

# SHELTER HELPER

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## TEAM

Advaith Achan - User Researcher

Alex Davis - Designer

Katherine Choi - Sketching and Storyboarding

Madison Holbrook - Project Manager

Friday May 26<sup>th</sup>, 2017

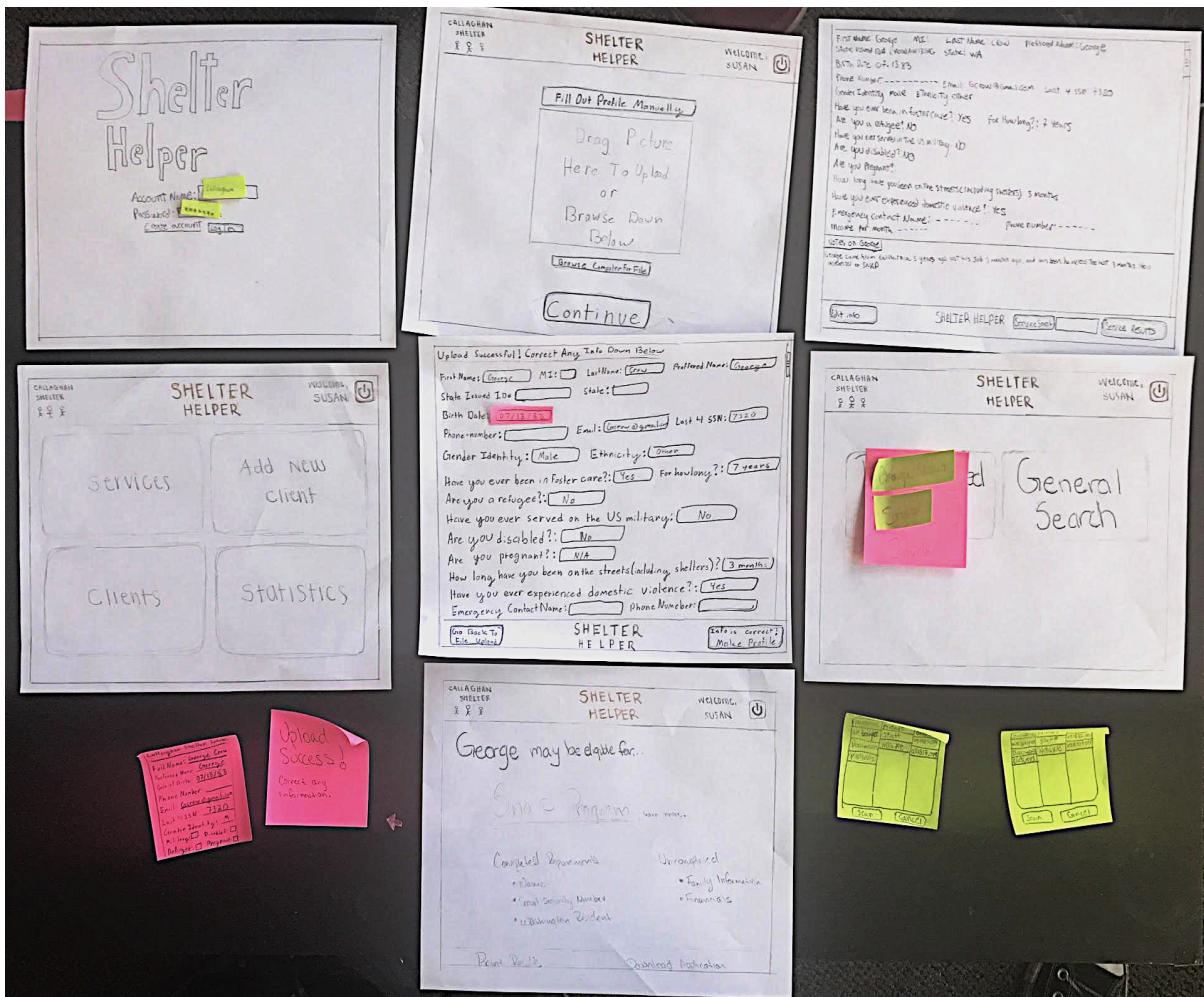
## PROBLEM & SOLUTION

We found that homeless shelters in Seattle have concerns regarding the efficiency of the client check-in process, client information privacy, and accessing additional social services. To address these concerns, we worked with social workers and shelter volunteers to design a web page, Shelter Helper, that addresses their needs and pain points. The website's features include an auto-completed client form that is parsed from a photo upload of the client form. It is then stored under the client's tab and can be accessed to search and apply for personalized social services.

## INITIAL PAPER PROTOTYPE

The original paper prototype shows the login process, home page, and two tasks that can be completed with Shelter Helper. The critical area of design is the auto-completion/upload of the photo check-in forms and using that information to search for social services. The first task encompasses the login and homepage along with the process of a volunteer uploading, parsing, and editing the uploaded intake form. The second task depicts a worker starting off back at the home page and going through the process of doing a personalized search for a specific user and need, getting both the completed and uncompleted criteria for receiving that need, and having the option to either download or print that information.

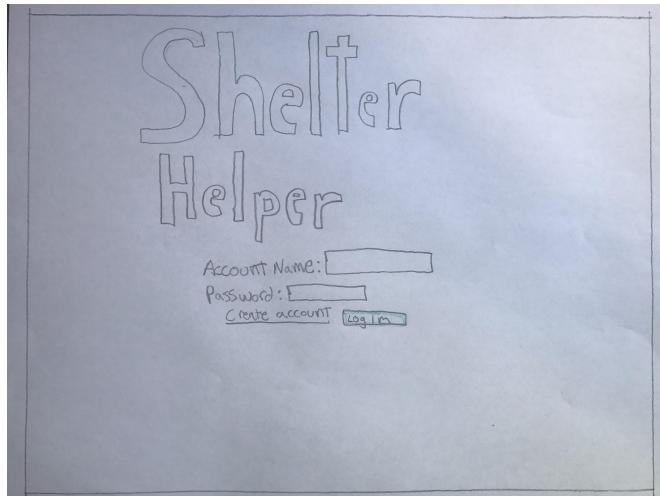
## OVERVIEW IMAGE OF PAPER PROTOTYPE



## TASK ONE

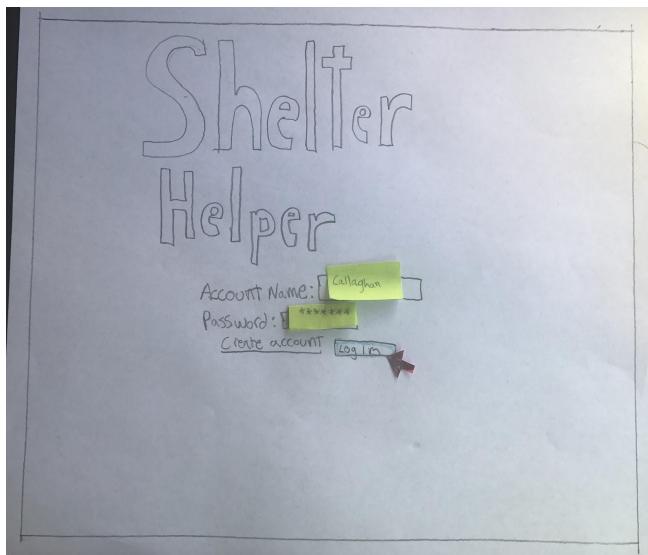
This depicts a user adding a new user through the upload picture option. The user must log in and get to the correct place to add a new user from a picture file on their computer. They then must edit some incorrectly parsed information and confirm that the information is correct.

### STEP ONE: LOG-IN



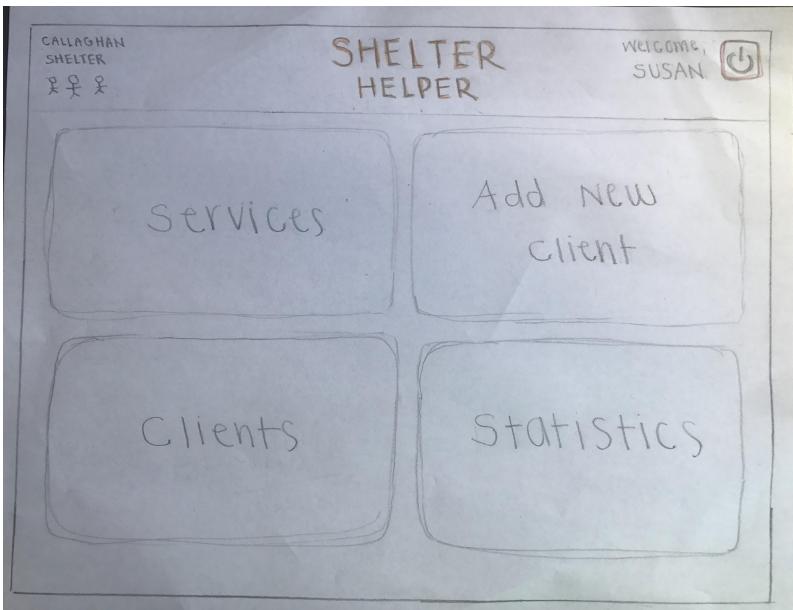
The home page of the application includes a login screen or option to create a new account for shelter staff.

### STEP TWO: INPUT INFO



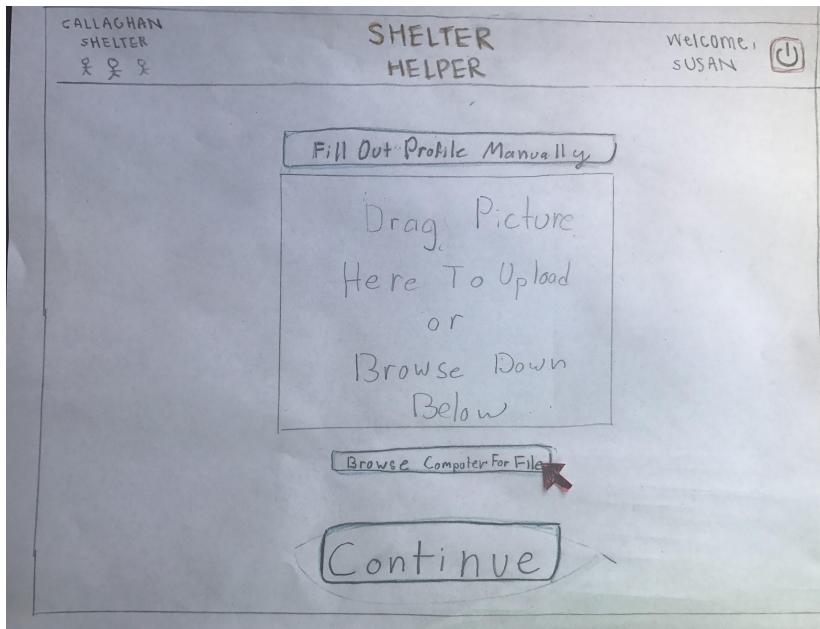
The user must input his/her account name and password to access any part of the application. This ensures that all information in the database is secure.

### STEP THREE: SELECT ADD NEW CLIENT



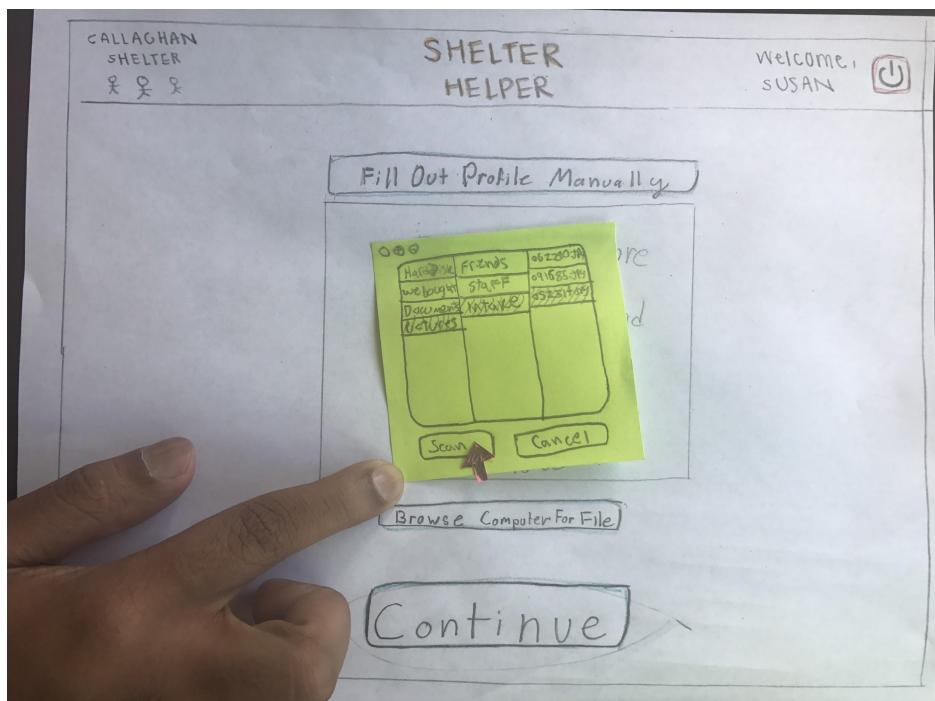
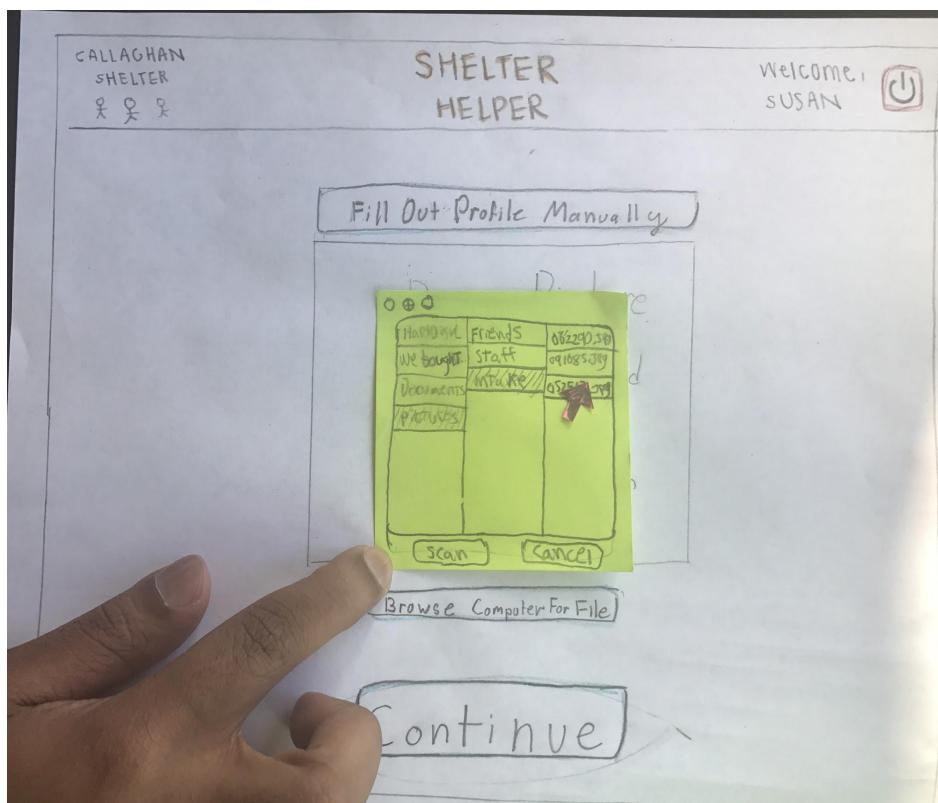
Once a user is logged in, the main page displays the name of the shelter and the current user at the top of the screen. A user can log off at any time by pressing the logout button on the upper right hand side of the screen.

### STEP FOUR: TAKEN TO PAGE AND SELECTING FILE UPLOAD

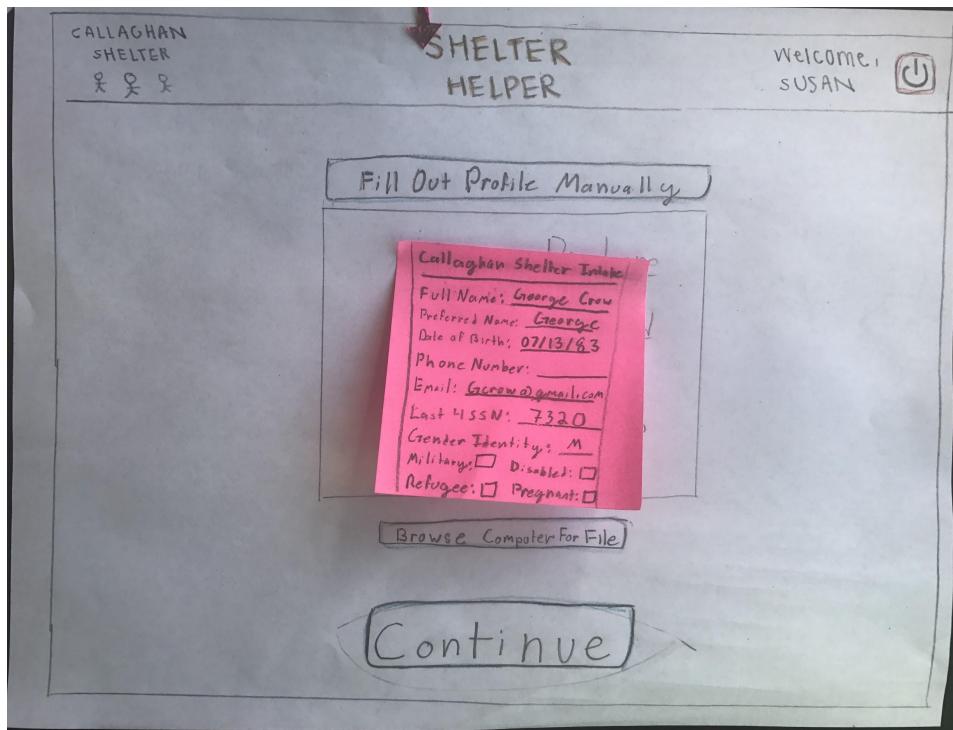


On the "Add New Client" page, the user has the option to fill out a profile manually or upload a picture of a paper intake form. On the right, the user clicks on the option to browse a complete file.

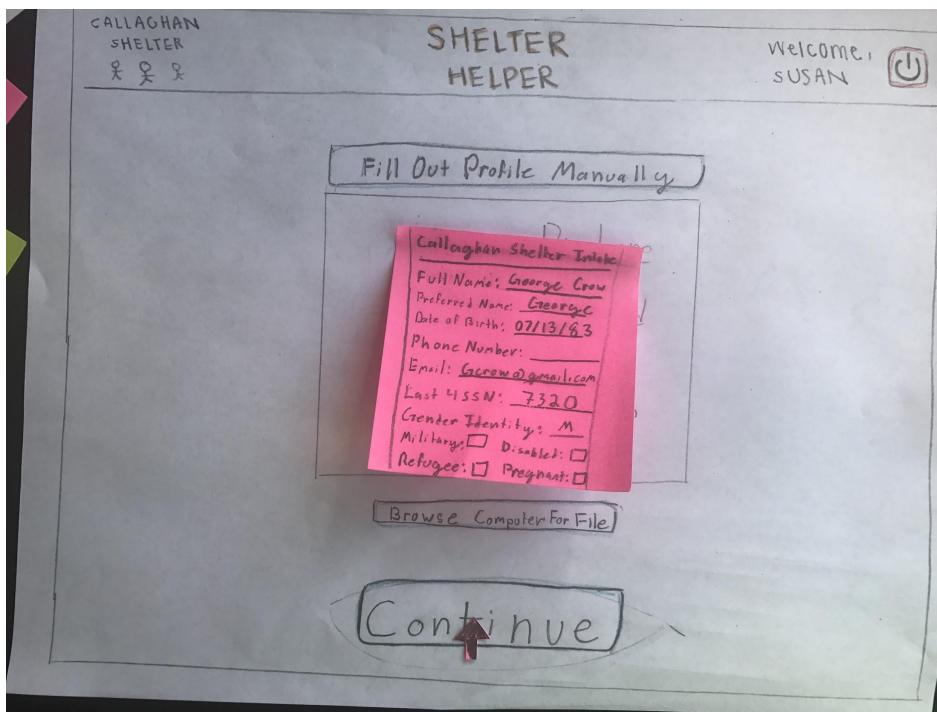
## STEP FIVE: SEARCH AND UPLOAD INTAKE FORM



## STEP SIX: SELECTING INTAKE FORM



Once the image is successfully scanned, the user presses continue.



STEP SEVEN: UPDATING INFORMATION, MAKING CHANGES, AND SUBMITTING FORM

Upload Successful! Correct Any Info Down Below

First Name: <input type="text" value="George"/>	MI: <input type="checkbox"/>	Last Name: <input type="text" value="Crow"/>	Preferred Name: <input type="text" value="George"/>
State Issued ID# <input type="text"/>	State: <input type="text"/>		
Birth Date: <input type="text" value="04/13/85"/> <span style="color:red;">X</span>	Last 4 SSN: <input type="text" value="7320"/>		
Phone number: <input type="text"/>	Email: <input type="text" value="gcrow@gmail.com"/>		
Gender Identity: <input type="text" value="Male"/>	Ethnicity: <input type="text" value="Other"/>		
Have you ever been in Foster care?: <input checked="" type="checkbox" value="Yes"/>		For how long?: <input type="text" value="7 years"/>	
Are you a refugee?: <input checked="" type="checkbox" value="No"/>			
Have you ever served on the US military?: <input checked="" type="checkbox" value="No"/>			
Are you disabled?: <input checked="" type="checkbox" value="No"/>			
Are you pregnant?: <input checked="" type="checkbox" value="N/A"/>			
How long have you been on the streets(including shelters)? <input type="text" value="3 months"/>			
Have you ever experienced domestic violence?: <input checked="" type="checkbox" value="Yes"/>			
Emergency Contact Name: <input type="text"/>		Phone Number: <input type="text"/>	

**SHELTER  
HELPER**

**Info is correct!** **Make Profile**

**Go Back To File Upload**

The user identifies information that is either incomplete or incorrect.

Upload Successful! Correct Any Info Down Below

First Name: <input type="text" value="George"/>	MI: <input type="checkbox"/>	Last Name: <input type="text" value="Crow"/>	Preferred Name: <input type="text" value="George"/>
State Issued ID# <input type="text"/>	State: <input type="text"/>		
Birth Date: <input type="text" value="07/13/83"/> <span style="color:red;">X</span>	Last 4 SSN: <input type="text" value="7320"/>		
Phone number: <input type="text"/>	Email: <input type="text" value="gcrow@gmail.com"/>		
Gender Identity: <input type="text" value="Male"/>	Ethnicity: <input type="text" value="Other"/>		
Have you ever been in Foster care?: <input checked="" type="checkbox" value="Yes"/>		For how long?: <input type="text" value="7 years"/>	
Are you a refugee?: <input checked="" type="checkbox" value="No"/>			
Have you ever served on the US military?: <input checked="" type="checkbox" value="No"/>			
Are you disabled?: <input checked="" type="checkbox" value="No"/>			
Are you pregnant?: <input checked="" type="checkbox" value="N/A"/>			
How long have you been on the streets(including shelters)? <input type="text" value="3 months"/>			
Have you ever experienced domestic violence?: <input checked="" type="checkbox" value="Yes"/>			
Emergency Contact Name: <input type="text"/>		Phone Number: <input type="text"/>	

**SHELTER  
HELPER**

**Info is correct!** **Make Profile**

**Go Back To File Upload**

Changes are made to information that was correctly inputted.

Birth Date:  Email:  Last 4 SSN:   
 Phone number:  Gender Identity:  Ethnicity:   
 Have you ever been in Foster care?:  For how long?:   
 Are you a refugee?:   
 Have you ever served on the US military?:   
 Are you disabled?:   
 Are you pregnant?:   
 How long have you been on the streets (including shelters)?   
 Have you ever experienced domestic violence?:   
 Emergency Contact Name:  Phone Number:   
 Go Back To File Upload      SHELTER HELPER      Info is correct! Make Profile

Once the entire profile is corrected and complete, the user presses the “Info is correct! Make Profile” button to continue.

#### STEP EIGHT: NEW CLIENT PROFILE

Completion of Task One: Uploading a new intake form and creating a client profile.

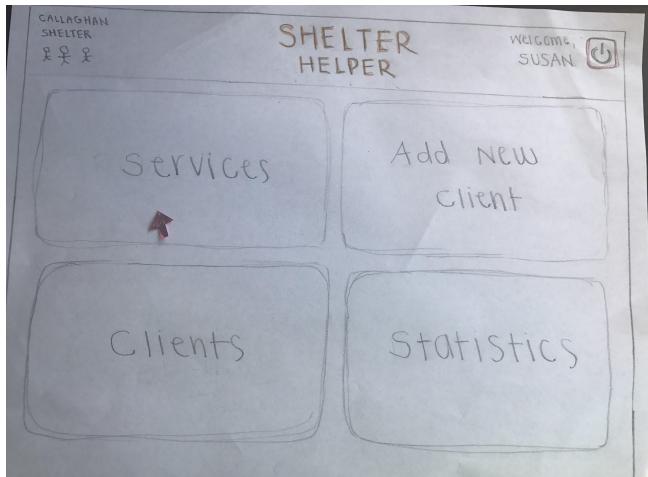
CALLAGHAN SHELTER      SHELTER HELPER      WELCOME, SUSAN   
 First Name: George MI: LAST Name: Crow preferred Name: George  
 State issued ID# CROWAW1304G STATE: WA  
 Birth Date: 07.13.83  
 Phone Number: ----- Email: Gcrow@gmail.com Last 4 ssn: 7320  
 Gender Identity: Male Ethnicity Other  
 Have you ever been in foster care?: Yes For How long?: 7 years  
 Are you a refugee?: No  
 Have you ever served in the US military?: No  
 Are you disabled?: No  
 Are you pregnant?:  
 How long have you been on the streets (including shelters): 3 months  
 Have you ever experienced domestic violence?: Yes  
 Emergency Contact Name: ----- phone number: -----  
 Income per month: -----  
 NOTES ON George:  
 George came from California 5 years ago, lost his job 5 months ago, and has been homeless the last 3 months. He is interested in SNAP.  
 Edit info      SHELTER HELPER      ServiceSearch      Service Results

The completed client profile is displayed. There is an option to edit the information once more or look up possible services available for the client.

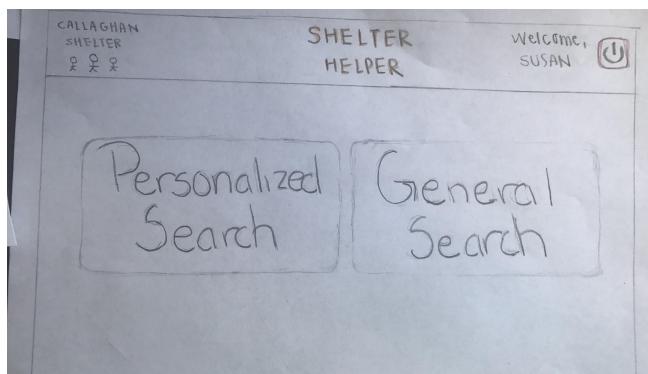
## TASK TWO

The user now must do a personalized search for a client named George Crow who is looking for the SNAP service. He qualifies, so they then have his information (both what he already has on file and what is needed), and the users are asked to download that information onto the computer so they can get George a copy.

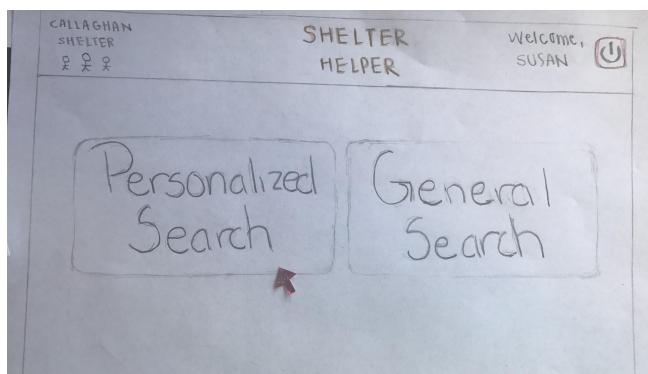
### STEP ONE: SELECTING SERVICES AND PERSONALIZED SEARCH



On the main page, the user can now select services.

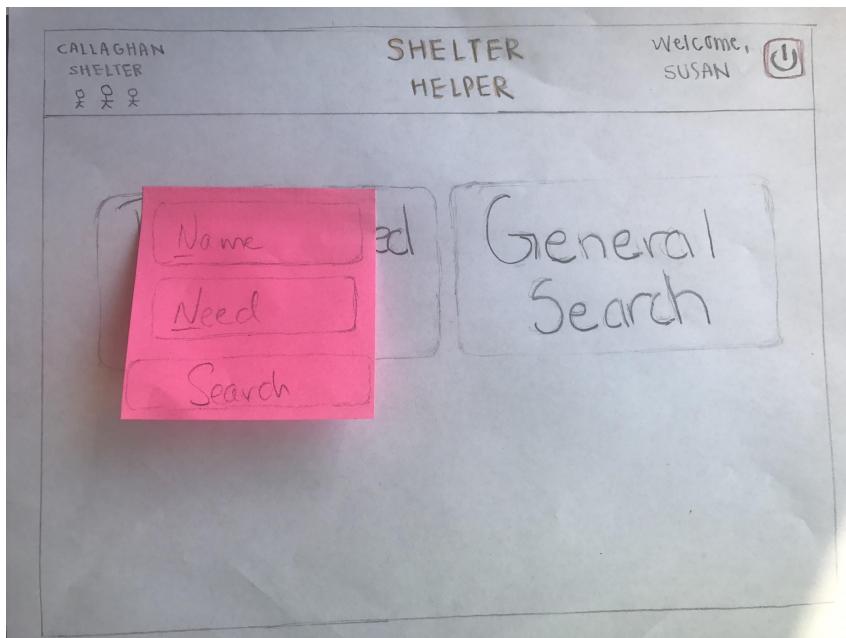


There are two options for finding services. "Personalized Search" allows a user to find services for a client in the database. "General Search" allows a user to find services based on specific criteria the user chooses.

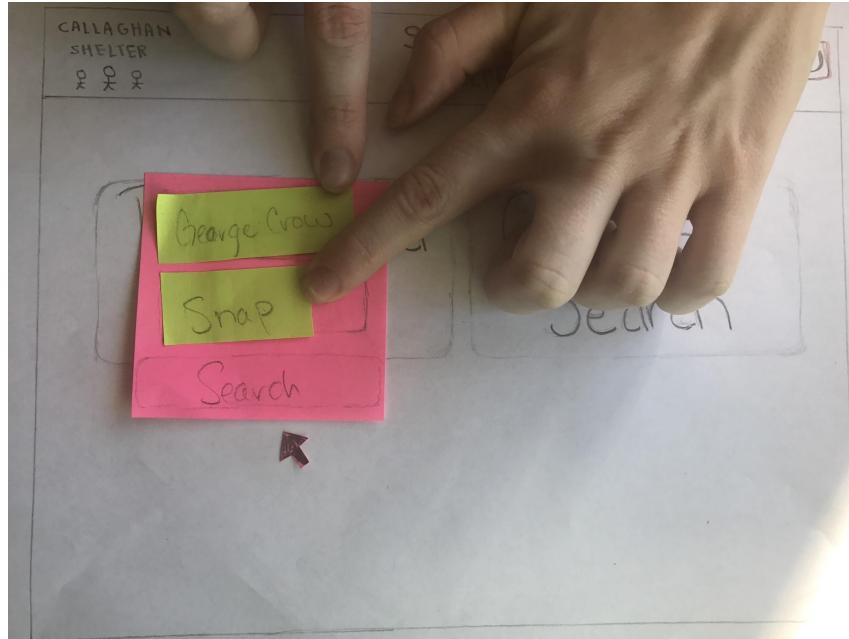


The user chooses a "Personalized Search" to find services for our previously inputted new client.

## STEP TWO: INPUTTING CLIENT INFORMATION FOR PERSONALIZED SEARCH

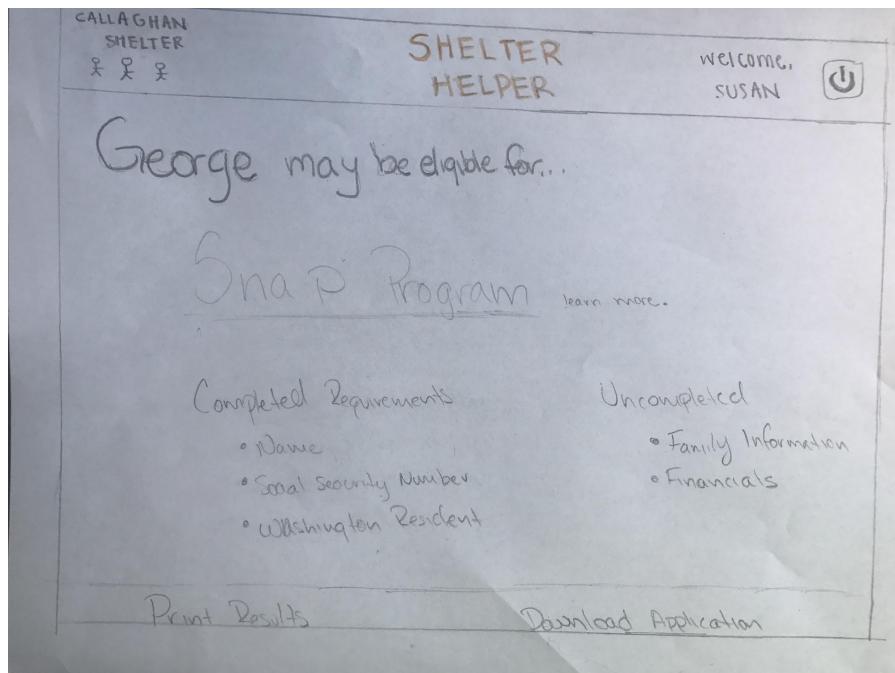


Once the button is clicked, an input area appears for the user to input specific client information.

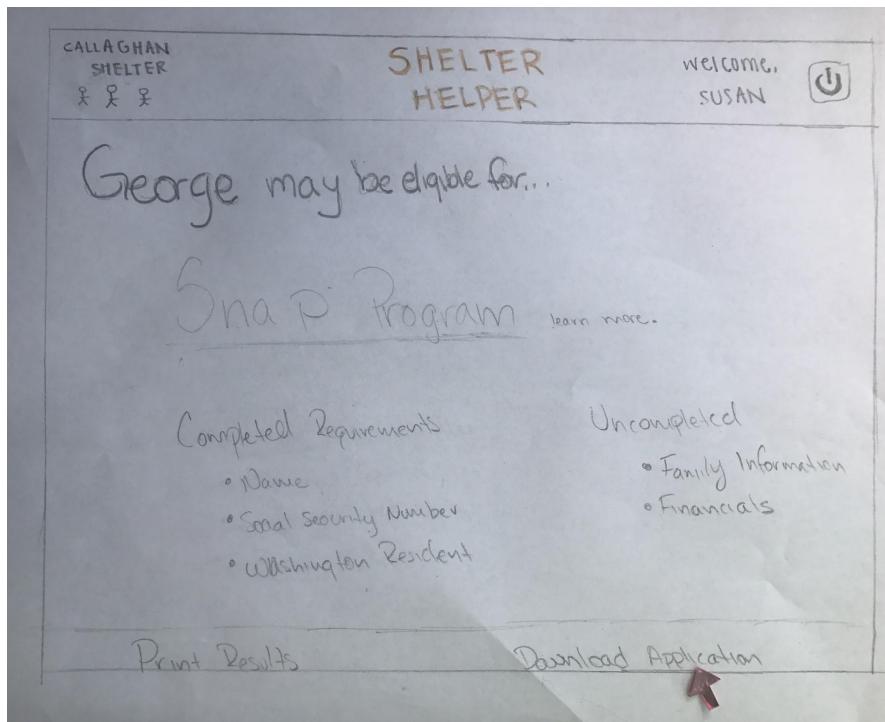


The user puts in a client name ("George Crow") and a specific need ("SNAP") and clicks "Search".

### STEP THREE: DOWNLOADING SNAP APPLICATION



The search brings up a results page that displays information on what George may be eligible for. The list of completed and uncompleted requirements are shown.



The user has the option to download the application instantly and/or print the results.

End of Task Two.

## TESTING PROCESS

We conducted three usability tests, a heuristic evaluation, and digital mock-up critique. Below is an outline of the usability tests and our test protocol can be found under Appendix 1.

### USABILITY TESTS

For our first usability test, we chose a volunteer from Roots shelter named Katherine. Her experience working at the shelter and knowledge of their current system was ideal for our usability test. We conducted the test in the Odegaard Undergraduate Library. We chose this location because our participant is a University student and it was most convenient for her. Advaith and Madison were the two team members that conducted the usability test. Advaith's role was to conduct the test by introducing the project & website, reading the task descriptions, and assisting the participant when unable to complete task. Madison was the note taker who observed the participant and prompted for clarification when she sensed confusion from the participant.

For our second usability test, we chose a former volunteer at Roots named Ari. They volunteered for about a year, and because of that, they developed close friendships which led to personal insights from the guest's point of view. They had knowledge about the concerns for privacy, inclusivity, and general experience regarding the intake process. For this Usability test, we wanted to validate our design changes (hamburger menu) from the first usability test. Once again, we completed the test at Ode. Similarly, to Test 1, Advaith and Madison were the two team members that conducted the usability test and kept the roles from before.

For our final usability test, we chose a current volunteer at Roots named Kevin. He has been volunteering consistently since November. Some of his duties include guest interaction and intakes, so that combined with the personal insight was valuable. Once again, we completed the test at Ode because it was a convenient location for him to reach, as well as having the necessary environment to display our materials and carry out our conversation.

### RETROSPECTIVE

In this test, Advaith and Katherine were the two team members that conducted the usability test. This test was conducted slightly different from the previous two, as Kevin was given a written description of the tasks. The instructions were vague to ensure the streamlined nature found by previous participants reflected the prototype and not the instructions. Advaith's conducted the test and Katherine was the note taker.

### HEURISTIC EVALUATION

Katherine and Advaith met with a colleague to have him walk through and evaluate our paper prototype and primary tasks. After giving Will the task of uploading a photo that would be parsed for information, we had him edit that information.

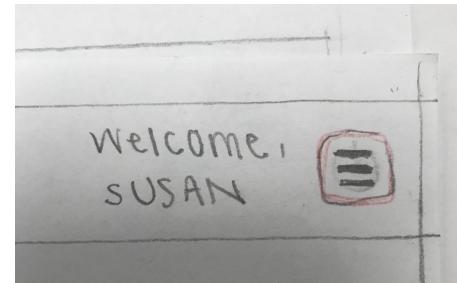
## TESTING RESULTS

After iterating on our designs and receiving feedback from peers, primary users, and interface experts, we compiled our results and outlined changes we made to our design.

### USABILITY TEST 1 RESULTS

The first usability test found that the participant was unable to begin task two (Getting back to the Home page from the client profile page). She did not understand that to get back to the home page, the user clicks on "Shelter Helper" title. This confusion led her to assume that the "Logout" button on the top right corner of the page may lead to the home page. This was the only problem she had when completing both usability tasks. To address this concern, we substituted the logout button for a hamburger menu where the user can access all functions of the website from every page.

Unrevised prototype version of the Client Profile.



Revised Version including hamburger menu.

Revised prototype version of Client Profile showing drop down menu options (Services, Add New Client, Clients, Statistics)

## USABILITY TEST 2 RESULTS

As stated earlier, the goal of this usability test was to validate the design decision to add the hamburger menu. We wanted to understand if the addition was understood and resulted in the user effectively navigating to the new task. As a result, we found that the participant immediately responded to the hamburger menu when asked to find a specific service for the client. Something to consider in the future would be to either promote the search bar at the bottom of the Client Profile Page as a way of navigating to the personalized search, or deleting this aspect. Currently, there are three ways to begin Task 2 from the client's profile page. This may be excessive, or convenient and will need to be further tested by users.

In addition, the participant gave positive feedback throughout their experience. They appreciated the simplicity of design and straightforward interface. The participant brought up a point about gender fluidity and making sure that our forms reflected inclusivity. There was also a point brought up at the end of the test where the participant wanted to understand who would have access to this website and if the clients themselves could access the information. While this was something we considered in the beginning of the project, the idea of a Kiosk where Homeless Persons could access this information from a designated location outside of a shelter, we decided to scope our project focus to the Roots shelter and with our user group as Shelter volunteers and social workers.

As a cautionary measure, we changed our test protocol, as the tasks were laid out in front of the user and the wording of the tasks were less detailed. This was done as we had noticed that the first two tests went rather smoothly so we wanted to affirm that this was a result of the prototype design rather than our own instruction.

## TEST 3 RESULTS

Participant three revealed significant information regarding the clarity of our prototype. Keeping in mind that our task descriptions were vague and this may have negatively impacted our results, the user did show difficulty when completing the tasks and used paths different than intended. For instance, the user initially clicked on 'Clients' instead of "Add New Client" when beginning task 1. This resulted in some initial confusion but was later able to be corrected. In addition, when navigating to task 2, the participant went to the bottom of the screen (directly to service search which was different than intended but still correct) to search for the client's specific need. They were then taken to a General vs. Personalized Search screen which caused confusion as they had already indicated this was a personal search. This confusion was due to an operator error (wrong page displayed). While this was an error on our part, we did realize we should change the wording of the search button at the bottom of the profile page to be indicative that it is a service search for that client (as seen in the figure below). This change was small, but we believe necessary to avoid confusion for future users.

CALLASHON SHELTER  
SHELTER HELPER  
WELCOME SUSAN

First Name: George MI: \_\_\_\_\_ Last Name: Crew

STATE ISSUED ID: CRAWFORD AG State: WA

BIRTH DATE: 07/13/83 Last 4 SSN: 7320

Phone Number: ---- Email: ----

Have you EVER BEEN IN FOSTER CARE: Yes How long: 3 years

Are you a REFUGEE: No

Have you SERVED IN THE MILITARY: YES

How long have you BEEN ON THE STREETS: 5 months

Notes on George:  
George came from California 5 years ago. He lost his job 6 months ago and he has...

[EDIT INFO] [Search Service For George...] [GO]

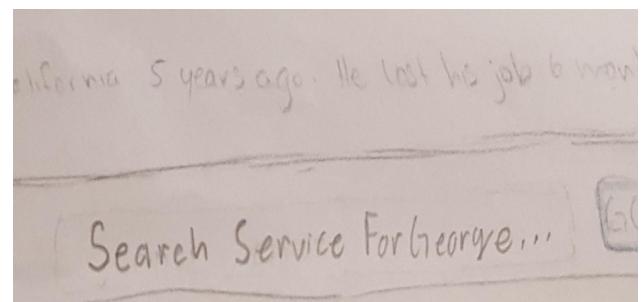


Figure 2 (Right): The updated wording on the bottom search bar

Figure 3 (Above): A close-up of the updated search bar

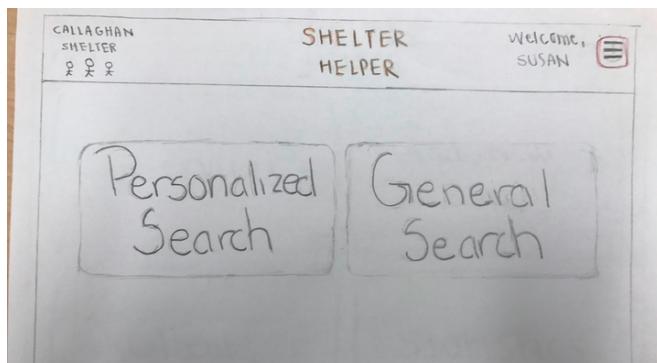
## HEURISTIC EVALUATION RESULTS

These were violated heuristics from our prototype that have been noticed.

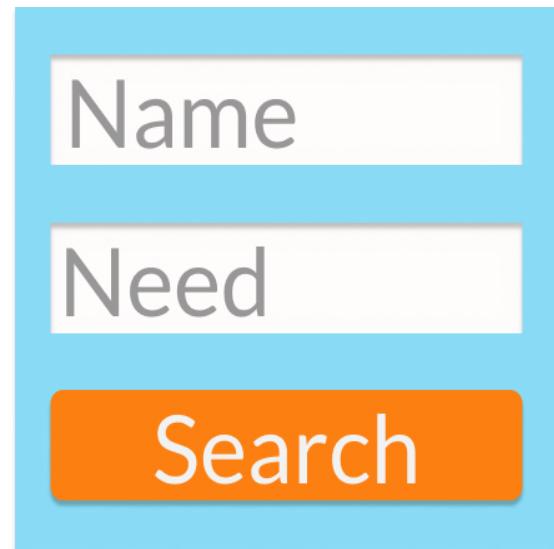
- **Consistency and Standards:** We violated consistency as the banner of the page switched from its usual top position for a couple of pages to the bottom.
- **Error Prevention:** Our tool does not always have back buttons when necessary. We're unsure if it would be redundant with the browser's back button, but it could be useful if users are concerned with what data would be lost.
- **User Control and Freedom:** We are lacking a concrete method on re-uploading a file. This could be a frequent issue as people's information will often change and/or an incorrect file was uploaded and must be replaced.
- **Aesthetic and Minimalist Design:** One issue with our prototype was the amount of parsed information that was too close together. This makes the interface more cluttered which may be overwhelming for the user. This is shown in the picture below.

## DESIGN CRITIQUES

In implementing the digital mockup we made the decision to remove the page that has two buttons for the different search options (personal or general). Instead, we made the search box that can be accessed from any page do a general search if only a need is entered, a personal search for all services if only a client's name is given, and specific service if a name and need are specified.



Removed page



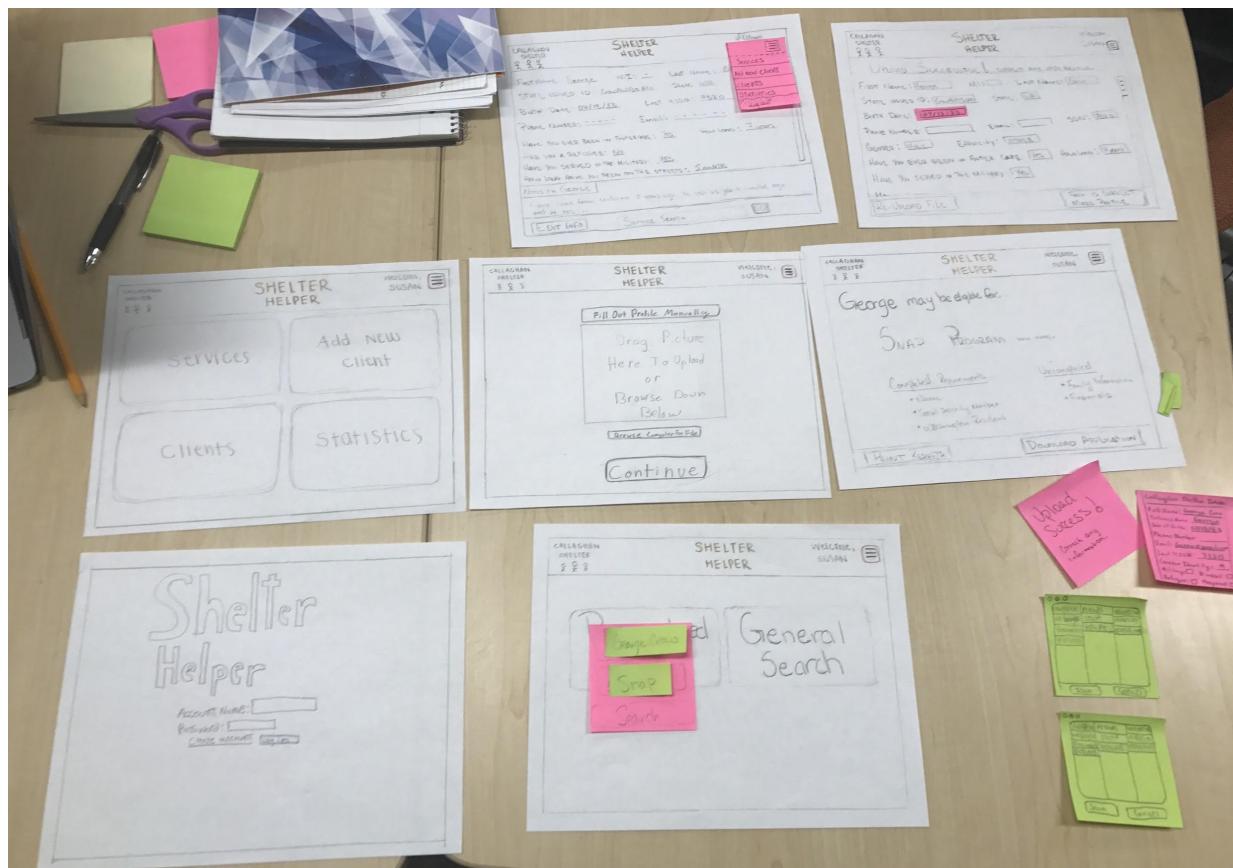
Added search box

## FINAL PAPER PROTOTYPE

The final version of the paper prototype shows the login process, home page, and two tasks that can be completed with Shelter Helper. The first task encompasses the login and homepage along with the process of a volunteer uploading, parsing, and editing if necessary an intake form that was filled out by a client. The second task depicts a user starting from a client page and going through the process of doing a personalized search for a specific user and need, getting both the completed and uncompleted criteria for receiving that need, and having the option to either download or print that information.

The critical aspect of our design has stayed the same but here we have concentrated on making the process better. Making all functions of the web page available through a hamburger menu as well as adding the option to do a personalized search to the bottom of any client's page.

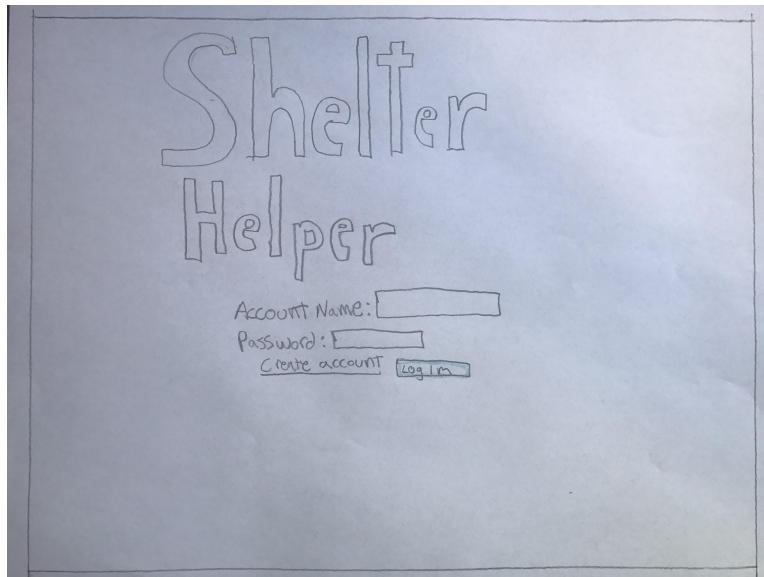
### OVERVIEW FINAL PAPER PROTOTYPE



## TASK ONE

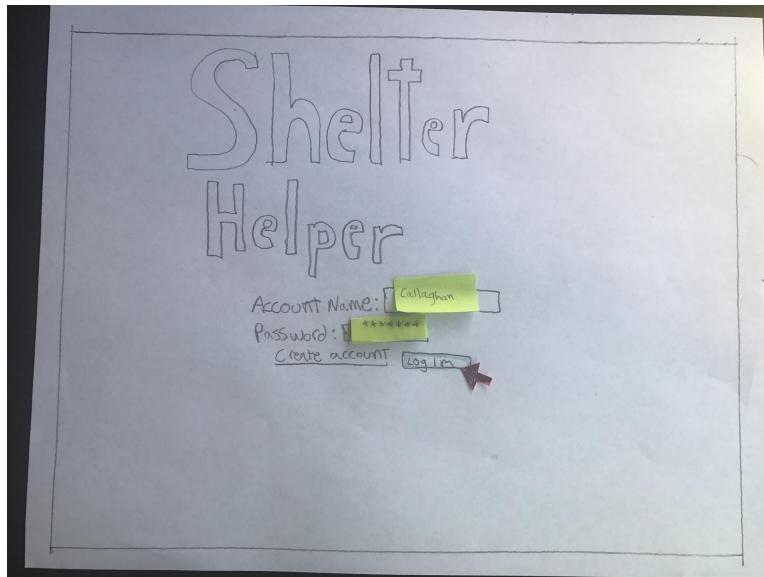
This depicts a user adding a new user through the upload picture option. The user must log in and get to the correct place to add a new user from a picture file on their computer. They then must edit some incorrectly parsed information and confirm that the information is correct.

### STEP ONE: LOG-IN



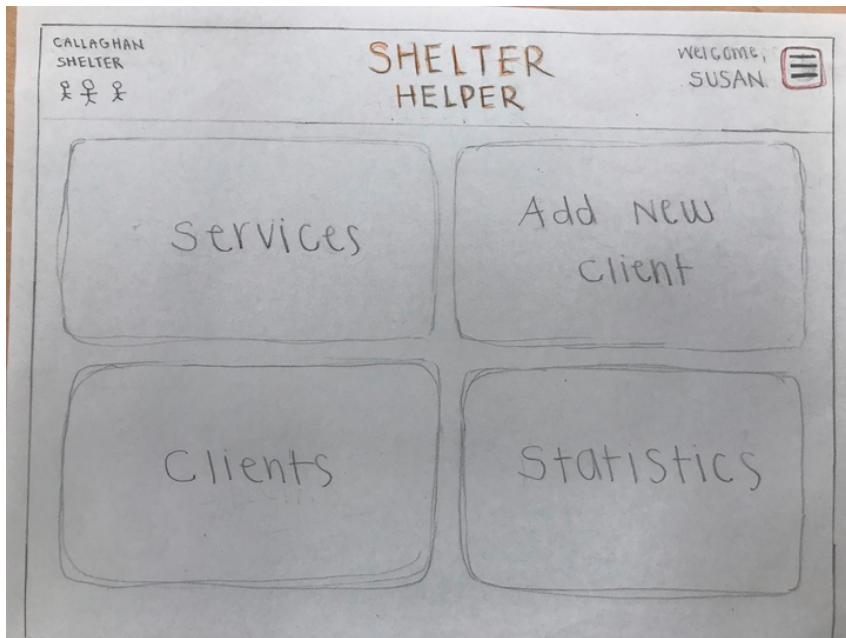
The home page of the application includes a login screen or option to create a new account for shelter staff.

### STEP TWO: INPUT INFO



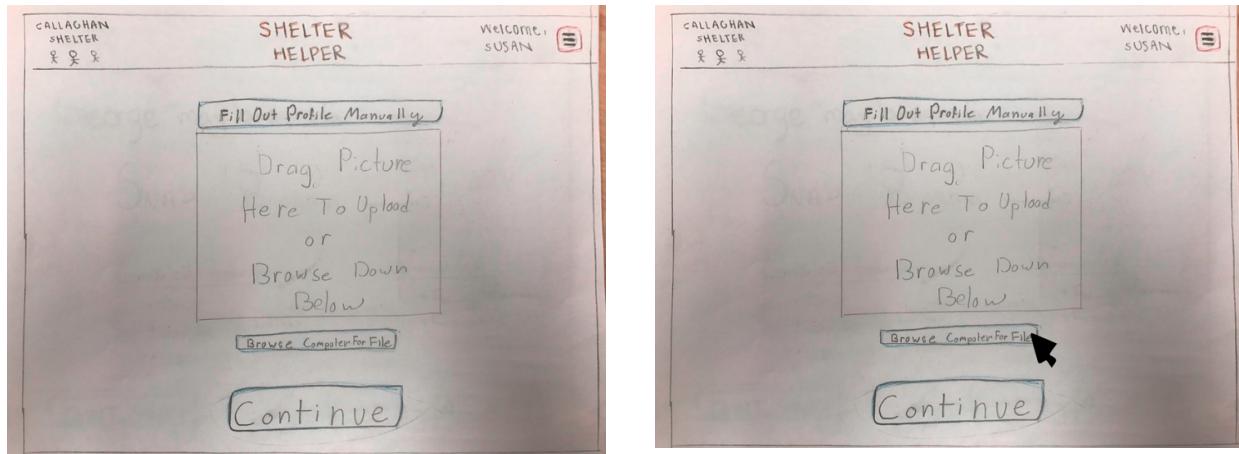
The user must input his/her account name and password to access any part of the application. This ensures that all information in the database is secure.

### STEP THREE: SELECT ADD NEW CLIENT



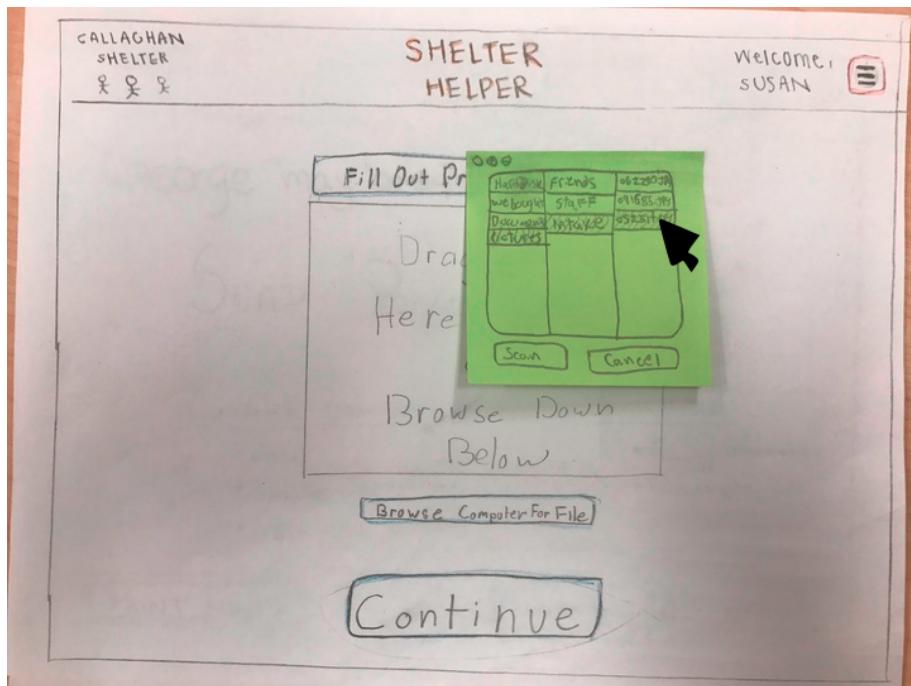
Once a user is logged in, the main page displays the name of the shelter and the current user at the top of the screen. A user can log off at any time by pressing the logout button on the upper right hand side of the screen

### STEP FOUR: TAKEN TO PAGE AND SELECTING FILE UPLOAD

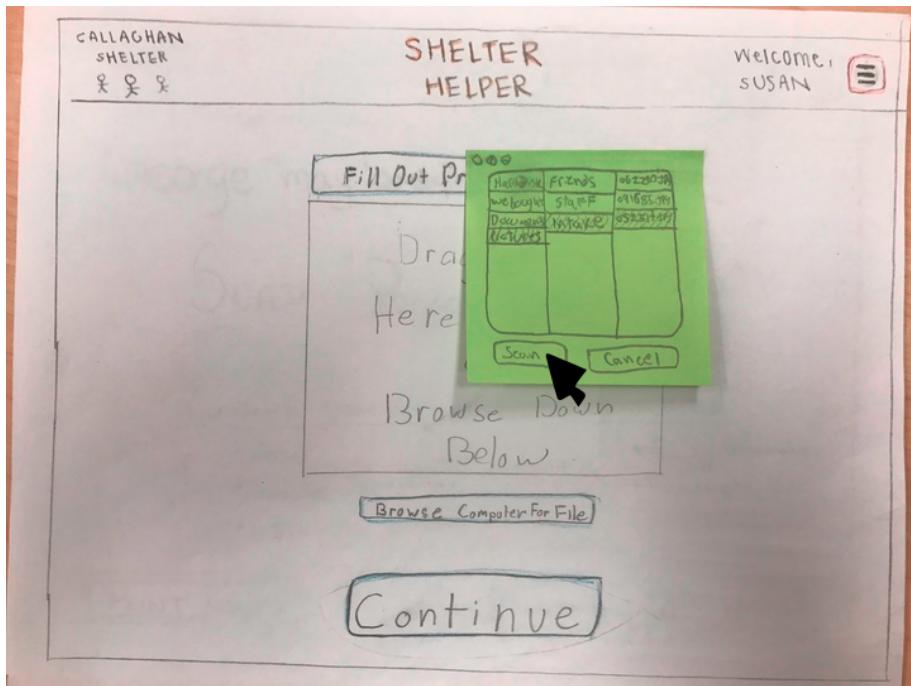


On the "Add New Client" page, the user has the option to fill out a profile manually or upload a picture of a paper intake form. On the right, the user clicks on the option to browse a complete file.

## STEP FIVE: SEARCH AND UPLOAD INTAKE FORM

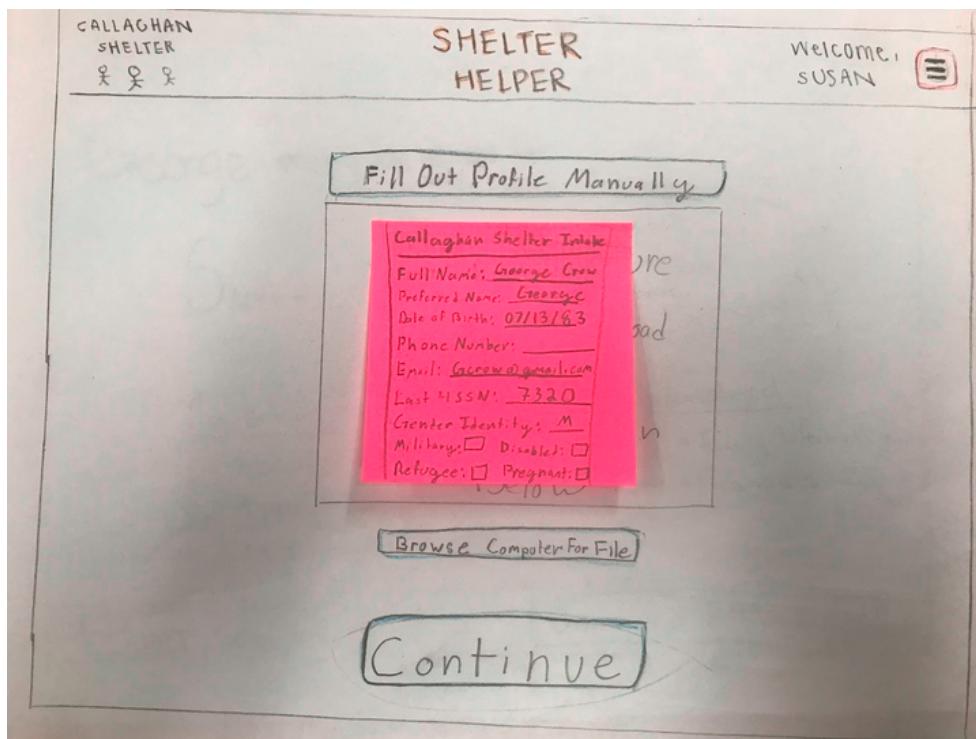


The user clicks on the image of the file needing to be processed.

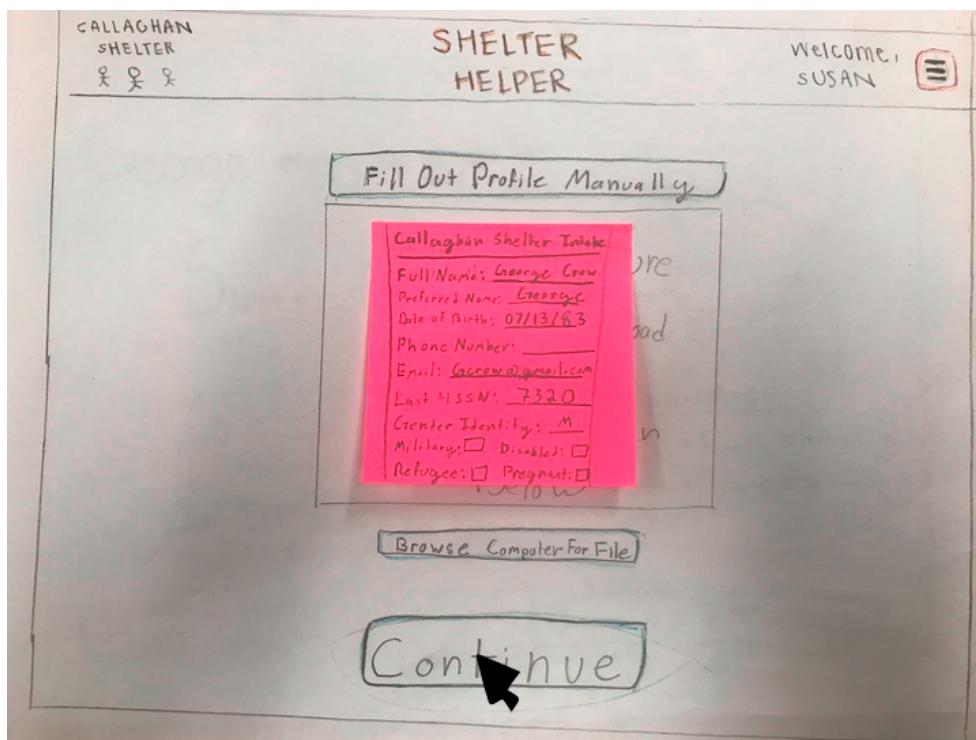


The user presses "scan" to parse the file data from the image.

## STEP SIX: SELECTING INTAKE FORM



Once the image is successfully scanned, the user presses continue.



## STEP SEVEN: UPDATING INFORMATION, MAKING CHANGES, AND SUBMITTING FORM

CALLAGAN SHELTER  
SHELTER HELPER WELCOME, SUSAN [Edit]

UPLOAD SUCCESSFUL! CORRECT ANY INFO BELOW...

First Name: George MI: [ ] Last Name: Brown

State issued ID: [CrownB2BORG] State: [WA]

BIRTH DATE: [04/13/85] [ ] EMAIL: [ ] SSN: [7320]

Phone Number: [ ] GENDER: [MALE] ETHNICITY: [OTHER]

HAVE YOU EVER BEEN IN FOSTER CARE: [Yes] How Long: [7 years]

HAVE YOU SERVED IN THE MILITARY: [Yes]

HA [ ] RE-UPLOAD FILE [ ] FORM IS CORRECT! MAKE PROFILE

A black arrow points to the birth date field.

The user identifies information that is either incomplete or incorrect.

CALLAGAN SHELTER  
SHELTER HELPER WELCOME, SUSAN [Edit]

UPLOAD SUCCESSFUL! CORRECT ANY INFO BELOW...

First Name: George MI: [ ] Last Name: Brown

State issued ID: [CrownB2BORG] State: [WA]

BIRTH DATE: [02/13/84] [ ] EMAIL: [ ] SSN: [7320]

Phone Number: [ ] GENDER: [MALE] ETHNICITY: [OTHER]

HAVE YOU EVER BEEN IN FOSTER CARE: [Yes] How Long: [7 years]

HAVE YOU SERVED IN THE MILITARY: [Yes]

HA [ ] RE-UPLOAD FILE [ ] FORM IS CORRECT! MAKE PROFILE

Changes are made to information that was correctly inputted.

CALLAGAN SHELTER  
SHELTER HELPER WELCOME, SUSAN [Edit]

UPLOAD SUCCESSFUL! CORRECT ANY INFO BELOW...

First Name: George MI: [ ] Last Name: Brown

State issued ID: [CrownB2BORG] State: [WA]

BIRTH DATE: [02/13/84] [ ] EMAIL: [ ] SSN: [7320]

Phone Number: [ ] GENDER: [MALE] ETHNICITY: [OTHER]

HAVE YOU EVER BEEN IN FOSTER CARE: [Yes] How Long: [7 years]

HAVE YOU SERVED IN THE MILITARY: [Yes]

HA [ ] RE-UPLOAD FILE [ ] FORM IS CORRECT! MAKE PROFILE

A black arrow points to the "FORM IS CORRECT! MAKE PROFILE" button.

Once the entire profile is corrected and complete, the user presses the “Info is correct! Make Profile” button to continue.

## STEP EIGHT: NEW CLIENT PROFILE

The completed client profile is displayed. There is an option to edit the information once more or look up possible services available for the client.

*Completion of Task One: Uploading a new intake form and creating a client profile.*

CALLAGHAN SHELTER  
♀ ♀ ♀

**SHELTER  
HELPER**

WELCOME,  
SUSAN

First Name: George MI:   Last Name: Crow

STATE ISSUED ID: CrownWBAG State: WA

BIRTH DATE: 07/13/83 Last 4 SSN: 7320

PHONE NUMBER: ----- Email: -----

Have you EVER BEEN IN FOSTERCARE: Yes How long: 7 years

Are you a REFUGEE: No

Have you SERVED IN THE MILITARY: YES

How long have you BEEN ON THE STREETS: 5 months

NOTES ON GEORGE  
George came from California 5 years ago. He lost his job 6 months ago and he has...

[EDIT INFO] [Search Service For George...] [GO]

## TASK TWO

The user now must do a personalized search for a client named George Crow who is looking for the SNAP service. He qualifies, so they then have his information (both what he already has on file and what is needed), and the users are asked to download that information onto the computer so they can get George a copy.

### STEP ONE: SELECTING SERVICES AND PERSONALIZED SEARCH

A hand-drawn sketch of a client profile page titled "SHELTER HELPER". The page includes fields for First Name (George), MI ( ), Last Name (Crow), State Issued ID (CrowAWB045), State (WA), Birth Date (07/13/83), Last 4 SSN (7320), Phone Number (----), Email (----), and Notes on George (George came from California 5 years ago. He lost his job 6 months ago and he has...). At the bottom are "EDIT INFO" and "Search Service For George..." buttons. A "WELCOME, SUEAN" message is at the top right, with a hamburger menu icon next to it.

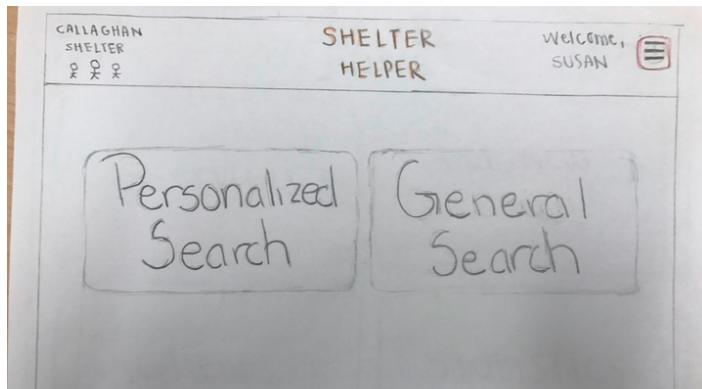
From any page a user can select the "hamburger" button and access a drop-down menu of the functions of the web page.

Or, the user can directly search for services specific to that client at the end of the profile page.

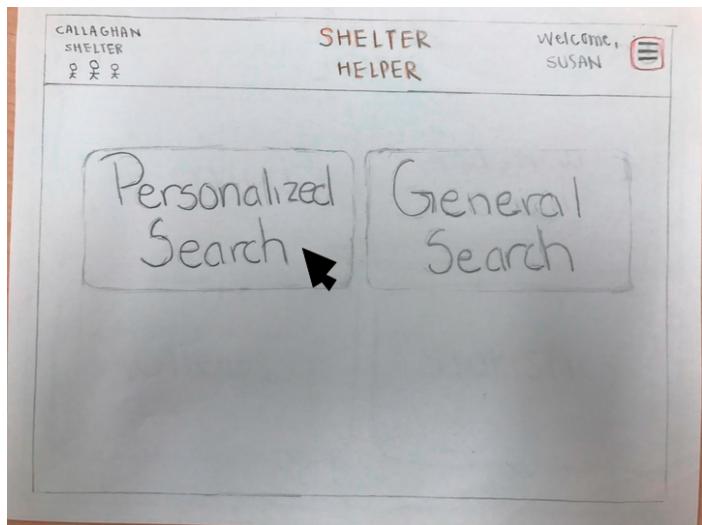
A hand-drawn sketch of the same client profile page for George Crow. A red box highlights the "WELCOME, SUEAN" message and the hamburger menu icon. A pink box shows a drop-down menu with options: Services (highlighted with a black arrow), Add new Client, Clients, Statistics, and Layout. The rest of the page contains the same client information and buttons as the first sketch.

The user can then select the desired function from the drop-down menu.

Or, be taken directly to the results page if searching from the client profile.

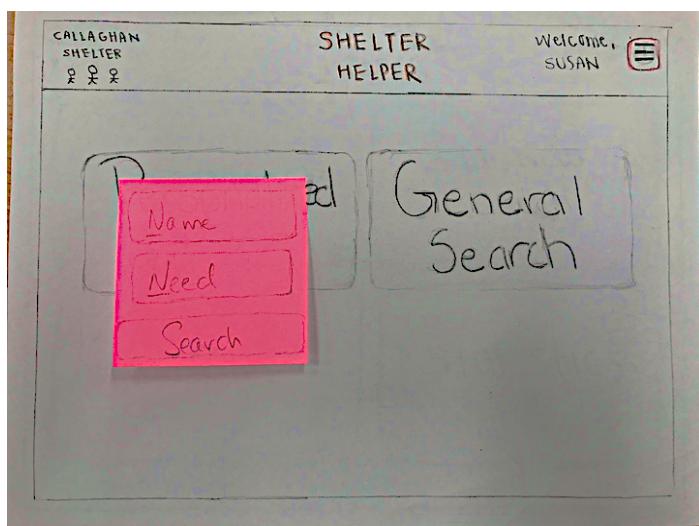


There are two options for finding services. "Personalized Search" allows a user to find services for a particular client in the database. "General Search" allows a user to find services based on specific criteria the user chooses.

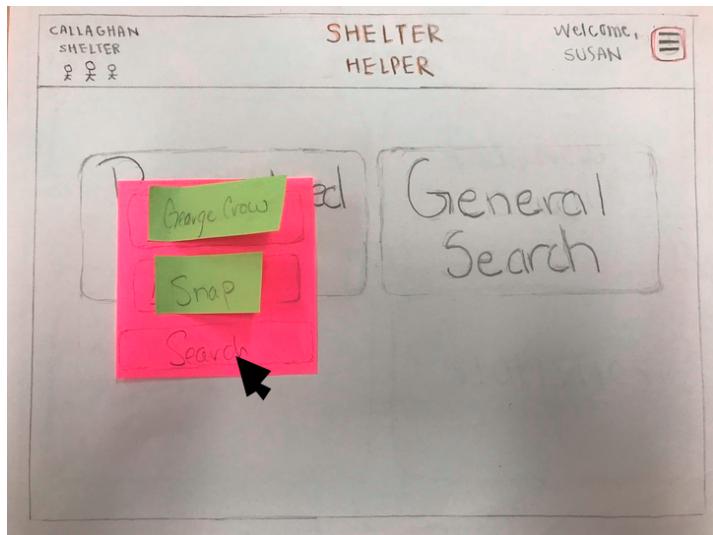


The user chooses a "Personalized Search" to find services for our previously inputted new client.

## STEP TWO: INPUTTING CLIENT INFORMATION FOR PERSONALIZED SEARCH

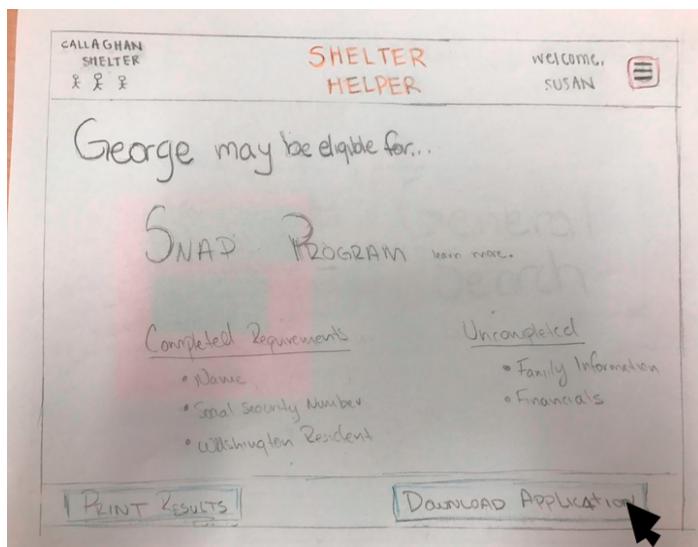


Once the button is clicked, an input area appears for the user to input specific client information (Name & Service Needed).



The user puts in a client name ("George Crow") and a specific need ("SNAP") and clicks "Search"

### STEP THREE: DOWNLOADING SNAP APPLICATION



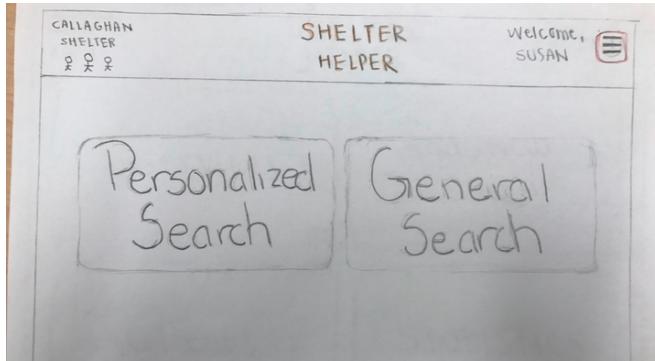
The search brings up a results page that displays information on what George may be eligible for. The list of completed and uncompleted requirements are shown.

The user has the option to download the application instantly and/or print the results.

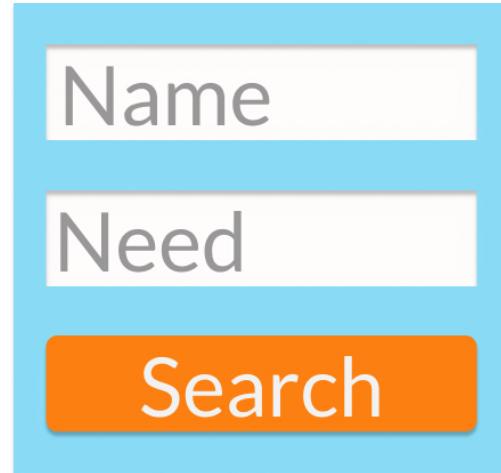
End of Task Two.

## DIGITAL MOCKUP

In implementing the digital mock up we made the decision to remove the page that has two buttons for the different search options (personal or general). Instead, we made the search box that can be accessed from any page do a general search if only a need is entered, a personal search for all services if only a clients name is given, and specific service if a name and need are specified.



*Removed page*



*Added search box*

We also considered adding tabs to the pages in lieu of the hamburger menu but when thinking about how our users will use the design it seems like tabs would clutter the interface and not offer any more functionality. The application is designed for users who will likely only use one feature at a time, so the ability to quickly go from one page to another is not necessary.

Another change we considered making was to reduce the size of our header. When considering our target user group, we prioritized reducing clutter on the page and wanted to make things as big and clean as possible. We felt that the current size of the header was appropriate in proportion to the rest of the content area of the pages, so we chose to keep the header at its current size.

One feature that we added to our digital mock up was the ability to edit a client's profile directly on the results page. We thought that the ability to fill in missing information immediately was a crucial aspect to our application.

## OVERVIEW IMAGE

The image displays a grid of 12 screenshots from the Shelter Helper application, illustrating its various features:

- Row 1:**
  - Confirm Profile:** Shows a successful file upload and profile summary.
  - Client Profile:** Displays George Crow's profile with basic information and a note about homelessness.
  - New Client:** A manual profile creation screen with options to drag or upload files.
  - New Client 2:** An alternative manual profile creation screen showing a file browser interface.
- Row 2:**
  - Clients:** A list of clients (George, Patrick, Sally, William, Derik) with filtering and search options.
  - Search Results:** George's SNAP Eligibility results, showing completed requirements (Name, SSN, Washington Resident, Record of Homelessness) and incomplete requirements (Family Information, Financials).
  - New Client 3:** Another manual profile creation screen, similar to the first one in Row 1.
  - Main Page:** A dashboard with four main sections: Services (represented by a network icon), New Client (represented by a plus sign), Clients (represented by two people icons), and Statistics (represented by a line graph icon).
- Row 3:**
  - Statistics:** A bar chart titled "Gender Ratio of Shelter" showing percentages for Female (20%), Male (60%), and Other (2%).
  - Login:** The login screen for the application.
  - Login2:** Another view of the login screen.
  - Hamburger:** A sidebar menu with options: Services, New Client, Clients, Statistics, and Log Out.
- Row 4:**
  - Gender Analysis:** A pie chart titled "At Roots Shelter..." showing gender distribution: Female (67.4%), Male (28.7%), and Other (3.9%).

## TASK ONE

The user has to log in to Shelter Helper and add a client by uploading a picture file from their computer.

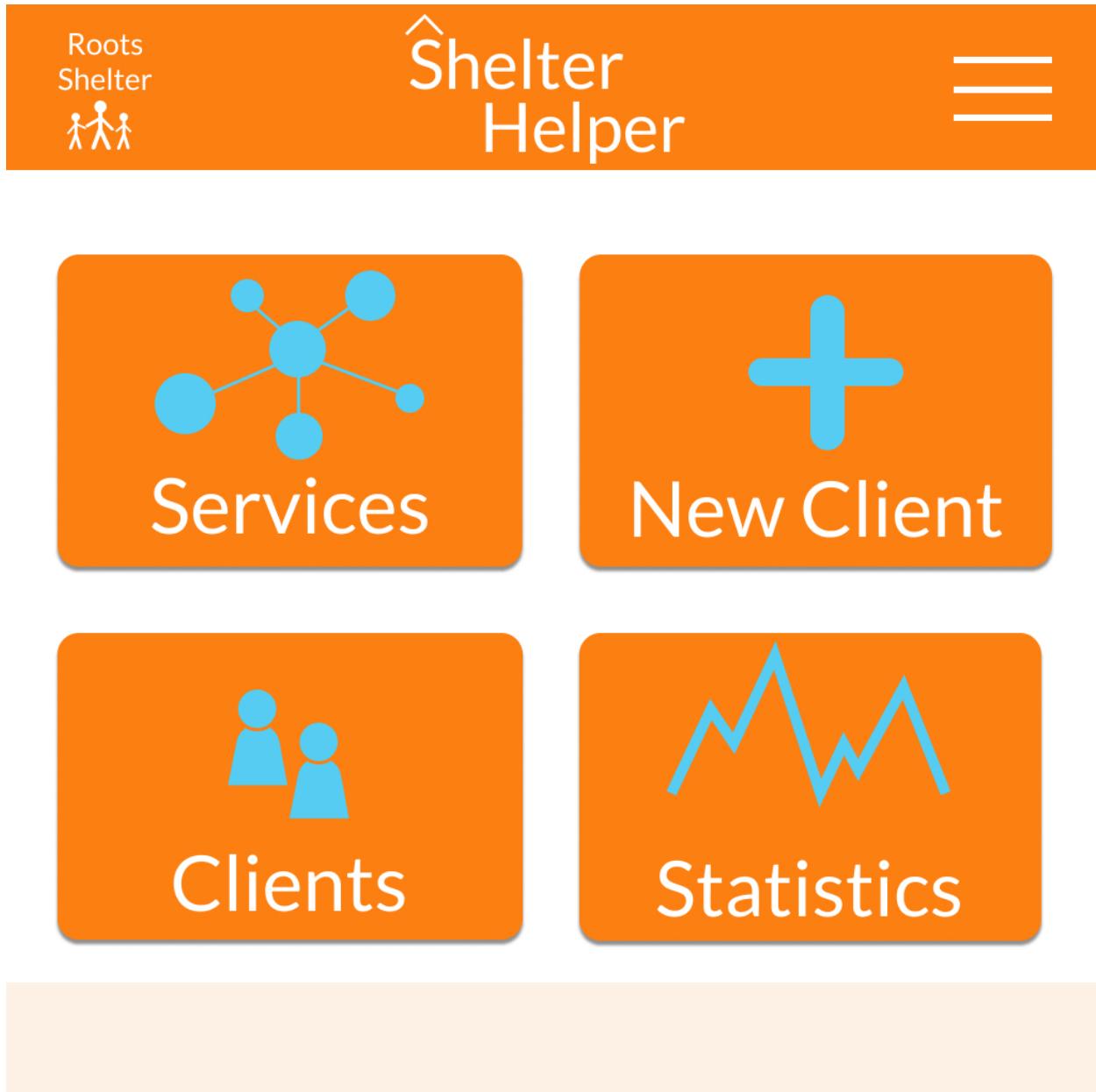
**STEP ONE: LOG-IN** The home page of the application includes a login screen or option to create a new account.



**STEP TWO: INPUT INFO** The user must input their account name and password to access any part of the application. This ensures that all information in the database is secure.



**STEP THREE: SELECT ADD NEW CLIENT** Once a user is logged in, the main page displays the name of the shelter and all page functions.



**STEP FOUR: SELECTING FILE TO UPLOAD** On the “Add New Client” page, the user has the option to fill out a profile manually or upload a picture of a paper intake form. Below, the user clicks on the option to browse for a file.





Fill Out Profile Manually



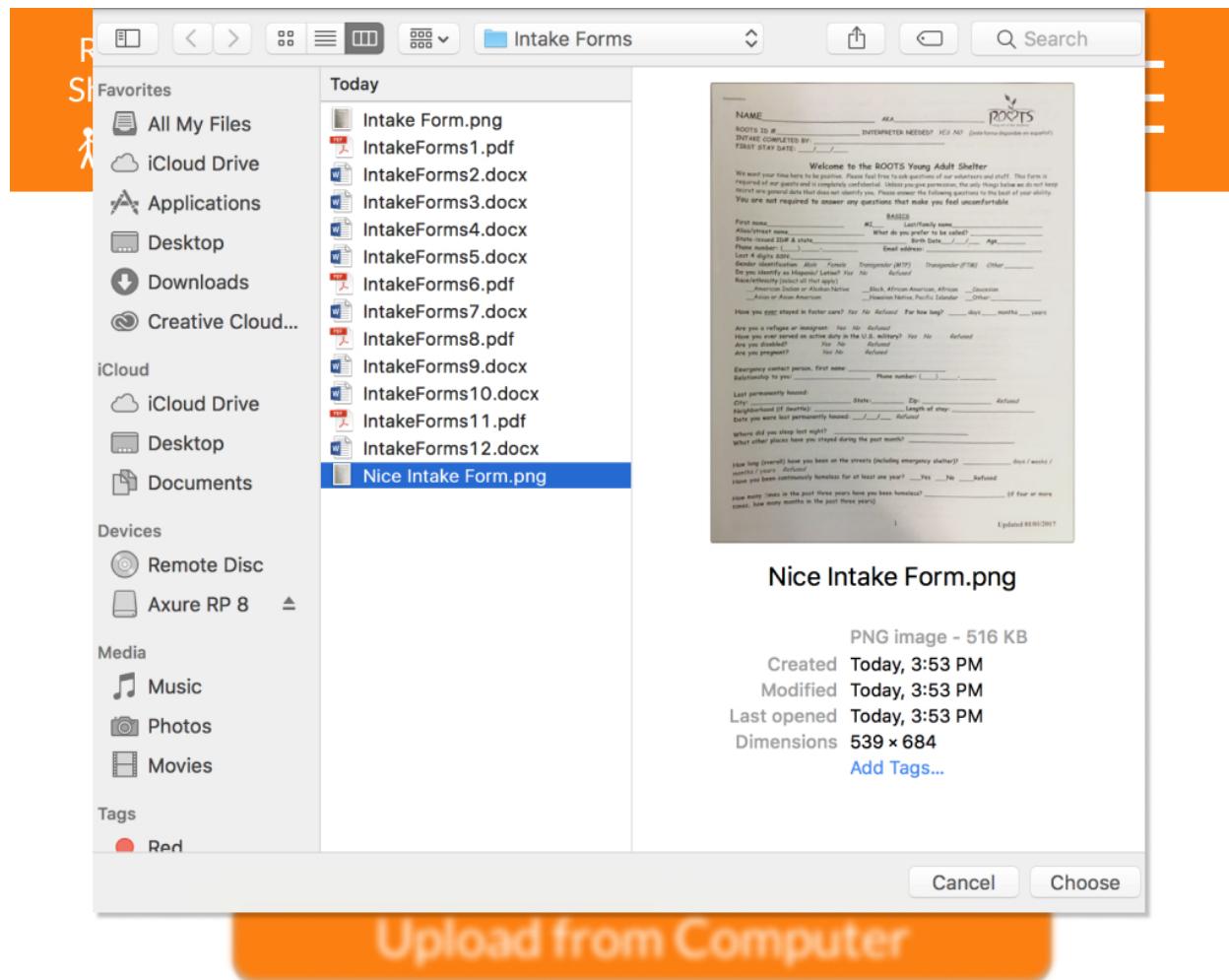
Drag File

Upload from Computer



Continue

**STEP FIVE: SEARCH AND UPLOAD INTAKE FORM** The user selects the file to upload.



Continue

STEP SIX: SELECTING INTAKE FORM Once the image is successfully scanned, the user presses continue.

The screenshot shows the Roots Shelter Helper app interface. At the top, there is a navigation bar with the Roots logo (three stylized human figures), the text "Shelter Helper", and a menu icon (three horizontal lines). Below the navigation bar, a large orange button with white text says "Fill Out Profile Manually". Underneath this button is a white rectangular area containing a scanned document of the "Intake" form. The form includes fields for Name, Roots ID, Intake Completed By, Interpreter Needed, and First Stay Date. It also contains a welcome message from the Roots Young Adult Shelter and various demographic and shelter history questions. At the bottom right of the form, it says "Updated 01/01/2017". Below the scanned document, the file name "Intake.png" is displayed. Further down, another orange button with white text says "Upload from Computer".

Continue

**STEP SEVEN: UPDATING INFORMATION, MAKING CHANGES, AND SUBMITTING FORM** The user identifies information that is either incomplete or incorrect and has the capability to make changes before submitting the new profile.

The image shows a mobile application interface for "Shelter Helper". At the top, there's a navigation bar with the "Roots Shelter" logo (two stylized human figures) on the left, the "Shelter Helper" title in the center, and a menu icon (three horizontal lines) on the right. Below the title, a large orange banner displays the message "Upload Successful! Correct any Information Below...". The main content area contains several input fields for personal information:

- First Name:
- MI:
- Last Name:
- State Issued ID:
- State:
- Birth Date:
- Phone Number:
- Email:
- SSN:
- Gender:
- Ethnicity:
- Have you ever been in Foster Care?  How Long:
- Have you ever served in the military?
- How long have you been homeless?

At the bottom, there are two large orange buttons: "Re-Upload File" on the left and "Make Profile" on the right.

Once the entire profile is correct and complete, the user presses the “Make Profile” button to continue.

The image shows a mobile application interface for "Shelter Helper". At the top, there is a header bar with the "Roots Shelter" logo, which includes a stylized icon of three people holding hands. To the right of the logo is the app's name, "Shelter Helper", and a menu icon consisting of three horizontal lines. Below the header, a large orange banner displays the text "Upload Successful! Correct any Information Below...". The main content area contains several input fields for personal information:

- First Name: George
- MI: [empty]
- Last Name: Crow
- State Issued ID: CrowAW13OAG
- State: [empty]
- Birth Date: 04/13/85
- Phone Number: [empty]
- Email: [empty]
- SSN: 7320
- Gender: Male
- Ethnicity: Other
- Have you ever been in Foster Care? Yes
- How Long: 7 Years
- Have you ever served in the military? Yes
- How long have you been homeless? 5 Months

At the bottom of the screen are two large orange buttons: "Re-Upload File" on the left and "Make Profile" on the right. The "Make Profile" button has a black cursor arrow pointing towards it.

**STEP EIGHT: NEW CLIENT PROFILE** The completed client profile is displayed. There is an option to edit the profile or look up possible services available for the client.

The screenshot shows the 'Shelter Helper' mobile application interface. At the top, there is an orange header bar with the 'Roots Shelter' logo (two stylized human figures) on the left, the 'Shelter Helper' app name in the center, and a menu icon (three horizontal lines) on the right. Below the header, the client's name 'George Crow' is displayed in large, bold, orange letters. Underneath the name, the client's State Issued ID is listed as 'CrowAW13OAG'. To the right of the ID is a vertical teal decorative bar. Below the ID, the Birth Date is listed as '04/13/85'. Further down, the SSN is listed as '7320'. On the left, 'Gender: Male' is listed, and on the right, 'Ethnicity: Other'. Below these details, two questions are asked: 'Have you ever been in Foster Care? Yes' and 'How Long: 7 Years'. Another question, 'Have you ever served in the military? Yes', is also present. A question 'How long have you been homeless? 5 Months' is shown. At the bottom of the screen, there is a light orange footer bar containing three buttons: 'Edit Profile' (orange), 'Search Service' (light blue), and 'Go' (orange). A text box labeled 'Notes on George...' is positioned above the footer bar.

State Issued ID: CrowAW13OAG

Birth Date: 04/13/85

SSN: 7320

Gender: Male      Ethnicity: Other

Have you ever been in Foster Care? Yes      How Long: 7 Years

Have you ever served in the military? Yes

How long have you been homeless? 5 Months

Notes on George...

Edit Profile      Search Service      Go

*Completion of Task One: Uploading a new intake form and creating a client profile.*

## TASK TWO

The user now has to do a personalized search for a client named George Crow who is looking for the SNAP(Supplemental Nutrition Assistance Program) service. George is still missing some information for the SNAP application so a summary of those items will be printed for George at the end.

**STEP ONE: SELECTING SERVICES AND PERSONALIZED SEARCH** From any clients page a user can directly search for services specific to that client at the bottom of the profile page.

The screenshot shows a mobile application interface for "Shelter Helper". At the top, there is a navigation bar with the "Roots Shelter" logo (two stylized human figures), the "Shelter Helper" app name, and a menu icon (three horizontal lines). Below the header, the client's name "George Crow" is displayed in large orange text. Underneath the name, several personal details are listed: "State Issued ID: CrowAW13OAG", "Birth Date: 04/13/85", "SSN: 7320", "Gender: Male", "Ethnicity: Other", "Have you ever been in Foster Care? Yes", "How Long: 7 Years", "Have you ever served in the military? Yes", and "How long have you been homeless? 5 Months". A section titled "Notes on George..." contains the text "Notes on George...". At the bottom, there are three buttons: "Edit Profile" (orange), "SNAP" (light blue), and "Go" (orange, with a black cursor arrow pointing to it).

**STEP TWO: REVIEWING RESULTS** The search brings up a results page that displays information on George's eligibility for SNAP.

The screenshot shows the 'Shelter Helper' app interface. At the top, there is a navigation bar with the 'Roots Shelter' logo (two stylized human figures) and a menu icon (three horizontal lines). The main title 'George's SNAP Eligibility' is displayed in large orange text. Below the title, two sections are shown: 'Completed Requirements' and 'Incomplete Requirements'. The 'Completed Requirements' section lists five items with orange circular bullet points: Name, Social Security Number, Washington Resident, and Record of Homelessness. The 'Incomplete Requirements' section lists two items: Family Information and Financials. An 'Edit Profile' button is located at the bottom right of this section. At the bottom of the screen are two large orange buttons: 'Print Results' on the left and 'Apply Now' on the right.

Completed Requirements	Incomplete Requirements
Name	Family Information
Social Security Number	Financials
Washington Resident	
Record of Homelessness	

**Print Results**

**Apply Now**

**STEP THREE: PRINT RESULTS** George's search results can now be printed or if all his information is on file he can apply for SNAP.

The screenshot shows the 'Shelter Helper' app interface. At the top left is the 'Roots Shelter' logo with three stylized human figures. The top center features the 'Shelter Helper' logo with a large 'H' containing a small house icon. On the top right is a menu icon. Below the header, the title 'George's SNAP Eligibility' is displayed. The main content area is divided into two sections: 'Completed Requirements' on the left and 'Incomplete Requirements' on the right. Under 'Completed Requirements', there is a bulleted list: Name, Social Security Number, Washington Resident, and Record of Homelessness. Under 'Incomplete Requirements', there is a bulleted list: Family Information and Financials. An 'Edit Profile' button is located below the incomplete requirements section. At the bottom are two large orange buttons: 'Print Results' with a cursor icon pointing to it, and 'Apply Now'.

Completed Requirements	Incomplete Requirements
• Name	• Family Information
• Social Security Number	• Financials
• Washington Resident	
• Record of Homelessness	

**Print Results**

**Apply Now**

*Completion of Task Two: Personalized Search*

## DISCUSSION

The iterative design and critique process was vital in designing our final prototype. We did 3 major iterations in all and the design and functionality vastly improved with every iteration. In the first prototype, we had a system that was hard to use and had redundancy. It was only through iteration that we came up with ways to reduce the total number of pages a user would need to visit to complete a task. This sort of development would likely not have happened if we had skipped iteration. Testing and iteration are important because they help you see the flaws in your own thinking. This is very hard to do when you are the only one trying to solve a problem.

The tasks we used for our design did change based on our usability tests. We eliminated part of task 2 (correcting information that was entered the system incorrectly) because it wasn't important to the overall design. This is an inherent part of almost all systems, so it wasn't important to the overall idea of the design. We also changed the way a search could be done because of usability testing. After watching someone use our prototype it seemed only natural have them do the personalized search from the client page instead of using the hamburger menu to access the search for services function.

Overall, we think our project could benefit from more usability testing on the digital prototype. Since paper prototypes are handled differently from digital ones, the information obtained from our usability testing may not be the most relevant. Since the paper prototype is not the actual web page it is hard to get people to behave as though they were using a computer. The interface is different as we had them use their fingers to complete tasks instead of a mouse and keyboard. Also, the orientation of the paper prototype is very different from having one that is on a computer screen in front of the user. It would take more testing on the digital prototype to get the natural responses from people we need to find the improvements that can be made to the design.

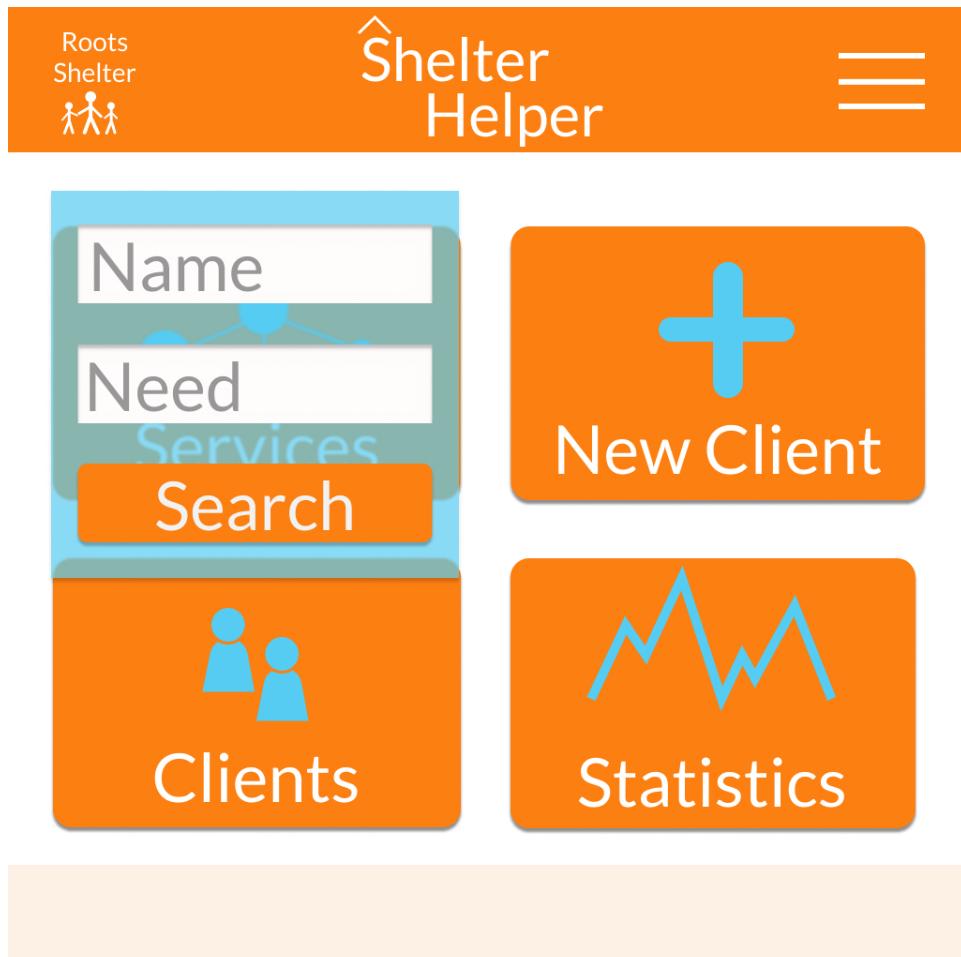
## APPENDIX 1: TEST PROTOCOL

**Usability Test Protocol:** For each of the usability tests, we set to follow this general testing protocol.

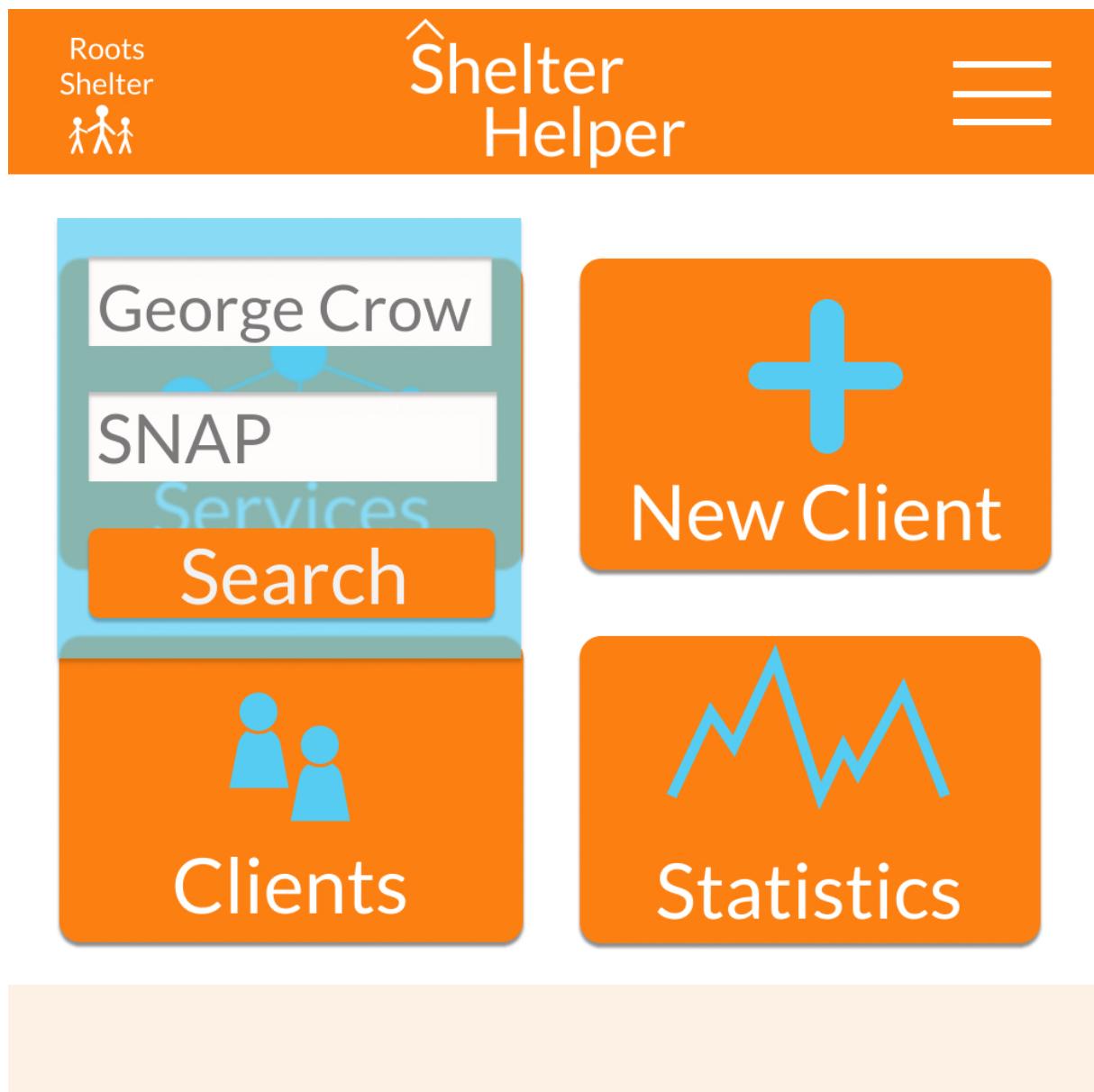
1. Introduce ourselves, our project, and the reason for this usability test
2. Ask for permission once again
3. Reassure participant that we are not evaluating them, but our product
4. Read out the first task
5. If participant is unable to complete task on their own, we will show them what was intended
6. Task completion, ask for overview of task and experience
7. Read task two
8. If participant is unable to complete task on their own, we will show them what was intended
9. Task completion, ask for overview of task experience and any constructive criticism
10. Thank the participant for their time

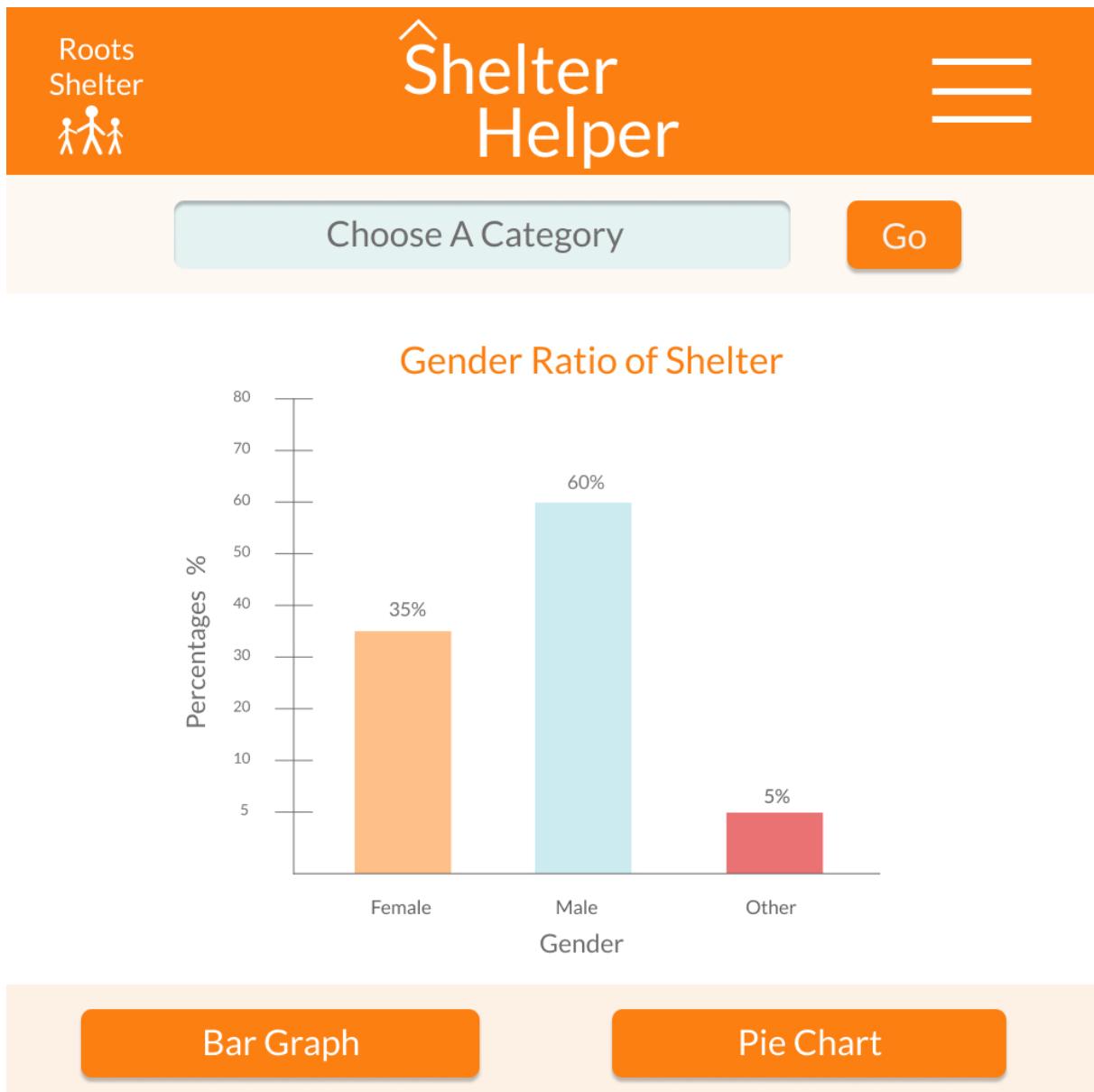
## APPENDIX 2: NON-TASK RELATED PAGES

*Empty Search Box*



*Search form filled out with specific service*





The screenshot shows the 'Clients Page' of the 'Shelter Helper' mobile application. At the top, there is an orange header bar with the 'Roots Shelter Helper' logo on the left, a search bar in the center containing the placeholder 'Search Client', and a 'Go' button on the right. To the right of the search bar is a menu icon consisting of three horizontal lines. Below the header is a table with five columns: 'Select', 'First', 'Last ▾', and 'Birth Date'. The table lists five clients: George Crow (04/13/85), Patrick Edwards (02/19/89), Sally May (11/24/88), William Pane (08/28/89), and Derik Yarns (08/23/91). Each client row has a small circular icon next to the 'Select' column. At the bottom of the screen are two orange buttons: 'Go Back' on the left and 'Look Up' on the right.

Select	First	Last ▾	Birth Date
<input checked="" type="radio"/>	George	Crow	04/13/85
<input type="radio"/>	Patrick	Edwards	02/19/89
<input type="radio"/>	Sally	May	11/24/88
<input type="radio"/>	William	Pane	08/28/89
<input type="radio"/>	Derik	Yarns	08/23/91

Go Back      Look Up