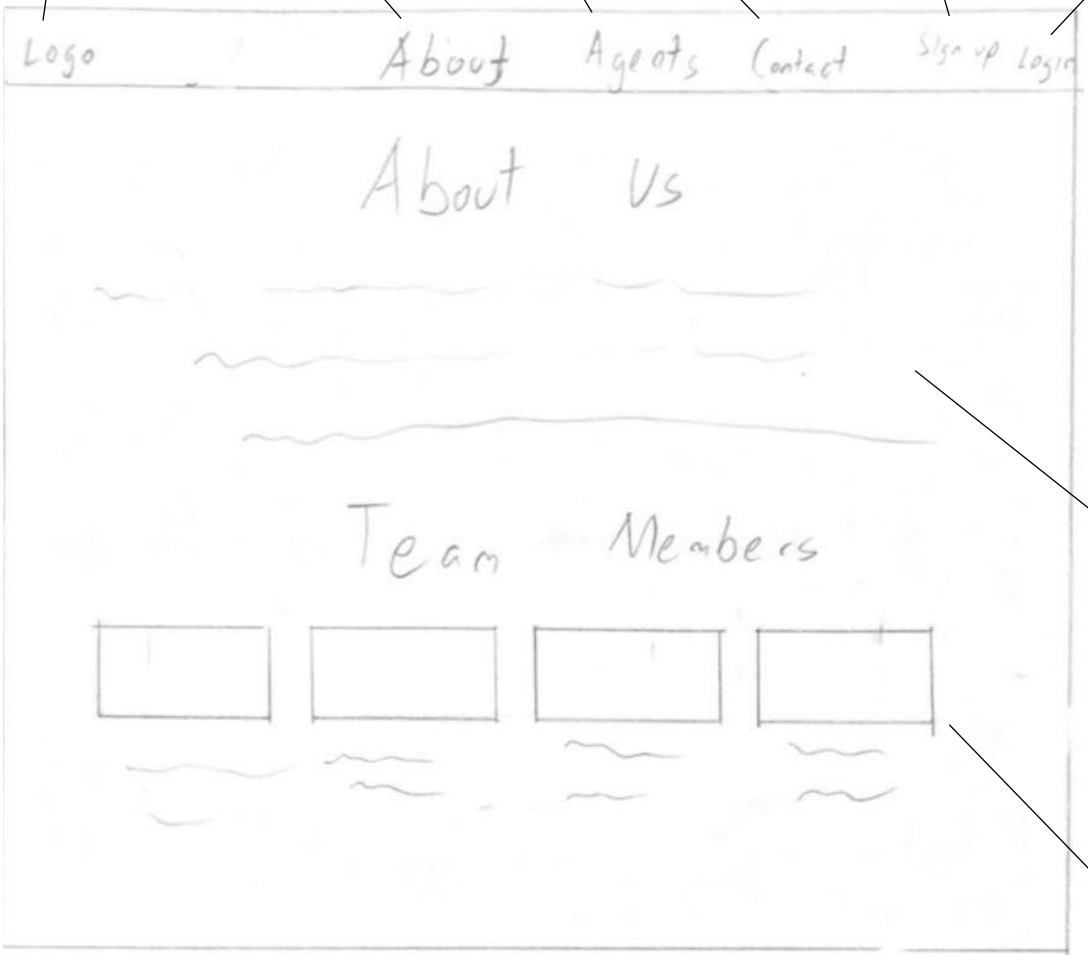


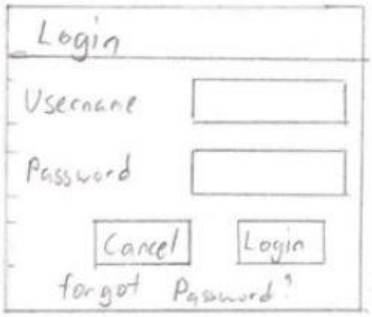
Clicks About:
Stays on page

Clicks Contact:
Goes to contact page

Clicks Logo:
Goes to Home page

Clicks Login:
- Login Box Pops
- If logged in, login tab replaced with logout





Description/over-view of the team

Information about each team mem-

3.3 Exemplary Listing

Clicks Agents:
- If not logged in, login box pops up
- If logged in, dash-board page pops up

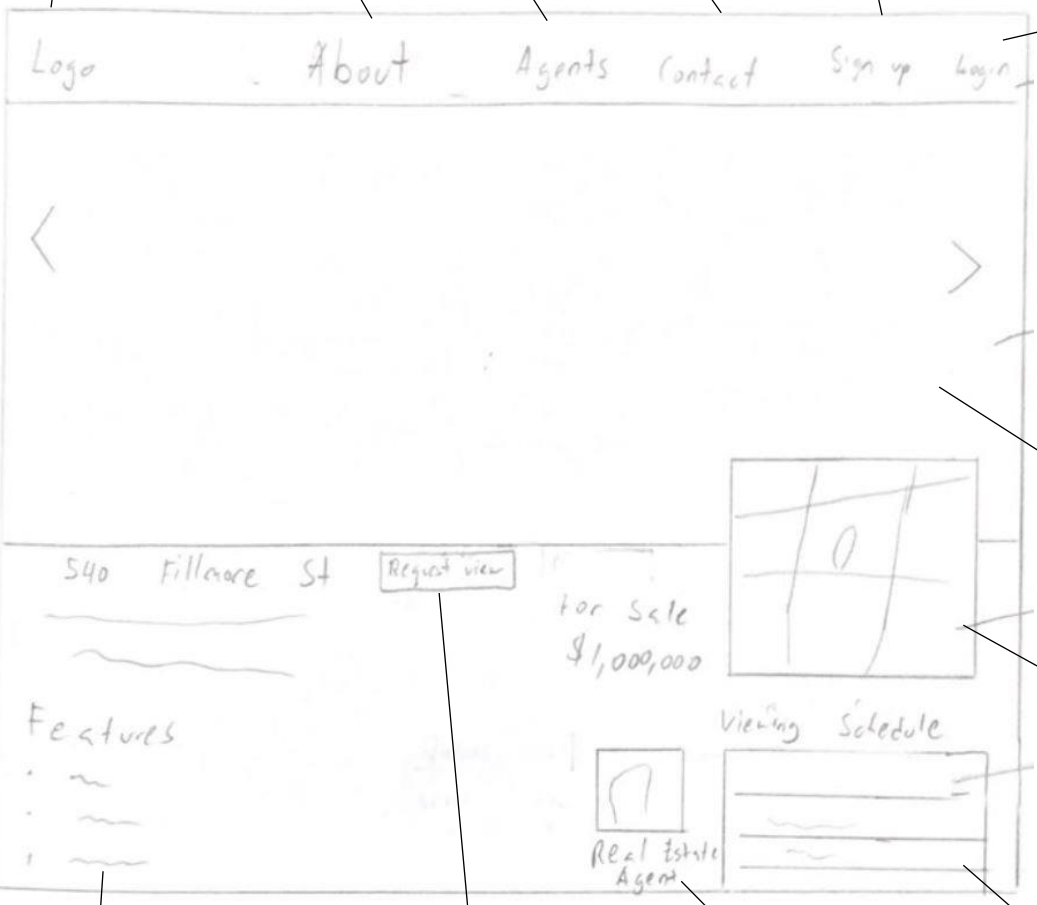
Clicks Sign Up:
- Sign Up Box Pops Up
- If logged in, sign up tab invisible

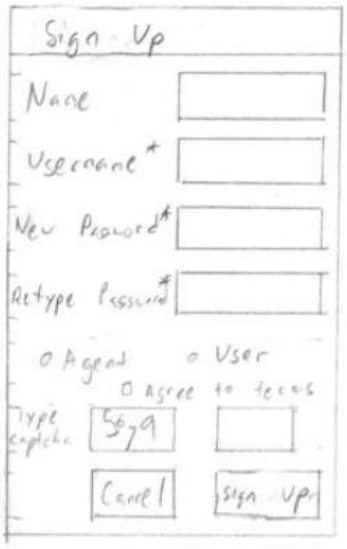
Clicks About: Goes to about page

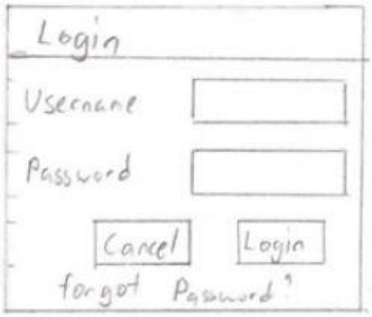
Clicks Contact: Goes to contact page

Clicks Logo: Goes to Home page

Clicks Login:
- Login Box Pops
- If logged in, login tab replaced with logout







Pictures of listings

Map with location of Listing

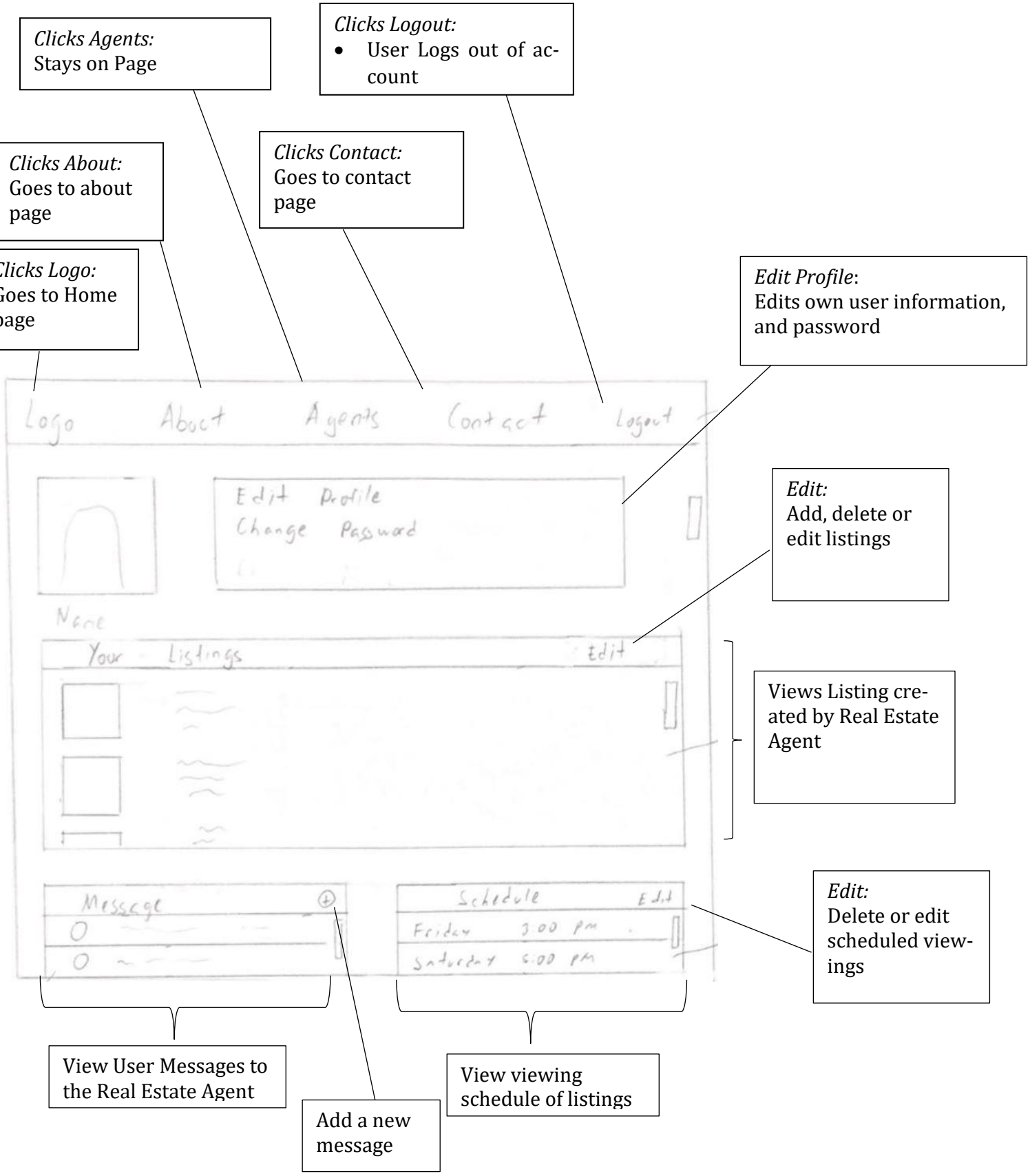
Viewing schedule of listing

Real Estate Agent/Seller Information

Clicks Request View: Schedules a viewing with Real Estate Agent

Description listing such as features and price

3.4 Dashboard Real Estate Agent



3.5 Contact Page

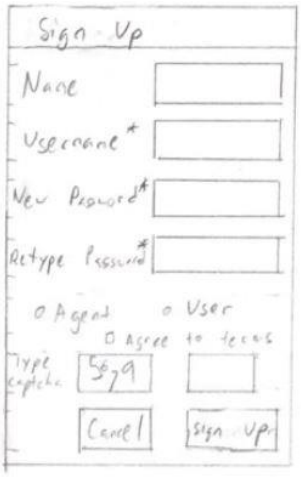
Clicks Logo:
Goes to Home page

Clicks About:
Goes to about page

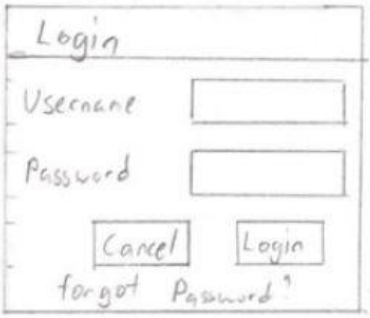
Clicks Agents:
- If not logged in, login box pops up
- If logged in, dash-board page pops up

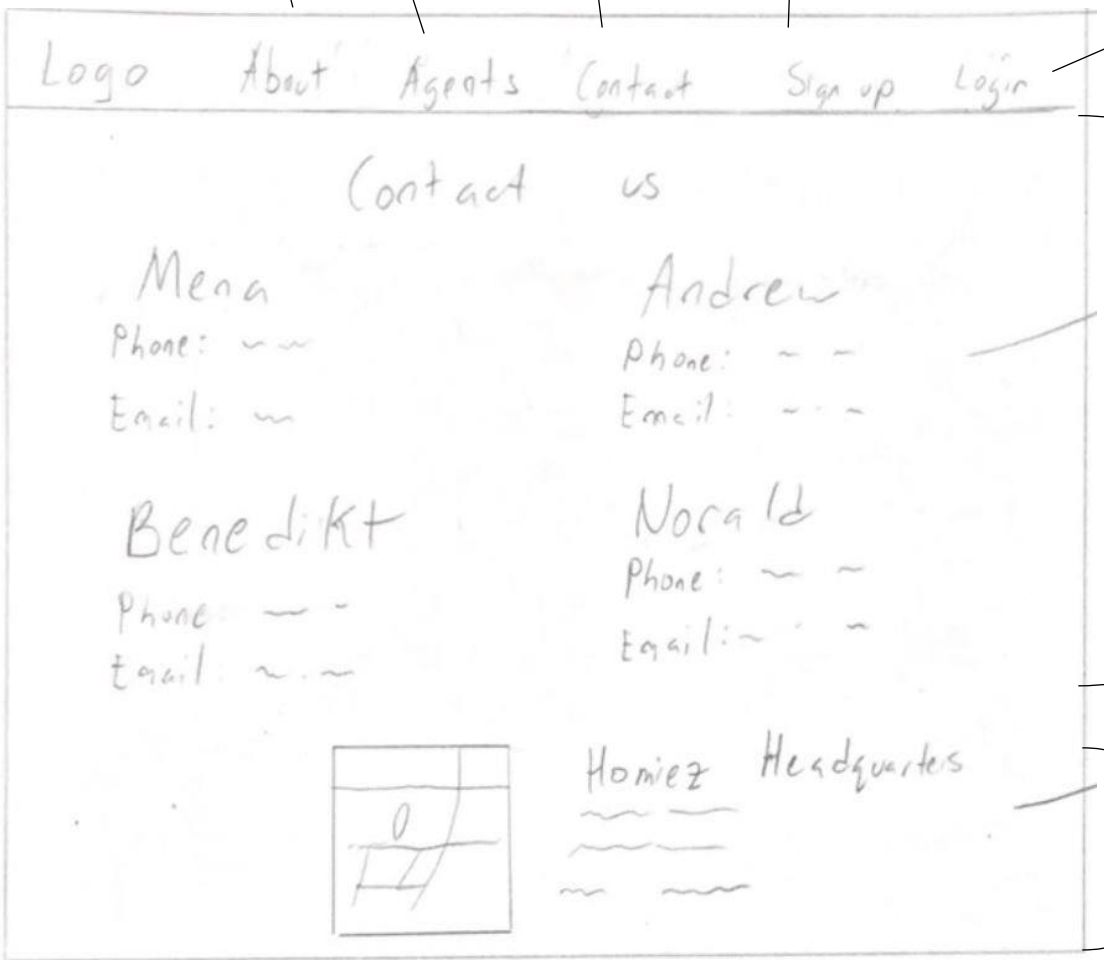
Clicks Contact:
Stays on page

Clicks Sign Up:
- Sign Up Box Pops Up
- If logged in, sign up tab invisible



Clicks Login:
- Login Box Pops
- If logged in, login tab replaced with logout





Contact Information of each team member

Address of "Homiez head-quarters" *(SFSU)*

4. High Level Architecture, Database Organization

4.1 Database Listings

- Each data row represents a listing.
    - id (int)
        - Unique id for each data row
    - user_id (int)
        - Unique id of user that posted listing
    - building_type (text)
        - The type of building listed as in apartment / condo / house…
    - bedrooms (int)
        - Number of bedrooms
    - bathrooms (int)
        - Number of bathrooms
    - kitchen (int)
        - Can be 0 for no kitchens or number of kitchens in listed property
    - living_room (int)
        - Can be 0 for no living rooms or number of living rooms
    - square_feet (int)
        - Size of actual living space in square feet
    - price (float)
        - Price to buy or rent depending on the listing type: for rent or for sale
    - address (varchar)
        - Address of listing
    - zip (varchar)
        - Zip code
    - state (varchar)
        - State
    - city (text)
        - City
    - description (text)
        - Description of listing
    - parking (int)
        - Number of parking spots
    - picture (text)
        - A picture or thumbnail for the listing
    - floors (int)
        - Number of floors in a house
    - lot_area (int)
        - Size of whole property in square feet
    - createdAt (dateTime)
        - Timestamp to when listing was created
    - updatedAt (dateTime)
        - Timestamp to when listing was last updated

4.2 Media

- Each row is representing an image stored as text.
    - id (int)
        - The unique id for each data row
    - content (text)
        - The image stored as text
    - listing_id (int)
        - The unique id for the listing related to this image
    - createdAt (dateTime)
        - Timestamp to when picture was added
    - updatedAt (dateTime)
        - Timestamp to when picture was last updated

4.3 Messages

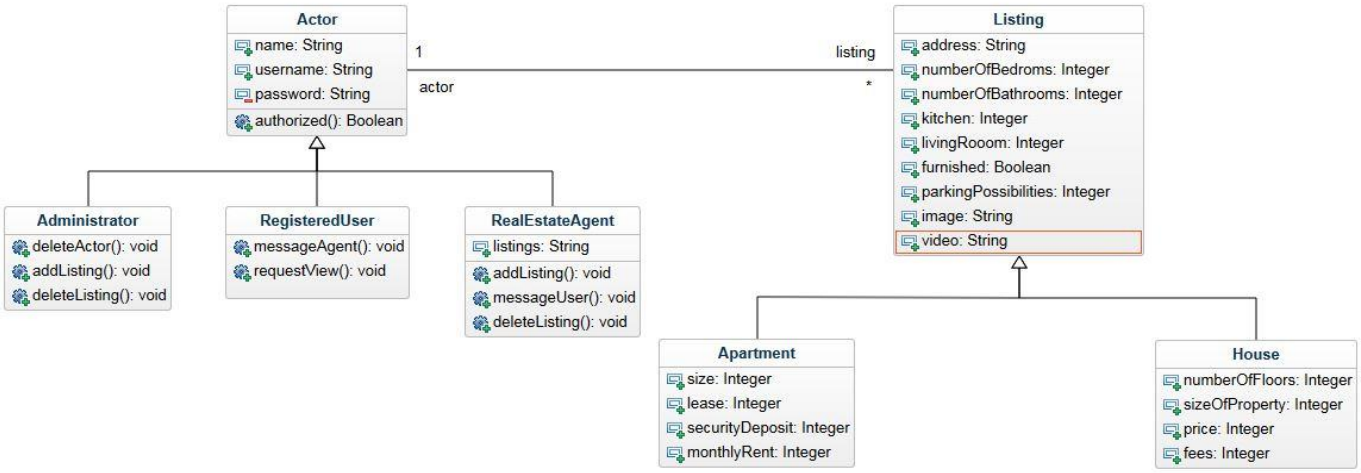
- Each row is representing a message that is sent using the messaging interface
    - id (int)
        - The unique id for each message
    - user_id_sent_message (int)
        - The unique id for the sender user
    - message_body (text)
        - The message body
    - user_id_received_message (int)
        - The unique id for the receiver user
    - createdAt (dateTime)
        - Timestamp to when message was added
    - updatedAt (dateTime)
        - Timestamp to when message was last updated

4.4 Users

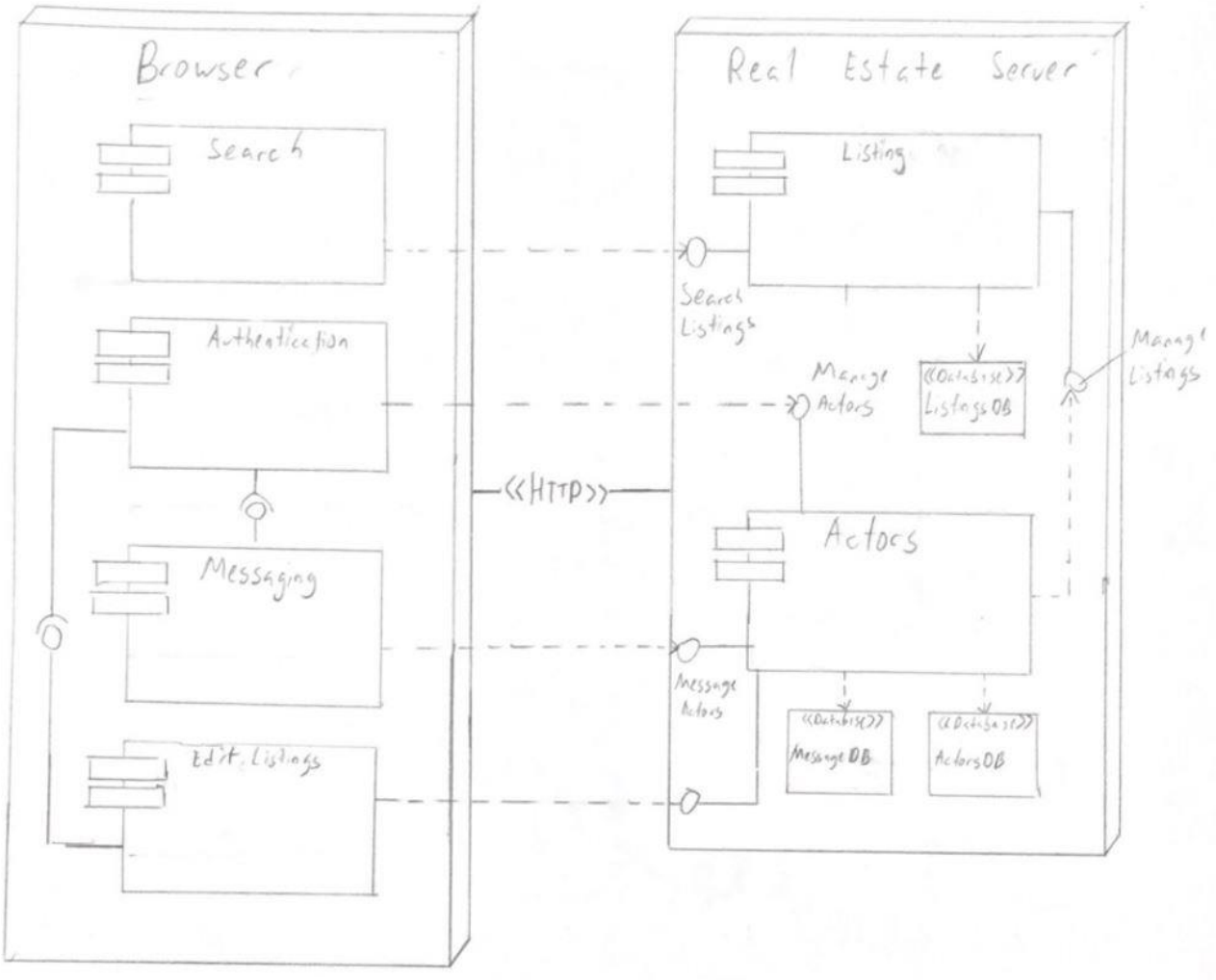
- Each row is representing a user.
    - id (int)
        - The unique id for each message
    - name (text)
        - Name of user
    - description (text)
        - Self-description of user
    - address (text)
        - Address of user
    - email (text)
        - Email of user
    - password (text)
        - Encrypted user password
    - phone_number (text)
        - Phone number
    - picture (text)
        - Profile picture of user could be empty
    - privilege_level (int)
        - Privilege level: 0 for admin, 1 for agent …
    - createdAt (dateTime)
        - Timestamp to when user was added
    - updatedAt (dateTime)
        - Timestamp to when user was last updated

5. High-level UML Diagrams

5.1 High-Level UML Class Diagram



5.2 UML Component and Deployment Diagram



6. Key Risks

6.1 Skills risks

- Our German partners are not known yet. Therefore, it is not known which skills they exactly possess and how good these skills will complement the skills of the core team.
    - Right after hiring our backend team from Germany we will have an extensive Skype session with them to thoroughly get to know them and to learn more about their skills and how these skills can help us with our project. In this first Skype call we will establish the initial distribution of tasks between San Francisco and Fulda. Necessary adaptions will be made during the weekly follow-up calls.

6.2 Schedule risks

- Until the end of October we are only 4 people in the team. Since we still should at least match, or in the best case even surpass, the quality of work of our competitors *(other teams)* – which have on average have 7 employees – everyone in the team has a very high workload, high pressure and a huge responsibility.
    - We have a highly motivated team which is ready to take the challenge of making HOMIEZ the leading real estate market site in the Bay Area. To compensate for our disadvantage in manpower, we have a well-defined distribution of tasks and every member in the team is willing to give it all to the project.

6.3 Technical risks

- There are some risks related to *Handlebars* - the frontend templating engine we use since it is different from traditional frontend tools in certain aspects and only our Frontend team lead Norald has experience with it.
    - Norald will help everyone in the team, and especially the members of the frontend team, to overcome the challenges which *Handlebars* poses
- There are some risks related to *Sequelize* - the backend engine we use since it is a fairly new tool with its own set of unforeseen challenges and we don't have too much experience with it within the team
    - The backend team will invest all the time and effort which is necessary to acquire the skills necessary to work with *Sequelize* on a sufficient level

7.4 Teamwork risks

- Our German partners are not known yet. Therefore, it is not known how good the corporation will be and it will surely take some time until the teamwork runs smoothly.
    - Right after hiring our backend team from Germany we will have an extensive Skype session with them to thoroughly get to know them as persons and professionals. Over our Slack channel there will be continuously communication 24/7 to ensure that everybody on both sides of the Atlantic is still up-to-date with the progress of the project and any bigger issues will be sorted out during weekly Skype calls.

      All these measures will ensure that teamwork and corporation will be as efficient and smoothly as possible.

7.4 Legal /content risks

- No such risks known yet since our team plans to take all the pictures and to produce all the videos on our website by ourselves.