

# Lo-fi Prototyping Report

Home\_Clear by Team Soupy Good Cup

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## Introduction:

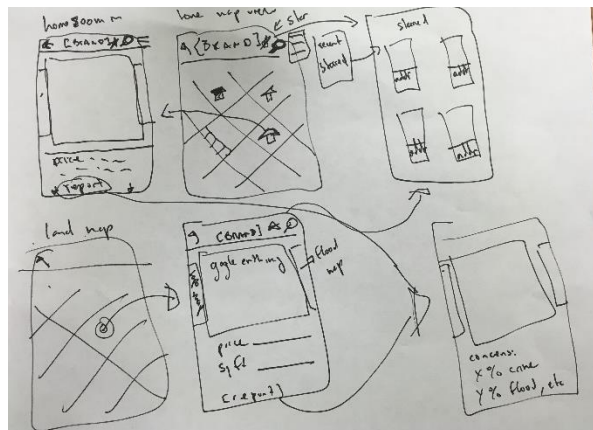
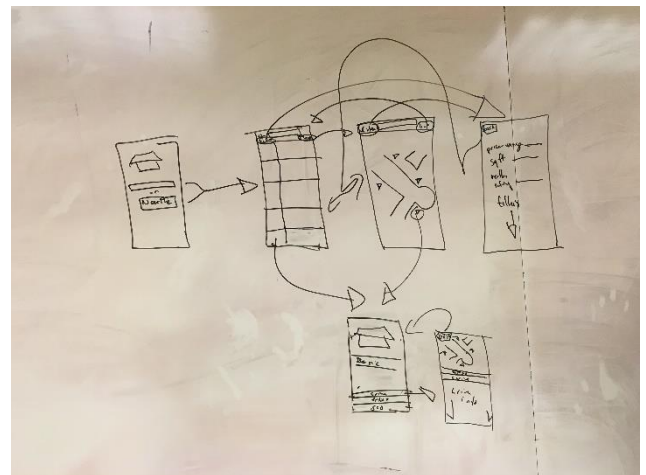
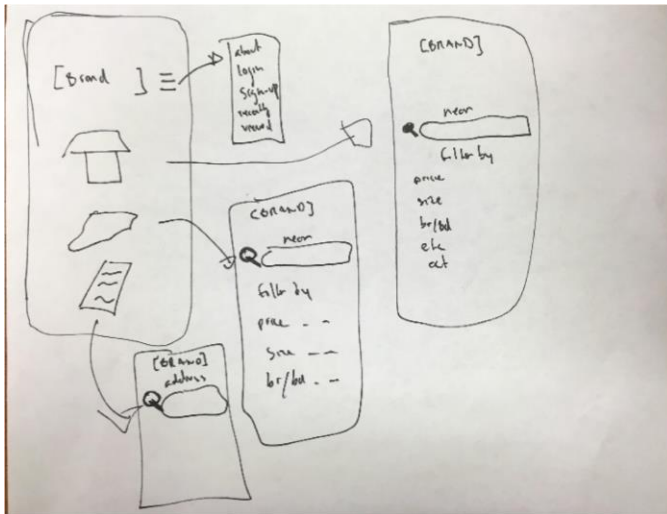
### “Bringing transparency to real estate”

Following our need-finding, POV development, and experience proto-typing, we realized one of the biggest problems consumers in the real-estate market face is a lack of accessible information. As such, we decided to dedicate our efforts to realizing an application that can pull any and all relevant information from realtor, government, and criminal databases and deliver it to the user in an intuitive interface.

## Sketches:

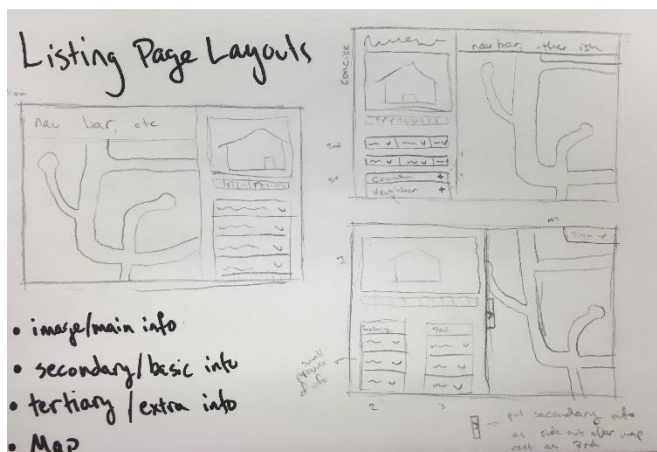
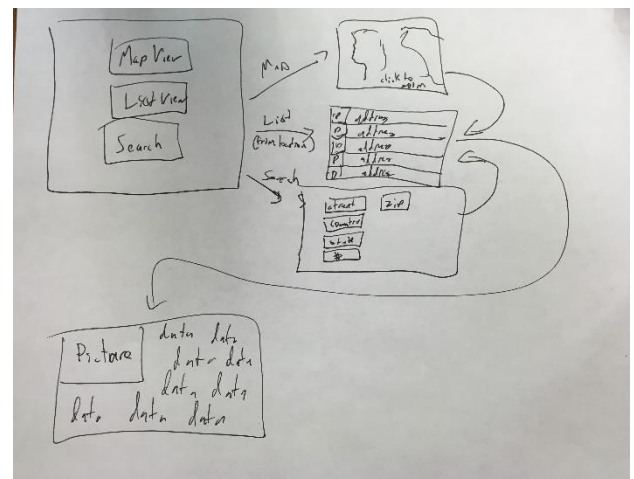
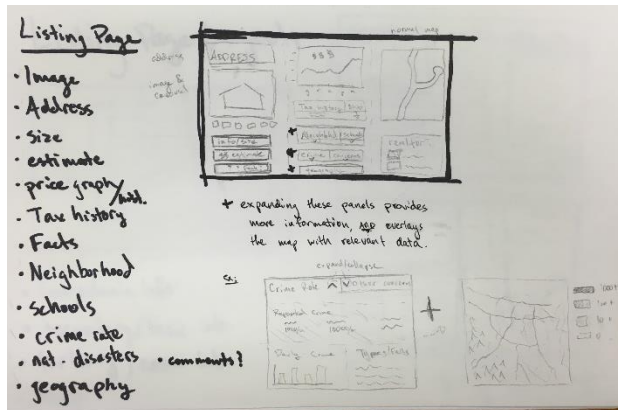
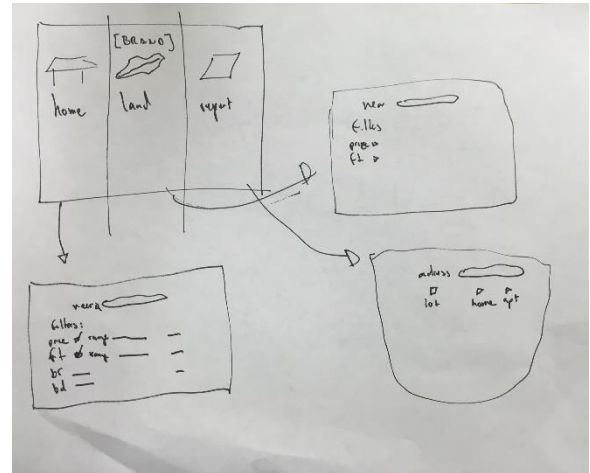
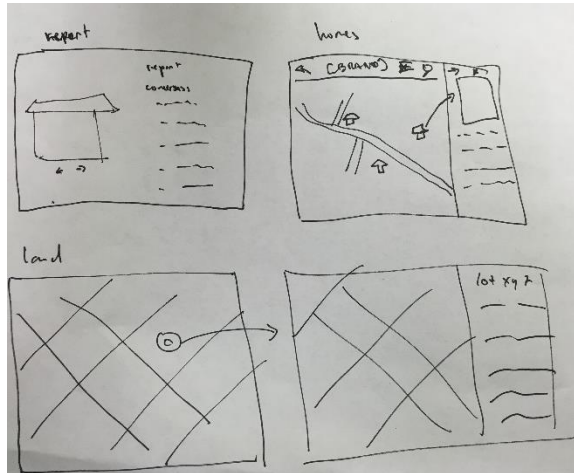
With this goal in mind, we set out to sketch out our interface design for tablets, phones, and web to see which medium and interface design was best suited for us. Below are a vast of sampling of these early sketches:

Phone-based sketches:

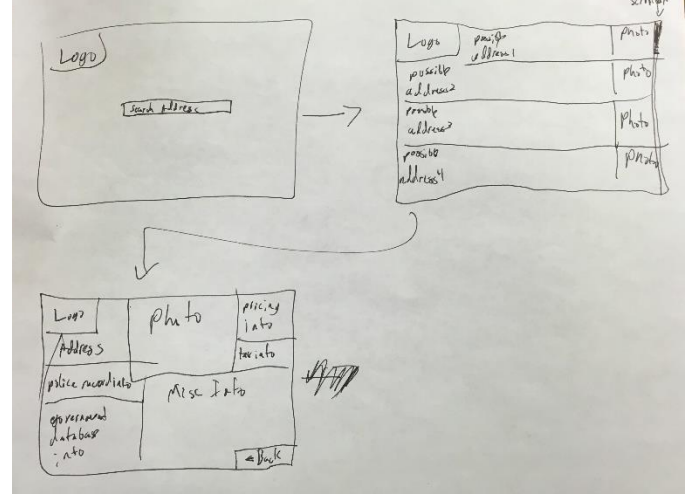
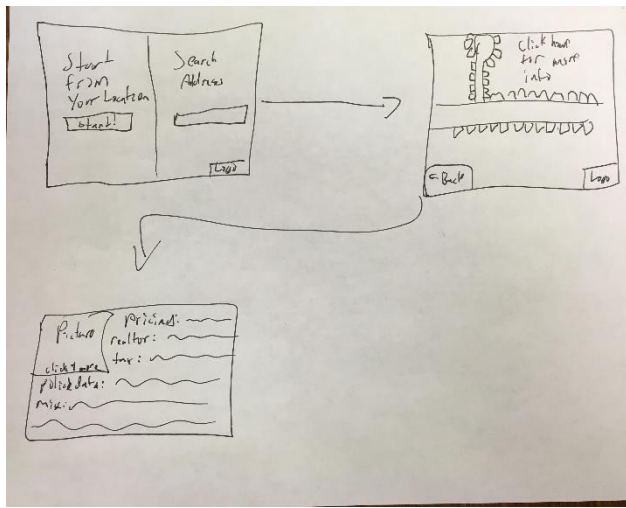
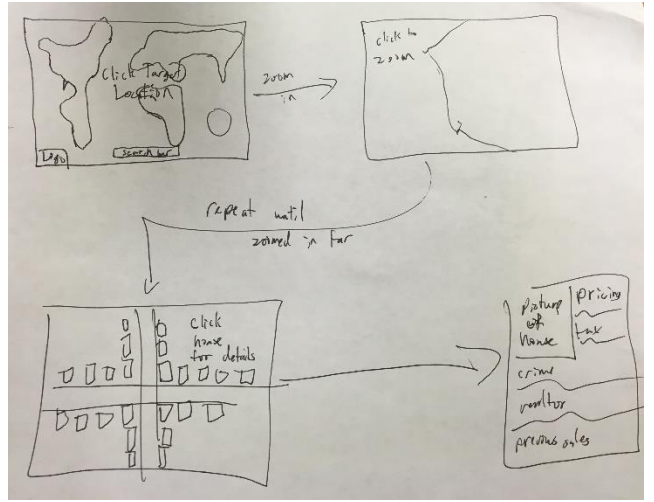
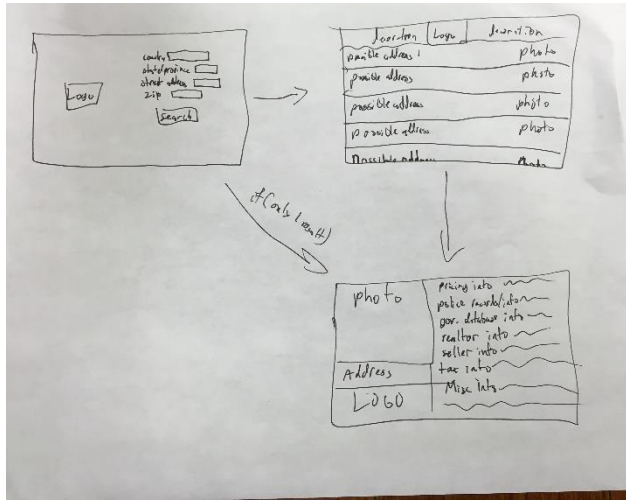
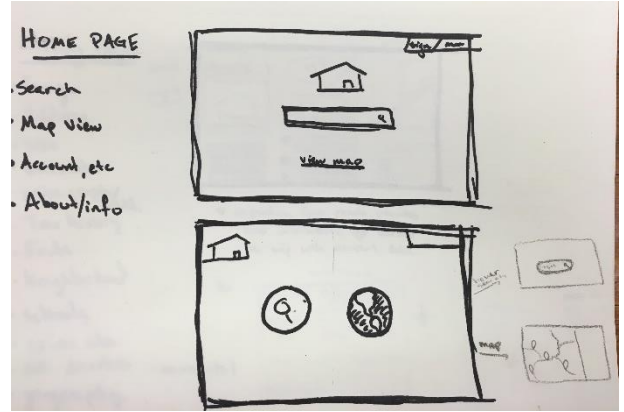
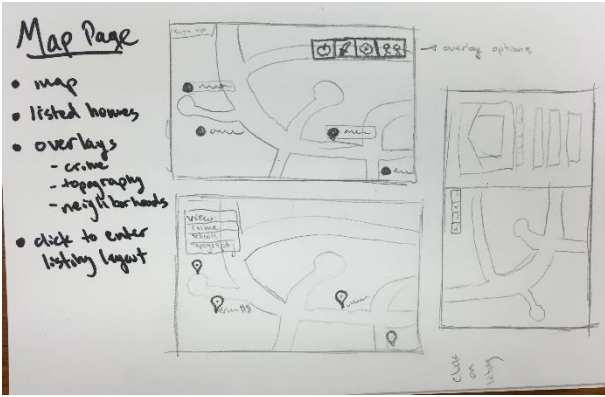


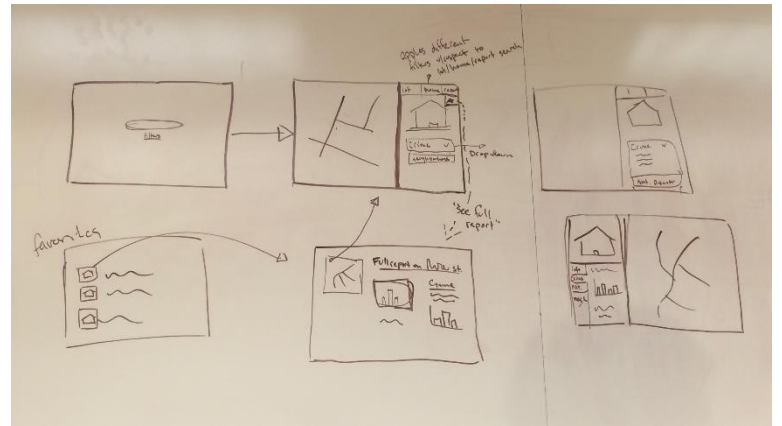
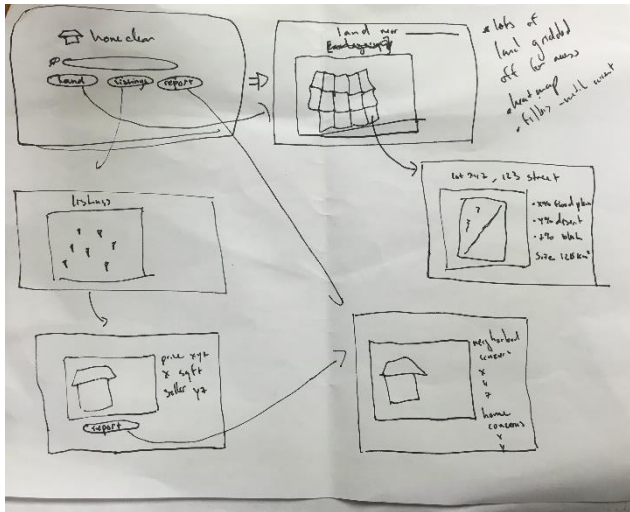
Given the depth of information we want to deliver, we decided that the phone version of our UI designs could perhaps be used as a complementary app, but we would prefer to explore the tablet/web based interfaces more.

Below are our sketches for interfaces that utilize more screen space and are suited for web or tablet:



- image/main info
- secondary/basic info
- tertiary/extra info
- Map

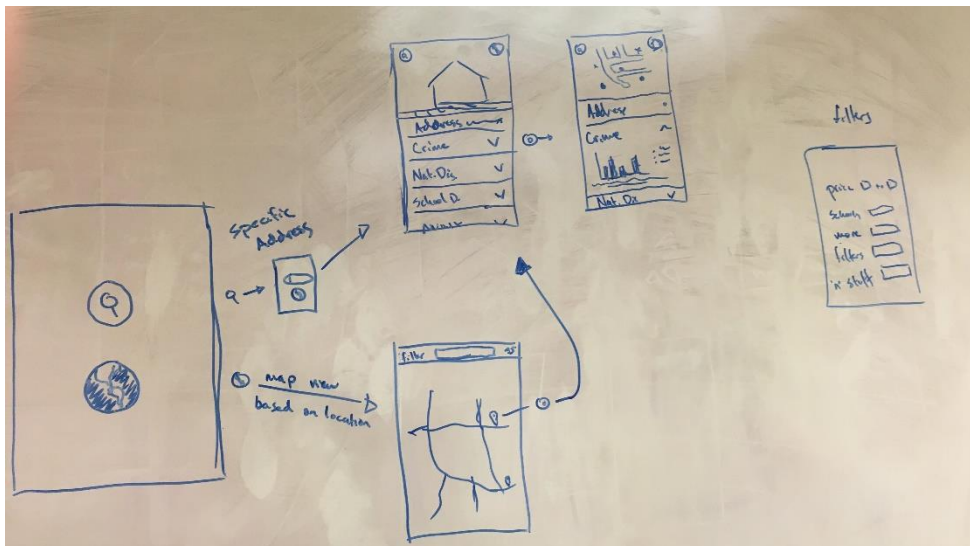




## Storyboards:

From these sketches, we settle in on two interfaces, one mobile, one for web/tablet:

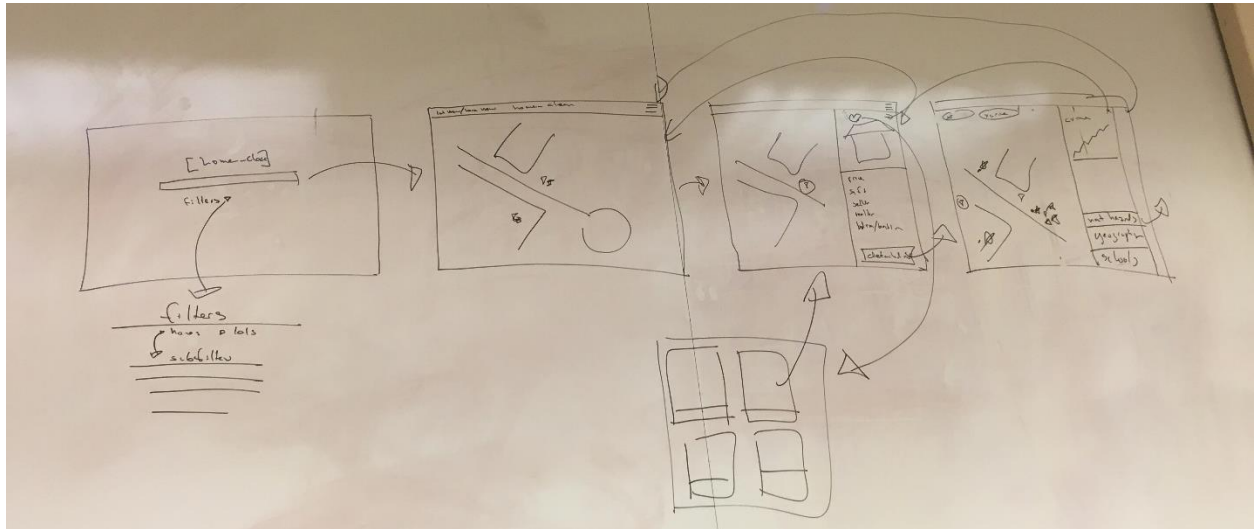
Mobile storyboard:



What we liked about this is that it was a good way of utilizing the limited screen-space of a phone. We drew some inspiration from similar map-based interfaces such as Yelp, to model the above. Note, you can enter a specific address to go straight to the report, or use geo-locating to pull up a region near you, or a region near an address. The screen for the specific home has expandable tabs that show information across different fields such as crime, school districts, etc. We also had a side pane for filters that could be applied to the map view featuring size, number of bedrooms, etc. The issue with this

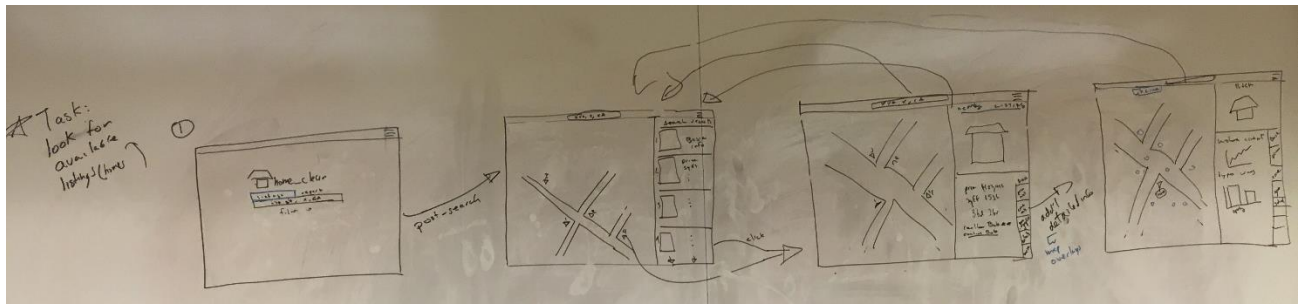
storyboard was we could not think of a way to seamlessly integrate the map and information into one screen. We felt that due to the amount of information, any mobile version would just be a condensed version of something better.

As such, we settled on the following:

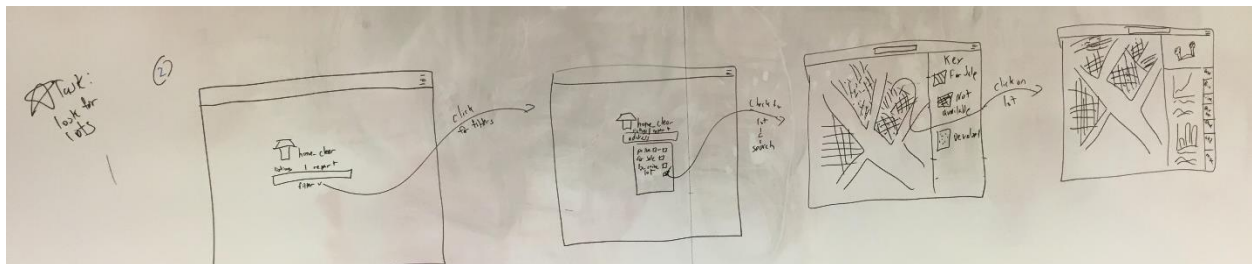


Similar to our mobile interface, we felt this had a clean launch screen. Unlike the mobile version, this had an integrated one screen map based interface to display all the relevant information that would allow us to apply overlays to the map in real-time as a user expanded the extra information tabs. We felt this was the most seamless interface and opted to pursue it, with some changes.

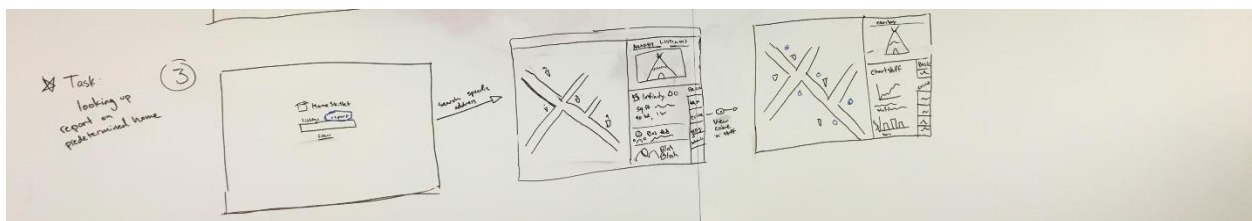
### Chosen Interface with task storyboards:



Our first task is what we consider to be our medium-complexity task, but at the same time our more than likely most performed task, looking for available listings in an area. The launch screen is a search bar with a filter tab, where one can input an address to pull up an area with all available listings. Unlike the original sketch, we realized we could use the side-bar at all times—particularly to include available listings when in the default map view. Within the side-bar, there are collapsible side tab menus to expand out crime, geographic, school, natural hazard information that apply map overlays.



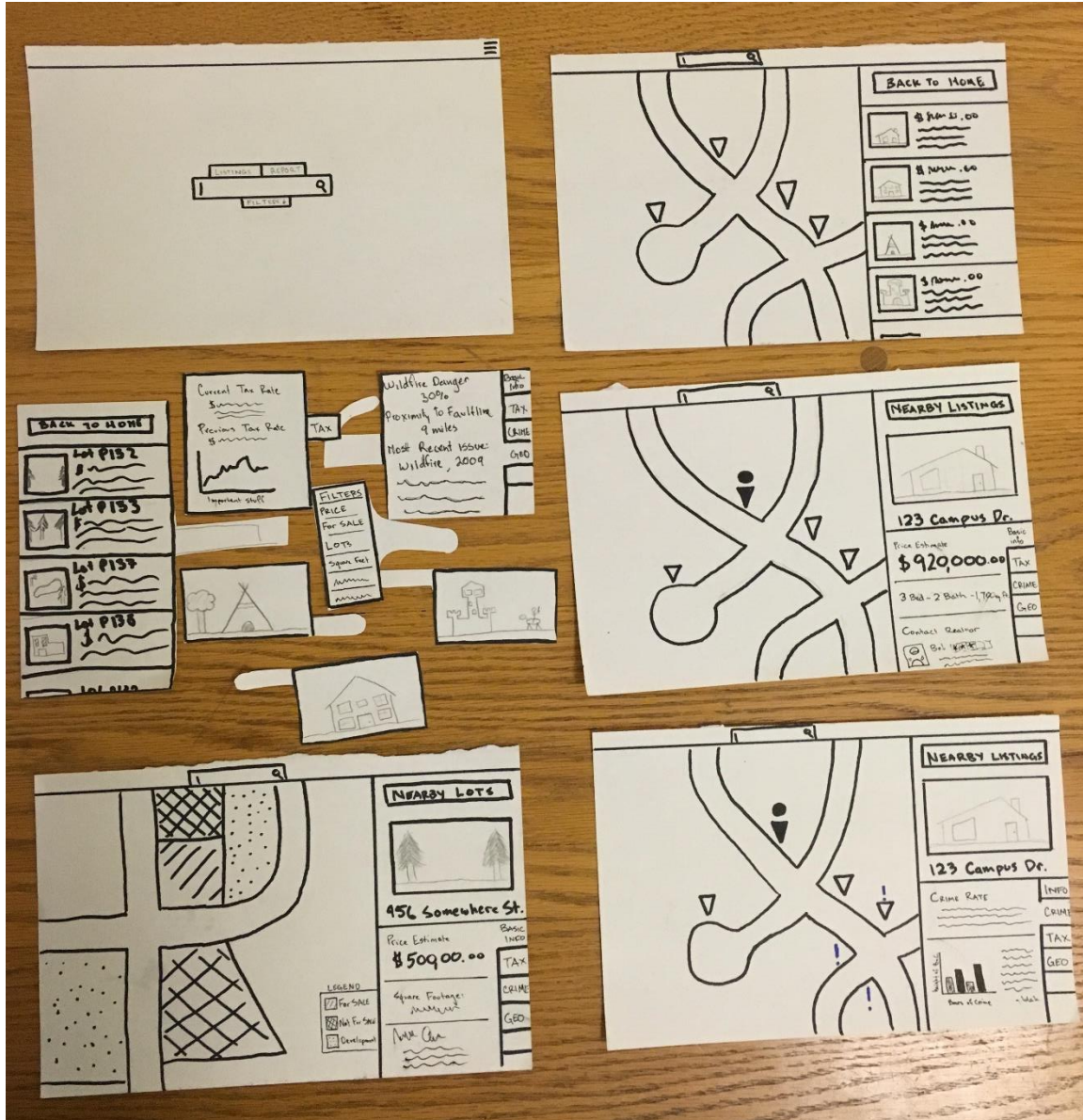
Our second task, suited to the prospective real-estate developer, was to find available lots in an area to potentially purchase. Despite this being a high complexity task, we figured it would be the least used, so in efforts to keep the interface clean, we inserted a filter exclusively for lots in the drop down filter menu.



Our third task, looking for a report on a specific home they are presumably on the verge of purchasing, is our most simple task. To streamline it into the interface, we added to selectable tabs above the search bar, one reading “listings,” and one “report.”

## Lo-fi prototype:

Austin took lead on this as our resident front-end man and sketched out the interface in a Ipad-mini sized sketch pad. We created a launch screen, a map screen for listings, a map screen for lots, a map screen showing an overlay filter (crime), and multiple side tabs that could be tacked on to the model to showcase our filters, crime tab, geographic tab, listings tabs, as well as different home and lot images to bring the prototype to life.



## Method:

We went to University Ave in downtown Palo Alto to specifically seek out older (non-undergraduates) individuals for testing. We wanted people that were more likely to have undergone one more moves, and potentially an actual home purchase.

Alexei approached the individuals and got them to sign the consent forms, John gave them the introductory demo to the interface as well as acted as a human computer, and Austin was our note-taker.

The script we used was as follows:

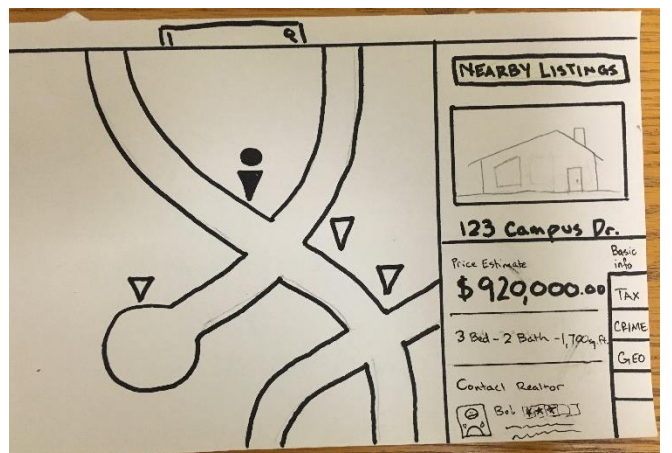
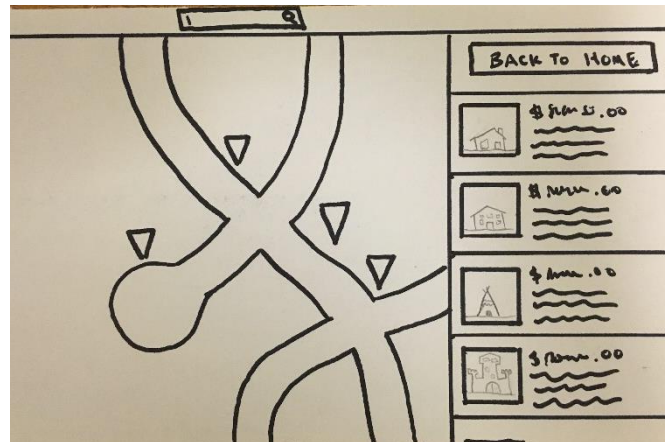
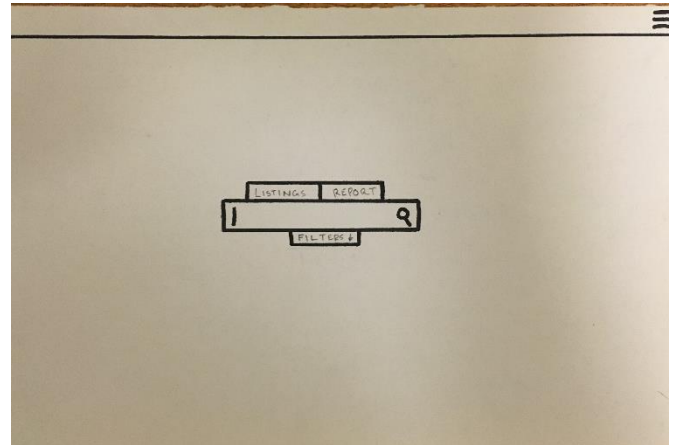
“This is Home\_Clear, an application to navigate the real-estate market. Please interact with it as if you were on a tablet. This is the launch screen, here you can search for homes by entering an address, zip code, or city name into the search bar. You can apply filters with this drop down. And select if you want to look for an area or if you have the address to a specific home, you can look for a report.”

Upon searching, you will see a screen with a map showing the available listings on the map and on the side. You can select a home to view more detailed information.

Please interact with the interface as if you were on an actual tablet, and we will switch the images accordingly.”

The tasks given were our three primary tasks:

1. Find a report for a specific home you have pre-selected.
2. Look through listings in a specific area, and compare the information.
3. Look for lots of land to develop and compare the information for different lots.



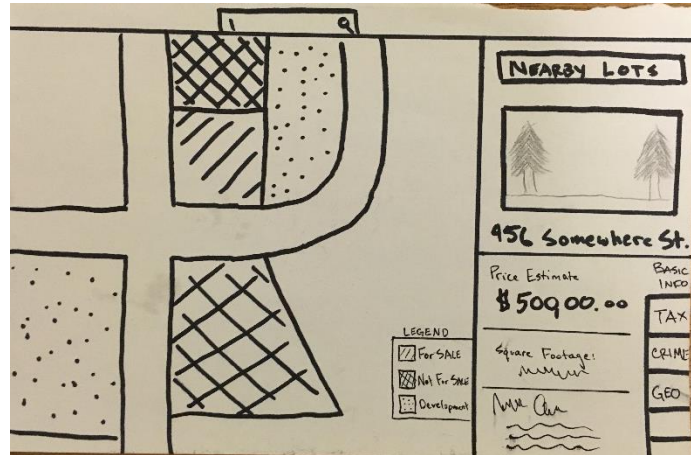


## Results:

Our three testers were: Shirdellah, a hospital worker, Darren, a business-man from Seattle, and Alan and Florencia, a couple that recently moved from Louisiana.

### Shirdellah

Shirdellah handled all tasks. However, when it came to finding lots, she struggled to figure out it had to be done through filters. Her daughter, looked to be 9-10 years old, pointed it out to her. Once she was in the lot screen, she incorrectly thought the legend was something that could be interacted with. She also assumed the labels 'report' and 'listings' were how to initiate the search.

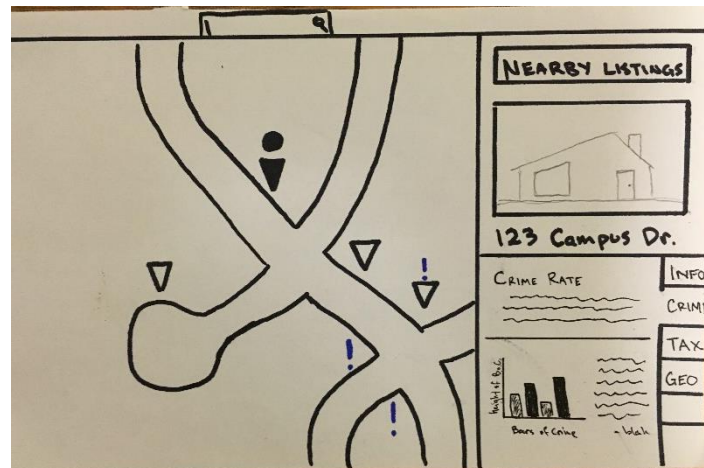


### Darren

Darren deftly handled all tasks. The interface was intuitive to him and he figured out very quickly. His only issue was, despite figuring out lots were a filter, he expected the search to go through as soon as he selected the 'lots' filter. He noted that if there were tooltips above the filters or the 'report' and 'listings' label, it would make it simpler.

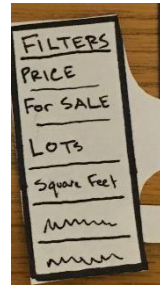
### Allen and Florencia

Allen and Florencia worked through all the tasks as a couple. We felt this was better than separating them as often couples search for homes together. They handled all tasks quite easily. Allen easily spotted that the blue exclamation marks in the crime overlay were recent crimes. This prompted Florencia to ask if sex offenders would be displayed in the filter—we noted we were unsure. She offered that it should be displayed, but not by default in case of trigger warnings. They noted that, having recently undergone a move, they would appreciate if there was a feature to do side by side comparisons, and if there was a way to scroll through multiple images of the home.



## Discussion:

The three tasks that we asked users to perform were tasks they all were familiar with from previous relocation experiences. Specially once they made it to the map screen, they all seemed very comfortable with the interface. The biggest notable issue was how we incorporate lot searching. Since we figured it would likely be our least used task we hid it from view a bit. We now believe we would be better off integrating another tab along 'report' and 'listing' that states 'lots.'



We really liked Florencia and Allen's suggestions. In order to handle sex offenders, we will be adding a filter visible through our crime tab to include or not include sex offenders. Similarly, we feel that if we allow a slide show to appear when the default home/lot image appears, this would be better suited to our clients' needs. Lastly, in order to incorporate comparisons, we think including a 'favorites' or 'pinned' system needs to be brought in. This could be done by adding a 'star' icon to the top right corner of a home's panel. We will have to create a new screen to display favorites, and are currently leaning towards a tiled approach showing thumbnails of the home along with basic information such as address, price, and size.

Overall, we feel very satisfied with our interface choices and look forward to developing them further based on the suggestions and interactions of our testers.

Appendix A:

Note, write-up was written by Alexei Bastidas. Slideshow was created by presenter, Austin Connelly.

Sample Consent Form:

**Consent Form**

The Home\_Clear application is being produced as part of the coursework for Computer Science course CS 147 at Stanford University. Participants in experimental evaluation of the application provide data that is used to evaluate and modify the interface of Home\_Clear. Data will be collected by interview, observation and questionnaire.

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers (Alexei Bastidas, Austin Connelly, John Valentine) or with Professor James Landay, the instructor of CS 147:  
James A. Landay  
CS Department  
Stanford University  
650-498-8215  
landay at cs.stanford.edu

Participant anonymity will be provided by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the student researchers and their supervisors/teaching staff.

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the experiment and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to the Home\_Clear experiment. I also give permission for images/video of me using the application to be used in presentations or publications as long as I am not personally identifiable in the images/video. I understand I may withdraw my permission at any time

Name DARRIN NERLAND

Participant Number 2

Date 10/21/15

Signature [Signature]

Witness name Alexei Bastidas

Witness signature Alexei Bastidas