

# NeighborAid

## Low-fi Prototyping & Pilot Usability Testing

CS 147: Fall 2019

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## **Introduction:**

**Value Proposition:**

**Mission Statement:** Make finding and affording housing more accessible for all people.

**Problem/Solution Overview:**

# Sketches:

## 5 Initial Concept Sketches

We brainstormed 5 different design directions, centering around mobile apps, websites, wearable watch apps, and wearable glasses.

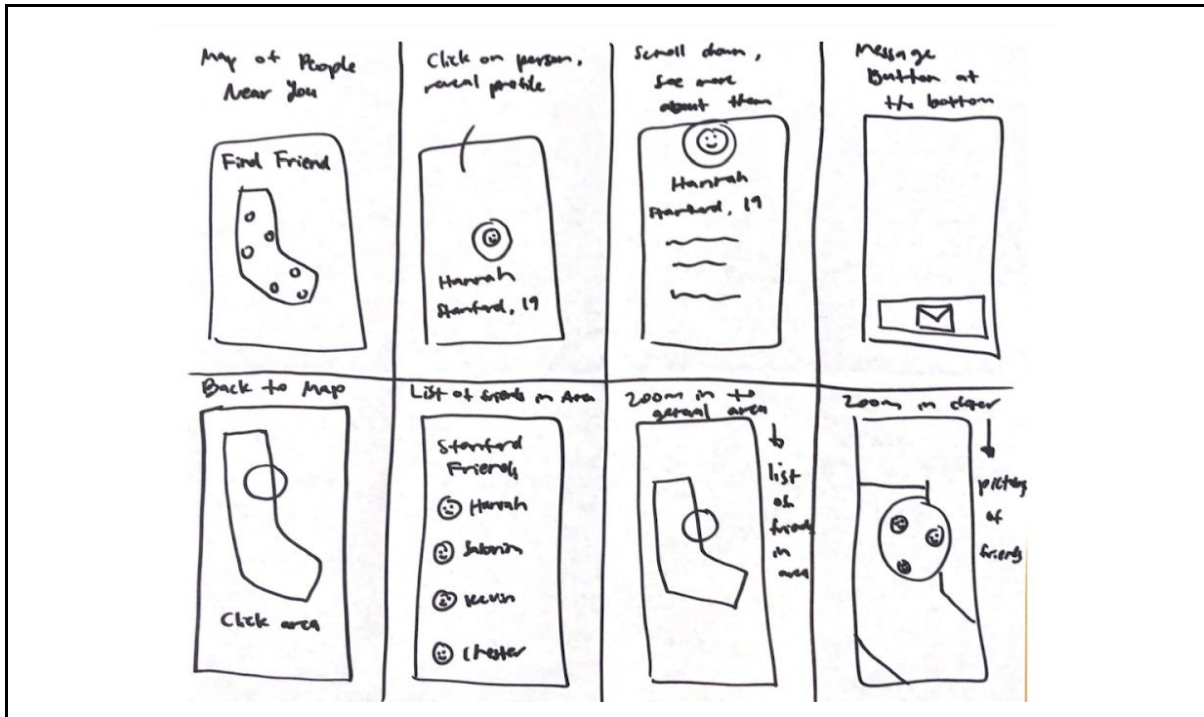


Figure 1. Location based networking mobile app.



Figure 2. Event based mobile app.

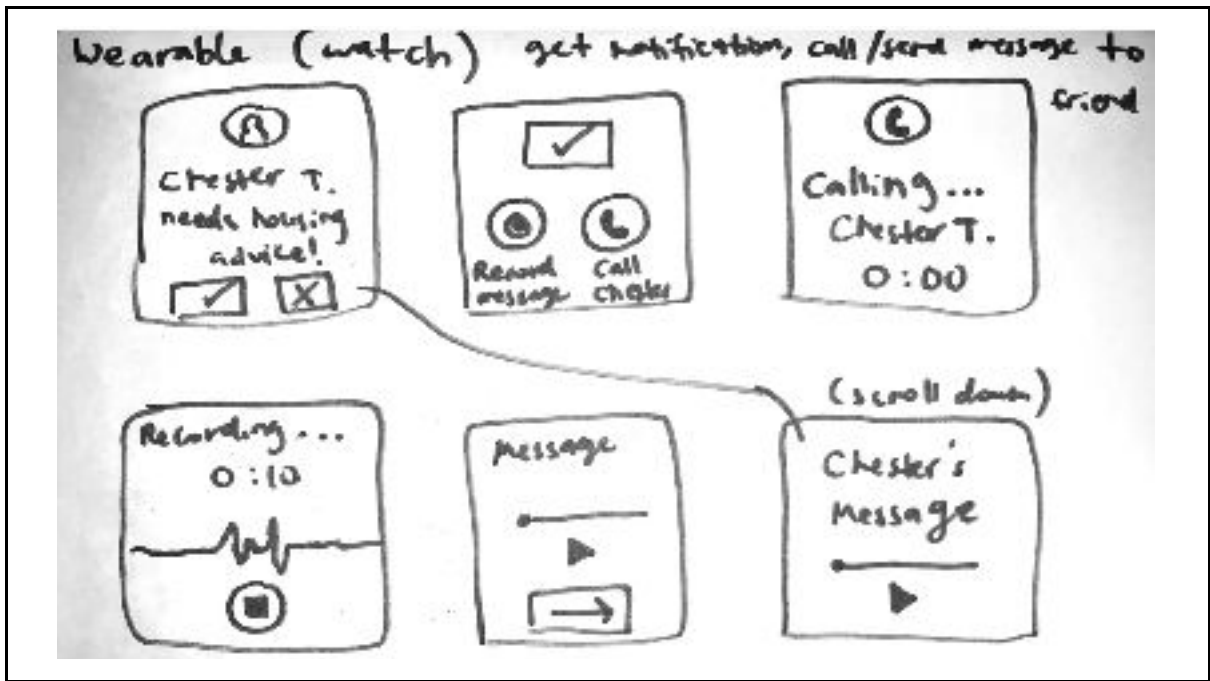


Figure 3. Wearable watch app.

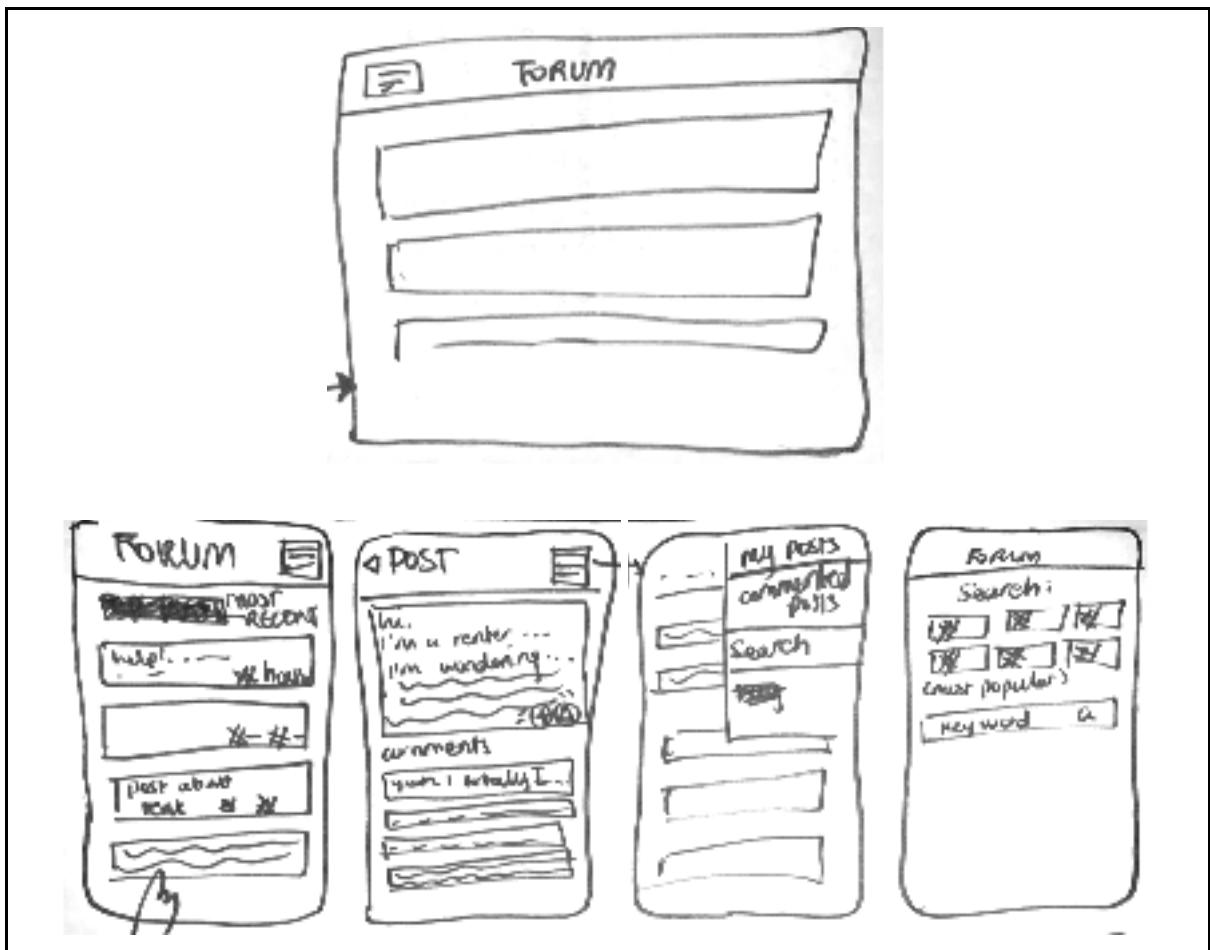


Figure 4. Forum-Based App/Website.

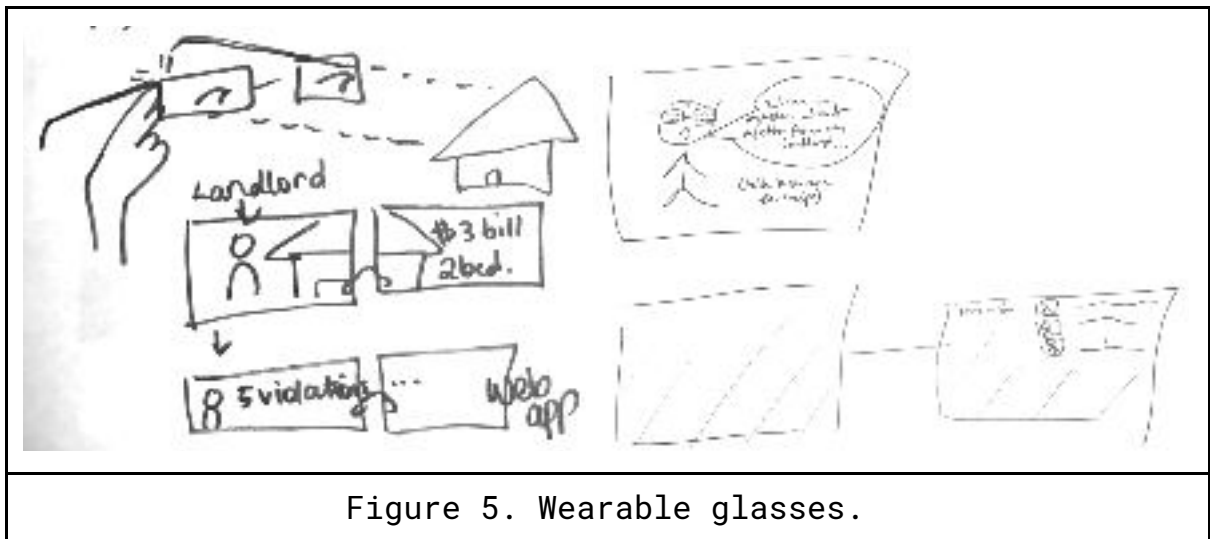


Figure 5. Wearable glasses.

## Top 2 Designs with Further Storyboarding

### Design 1:

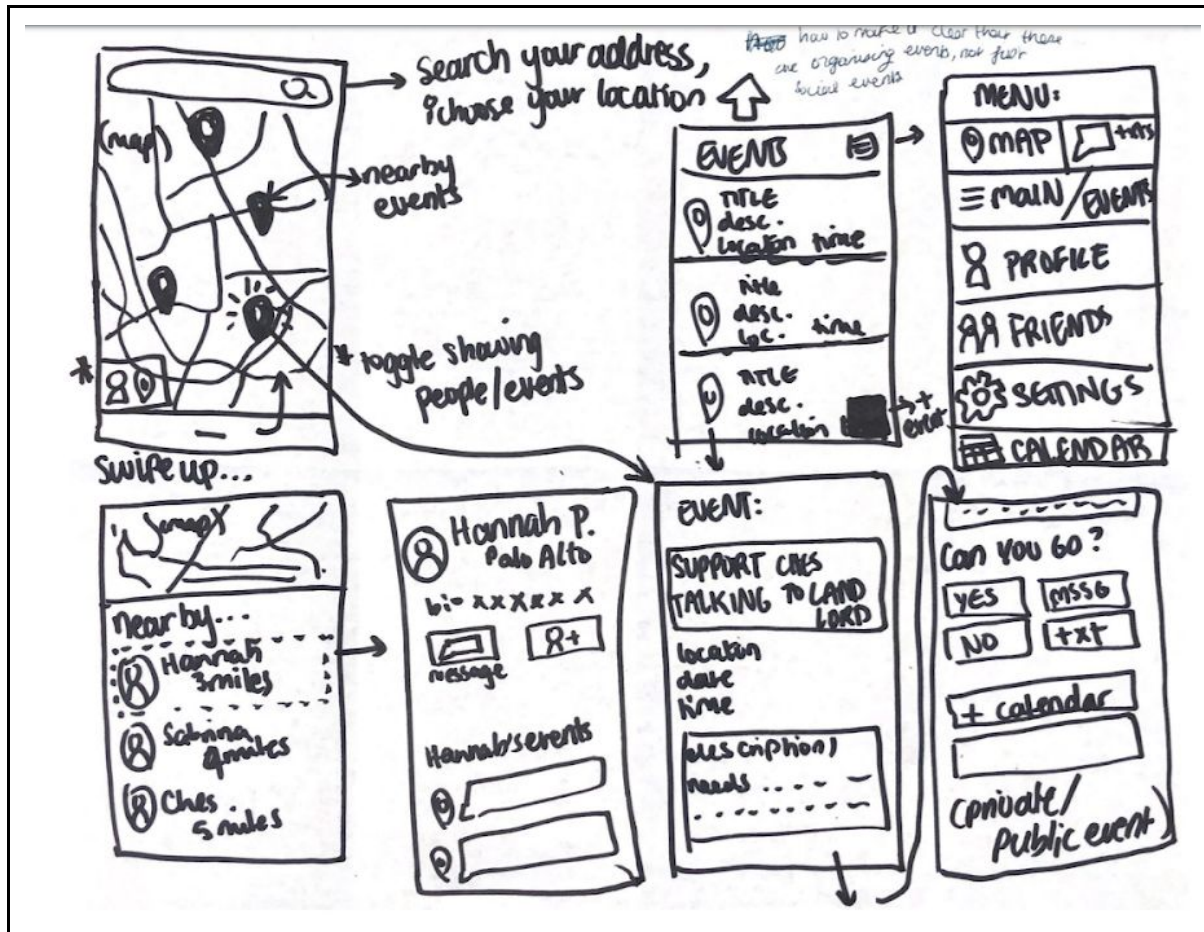
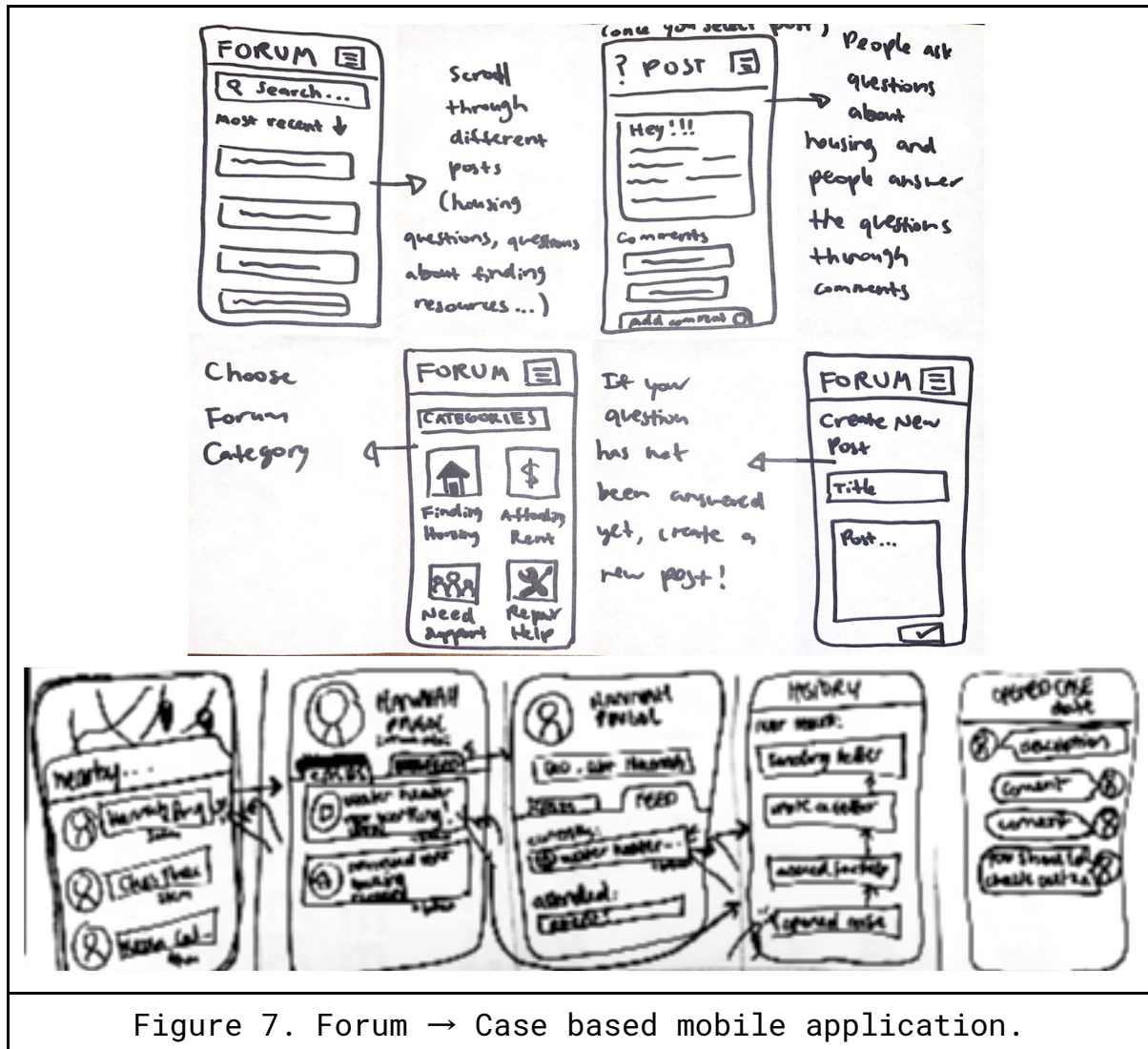


Figure 6. Events based app, incorporating map aspect.

Pros	Cons
<ul style="list-style-type: none"> <li>• Simple structure/layout</li> <li>• Visualisation of events</li> <li>• Map is very useful and elegant</li> <li>• Easy to navigate between map, user profiles, and event pages</li> </ul>	<ul style="list-style-type: none"> <li>• Events are one-time only</li> <li>• No commitment to person's journey</li> <li>• Map could be an invasion of privacy</li> <li>• Too similar to other social media apps (Facebook, Find My Friends)</li> </ul>

## Design 2:



Pros	Cons
<ul style="list-style-type: none"> <li>• Can follow a case through different stages</li> <li>• more cohesion</li> <li>• Shows continuity</li> <li>• Control of who's involved in events / what events you want to be involved in</li> <li>• Focussed on people in the community</li> </ul>	<ul style="list-style-type: none"> <li>• More complex functionality</li> <li>• More complicated for new users to take part/feel involved</li> <li>• Could be difficult for user to navigate at first (we would need to implement some kind of guide-through feature for the first time user is opening the app)</li> </ul>

## Selected Interface Design:

### Rationale

We ended up deciding that the forum/case-based mobile app UI had the most potential and ended up deciding to further develop this idea. We felt that the mobile app was more sustainable and had more potential for community building than the other design solutions. We also decided to go through with the forum/case-based solution rather than the event-based solution because it seemed more directed and would be easier to track progress with. Since the events within the case-based solution are linked together, there is more cohesion around the concern.

### Task Storyboards:

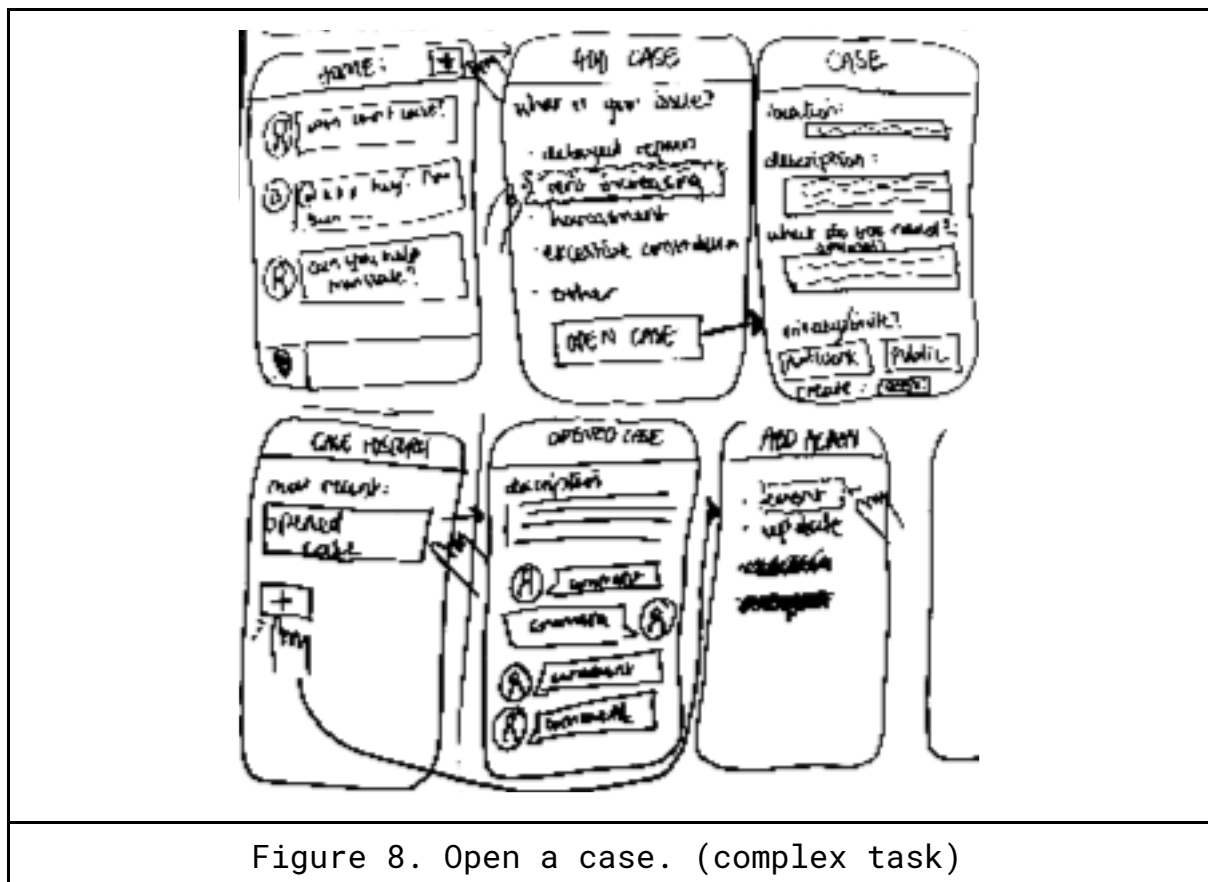


Figure 8. Open a case. (complex task)

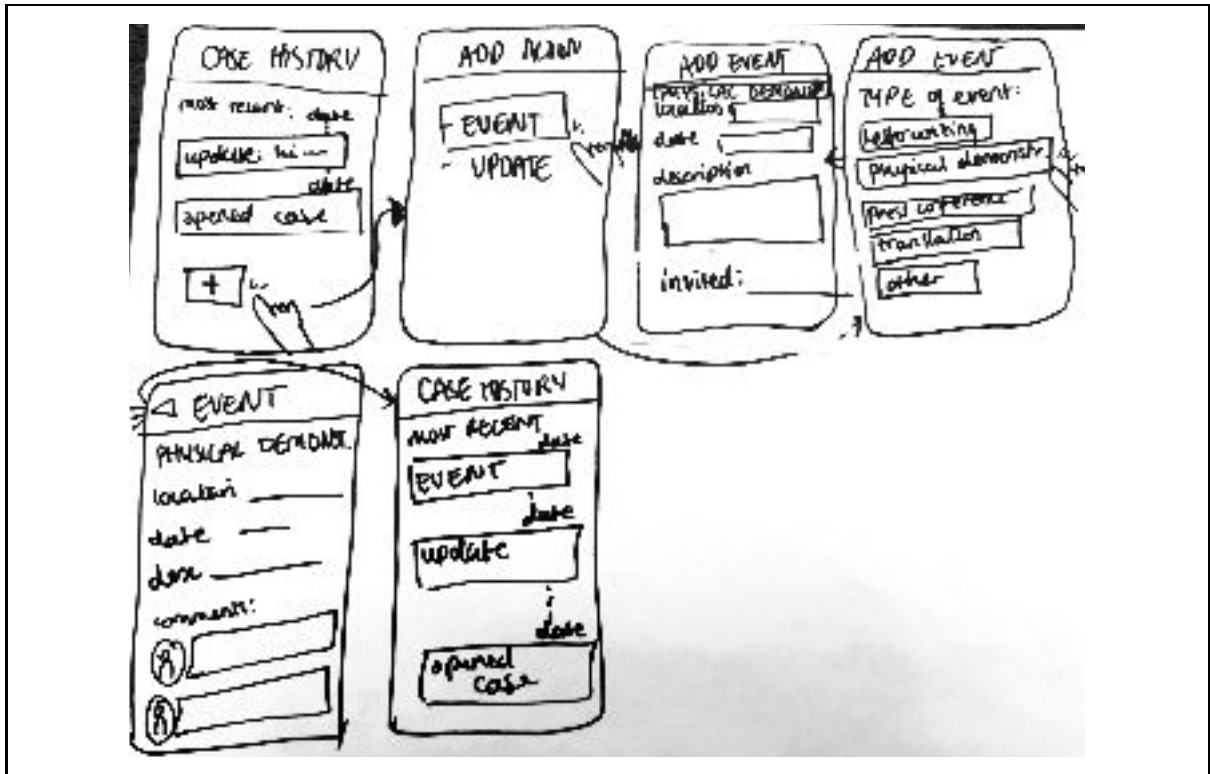


Figure 9. Create an event. (moderate task)



Figure 10. Post an update. (simple task)

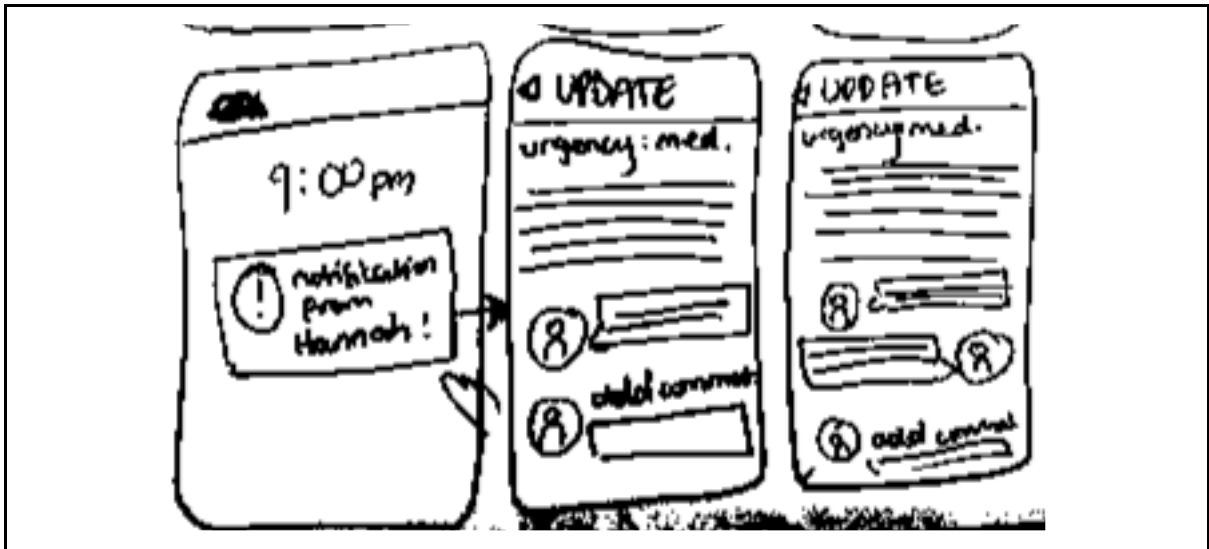


Figure 11. Comment on a post. (simple task)

# Low Fidelity Prototype

We created paper prototypes where we drew screens on sheets of paper.

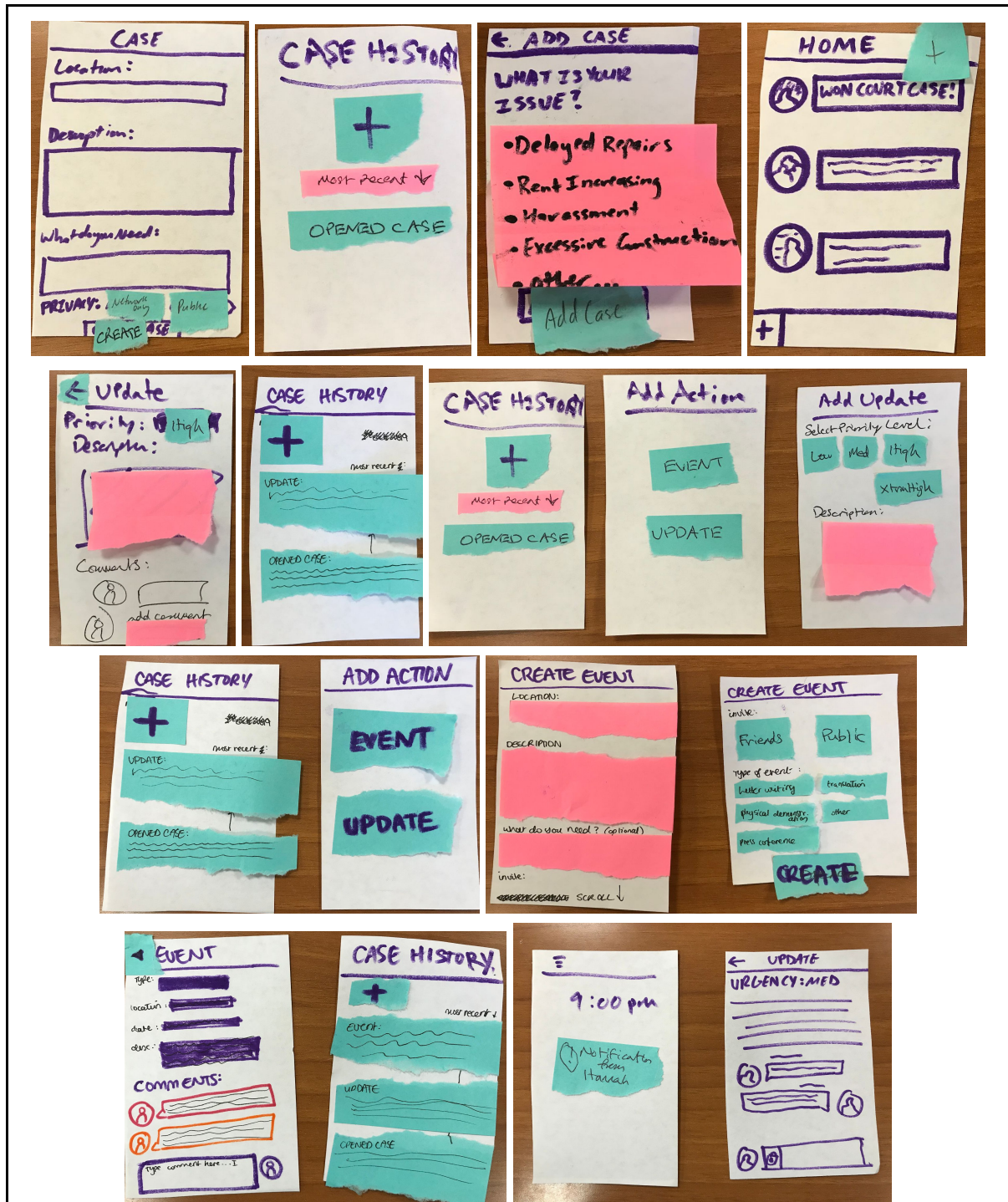
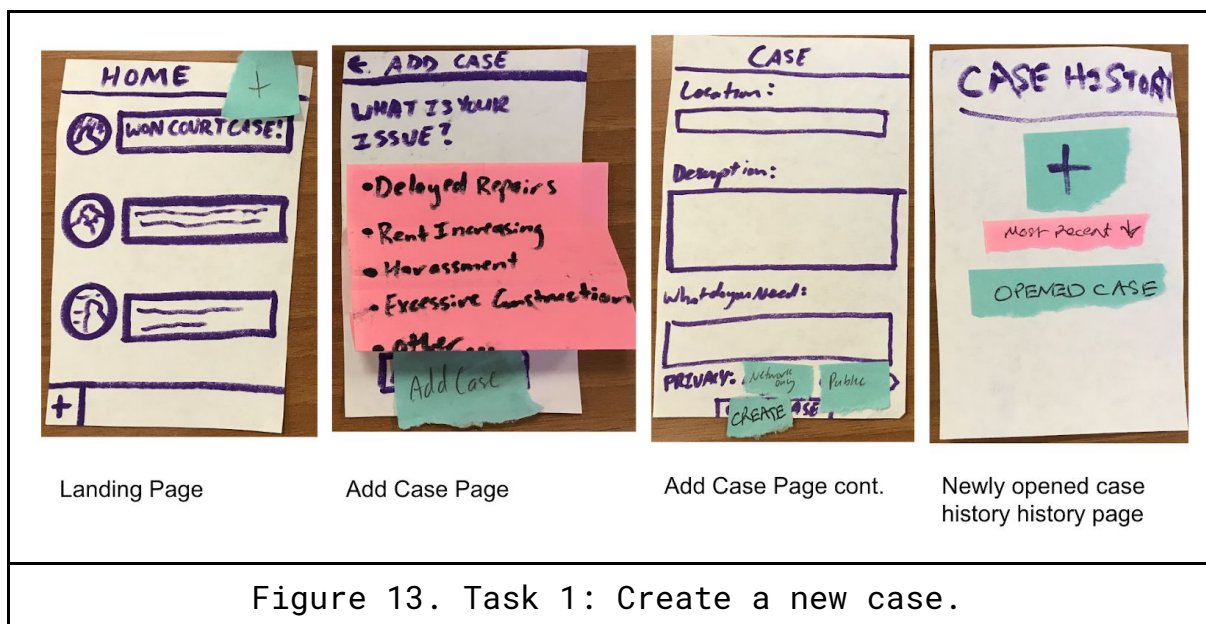


Figure 12. All screens of paper prototype.

Interface Element	Functionality
Home button	Brings user back to home screen, where event updates are posted.
Add case button	Allows user to start a new case.
Add event button	Allows user to add a new event.
Add update button	Allows user to share updates regarding their case/event.
Comment box	Allows users to comment on others' cases/events.
Notification pop-up	Notifies users of app updates on phone lock screen.

## Images



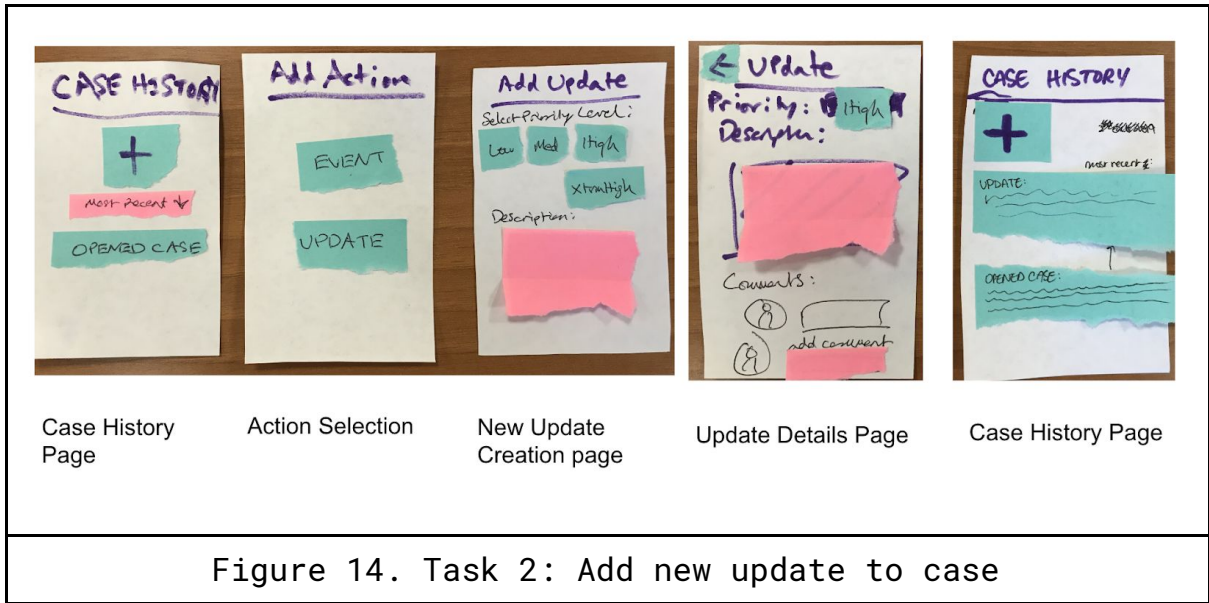


Figure 14. Task 2: Add new update to case

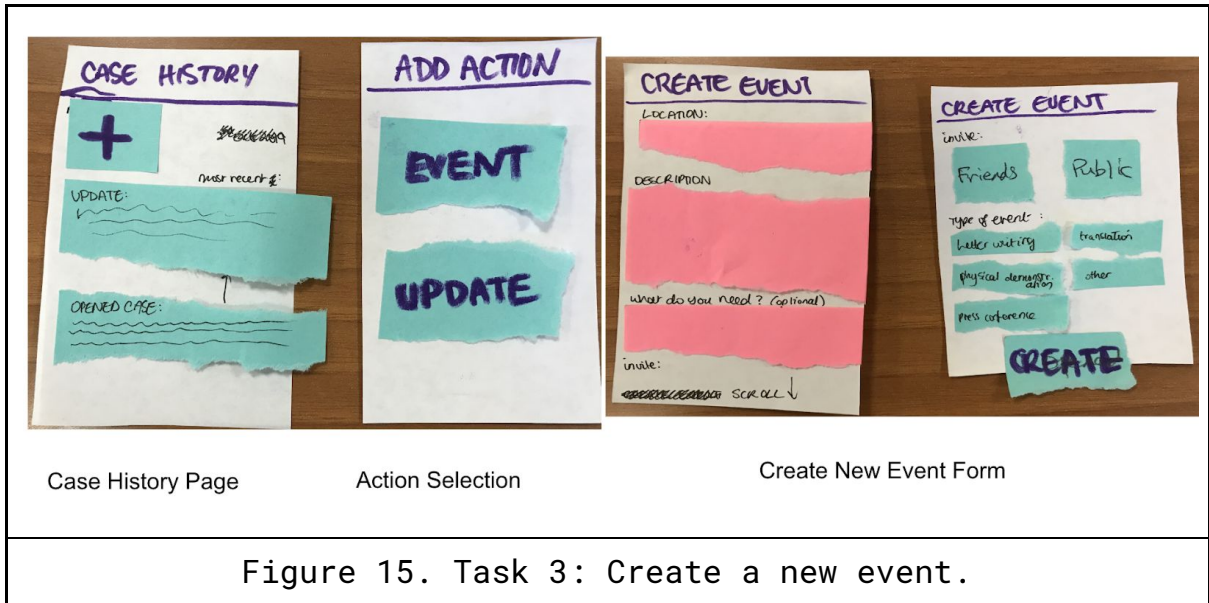
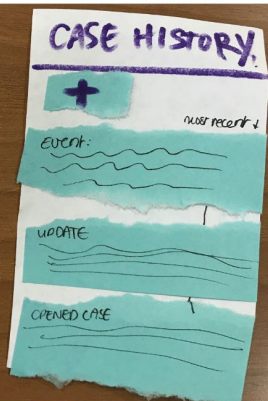


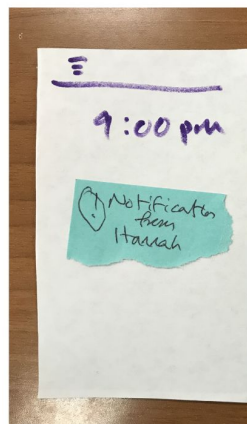
Figure 15. Task 3: Create a new event.



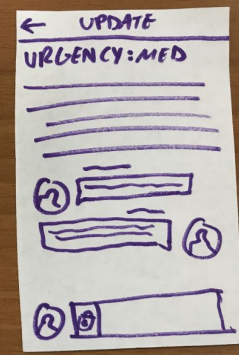
Event Details Page



Case History Page



Locked Phone Screen



Update Details Page

Figure 16: Task 4: Adding a comment.

# **Usability Testing Method**

## **Participants/Environment:**

We recruited a variety of participants. One was a housing organizer in San Francisco who helps tenants experiencing harassment with tasks such as writing letters to their landlords and fighting eviction notices. Two others were Stanford students.

## **Tasks:**

1. Create a new case
2. Add a new event to a case
3. Add a new update to a case
4. Make a comment on someone else's case

## **Procedures:**

1. We started our testing by providing background info on the app:
  - a. Script: The app is a "social network" for renters to crowdsource housing issues they are experiencing, such as slow repairs and illegal rent increases. People can create "cases" that others in their network can subscribe to and get updates on steps being taken to resolve the case and ways they can help.
2. App Demo:
  - a. show how to view the cases for a profile, and how to view the events and updates in a specific case
3. Tasks
  - a. Ask the participant to perform each of our tasks listed above
  - b. Start from the landing page (a news feed), we ask them to create a new case.
4. Feedback
  - a. We asked for general thoughts about their experience using the app

## **Test Measures:**

During our test, we measured how people handed the tasks that we asked of them. We observed them, and wrote down observations for each of the mobile phone screens.

## **Team Member Roles:**

- Facilitator: Chester
- Computer: Sabrina
- Observer: Kevin
- Observer: Hannah

## **Results:**

### **Errors:**

- Home screen looks like a group chat rather than an activity feed
- Functionality of "+" button on "Case History" screen is not clear
- Users mis-understand what a "case" was, vs an "event" or "update", even though we took a minute in the beginning to explain background on how the app works.
- Participants needed a lot of encouragement to motivate them to click continue along the work flow
- Time
  - To complete all 4 tasks took roughly 8-10 minutes per participant, which is longer than we were expecting

### Successes:

- Workflows for creating new update and event are smooth
  - Participants intuitively understand how to fill in the fields for description, urgency, location, etc.
- Participants were excited about the prototype, especially the social networking/community-building component of the app
  - DH: "People often don't share things about their housing situation, but if they see that others are going through the same things, they might be willing to share and try to resolve them too."

## **Discussion:**

Overall, we have discovered that we need to work on our user interface, because the design of the buttons confuses our users. It needs to be a lot less cluttered, and more streamlined, as we also strive for a more accessible interface as well. However, we did do well in regards that users were at least able to identify the basic fields that they needed to fill out.

We hope that with higher fidelity prototypes, our design will become a lot cleaner, and also to center the purpose of this app a lot more in the design process.

## **Appendix:**

**Word Count: 1312**

### **Testing Script:**

The app is a "social network" for renters to crowdsource housing issues they are experiencing, such as slow repairs and illegal rent increases. People can create "cases" that others in their network can subscribe to and get updates on steps being taken to resolve the case and ways they can help.

DEMO:

- show how to view the cases for a profile, and how to view the events and updates in a specific "case"

### **Critical Incidents Log:**

Red text denotes errors (4 = usability catastrophe), green text denotes successes (0 = no problem)

#### **Participant 1 (RH)**

Incident	Severity Rating
"wouldn't I just write here in the chat? at the bottom...This looks like a group chat, but it's labelled home"	4
"I've arrived at case history, but how do I go back to add an update? I want to go to another page to add a message"	4
"I thought this plus would have been to add a case"	2
"I want a dropdown menu that says share case (like three dots)"	2
"privacy? oh ok, choose bw these two"	1

didn't understand that the case history page with the new update added to it was the same case history page from before	4
Add example and add update workflow were easy to understand and input descriptions	0

### Participant 2 (ST)

Incident	Severity Rating
Blocked when trying to create an update to the case because thinks the plus button is for creating a new case	4
Plus sign clearer now context of adding update	0
everything else very smooth	0

### Participant 3 (DF)

Incident	Severity Rating
I like how people can see what other people are doing in their housing situation	0
I think a big issue is whether people will get involved when they don't have a housing issue	3 (we want lots of people to be in the networks)
understands what a case is	0
clicks in the right places to make update and event	0