Stage Three: Human Computer Interaction I

Students: Elliot Evans, Favian Silva, Neera Patadia, Rumika Mascarenhas, Panagiota Fytopoulou

Link to Portfolio: https://vezwork.github.io/CPSC-481-Portfolio/
Link to Repository: https://github.com/FavSil/481HCI
Link to Video Prototype: https://youtu.be/9E1iyc9fU3c/

Description of the Video Prototype

We created a paper prototype of the app which will run on mobile devices. We used the paper prototype to simulate all functions horizontally. Additionally, functions like setting up a profile, exploring restaurants using the map view and writing a review were depicted vertically.

Login/Signup

The prototype illustrates that the user is led to a login/sign up page, where the user can login with an existing profile or create a new profile. The user can also sign up with Facebook, Google or email. Once the user is signed up and logs in, the user is then asked to specify their food restrictions. The user can also add restrictions or allergies that are not in the predefined list. The user can also skip the login/signup process to use the app without a profile.

Exploring Restaurants Using Interactive Map View

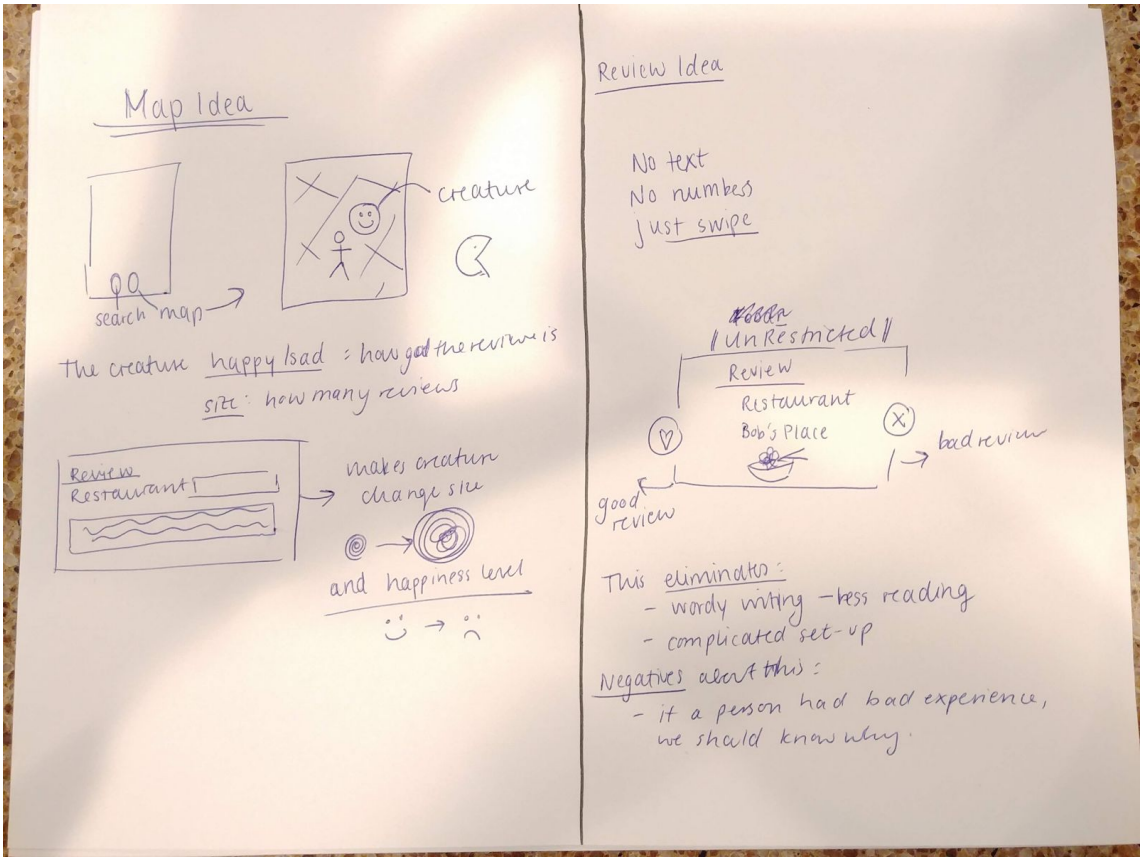
The prototype simulates the use of the map which would show restaurants around the user. In addition to the location of the restaurants, the shapes (circle, triangles, squares etc) also illustrate the restaurant quality based on the reviews submitted by users (colour spectrum from green to red) and the amount of reviews (Size of the shape). For example, green would represent good reviews and red comparatively bad reviews from users. The users can click on the shape to view a summary and the top review. For a detailed overview the user can click on the review, which would lead the user to the restaurants page with pictures and a list of reviews.

The user can also search for food, food restriction in the search bar by clicking on the search icon on the top corner of the map view. This would focus the map view to the top rated restaurant that complies with the food or food restriction specified.

Writing a Review

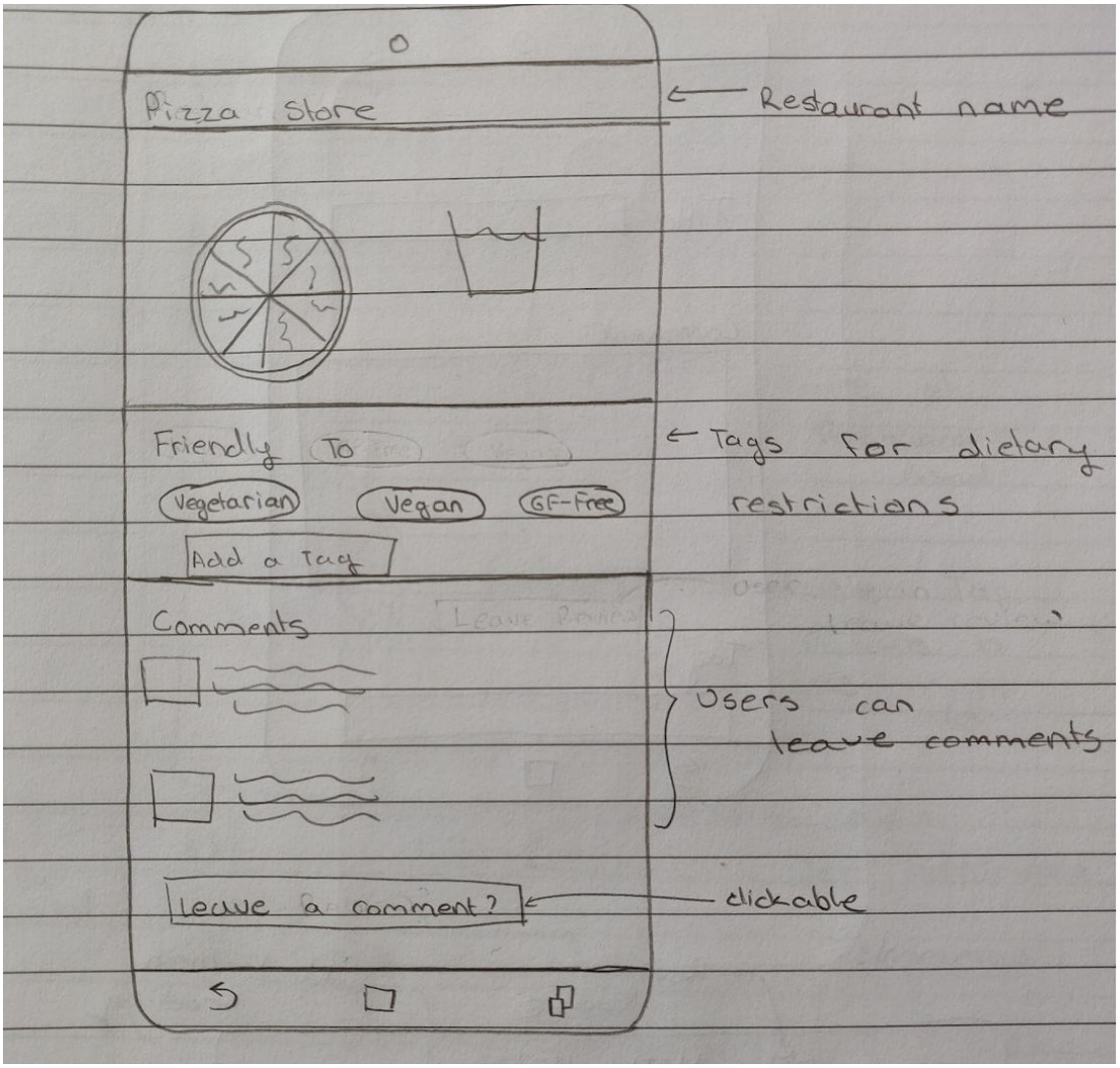
Once the restaurant that is to be reviewed is selected from the map or can be searched from the search bar. The restaurant overview page has the option to write a review. Once clicked the user is redirected to a“write a review” page, where the user can type the review and add pre-defined tags such as “restriction-friendly”, “friendly staff”, “vegan friendly” etc and click submit.

Sketching/Brainstorming

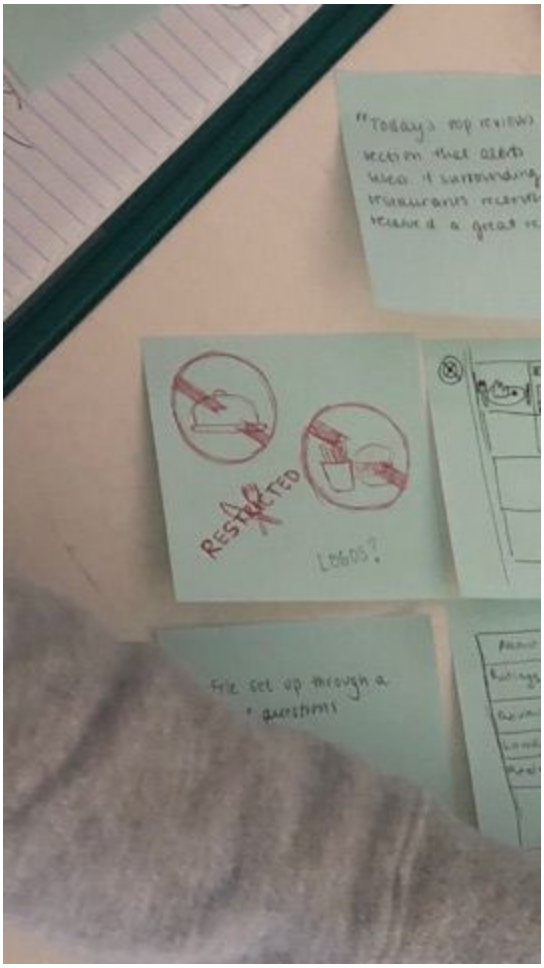


This sketch illustrates two design ideas. The idea on the left is an interactive map view in the app which communicates customers restaurant reviews, and the location of the restaurants at-a-glance with 'creature' icons representing restaurants on the map. The colour and facial expression of the creature represents the average quality of reviews. The size of the creature represents the amount of reviews the restaurant has received.

The second idea is a “Tinder” style reviewing system that allows the user to swipe right or left to submit a good or a bad review. This reviewing system would be easy to use, and more efficient compared to typing. However, needing to provide extensive reviews to users with varied food restrictions, we needed to implement a design that would allow a balance between detailed and simplistic reviews.



This sketch illustrates the restaurant overview page. The page would display pictures of the food, restriction 'tags' that the restaurant complies to and list of user reviews.

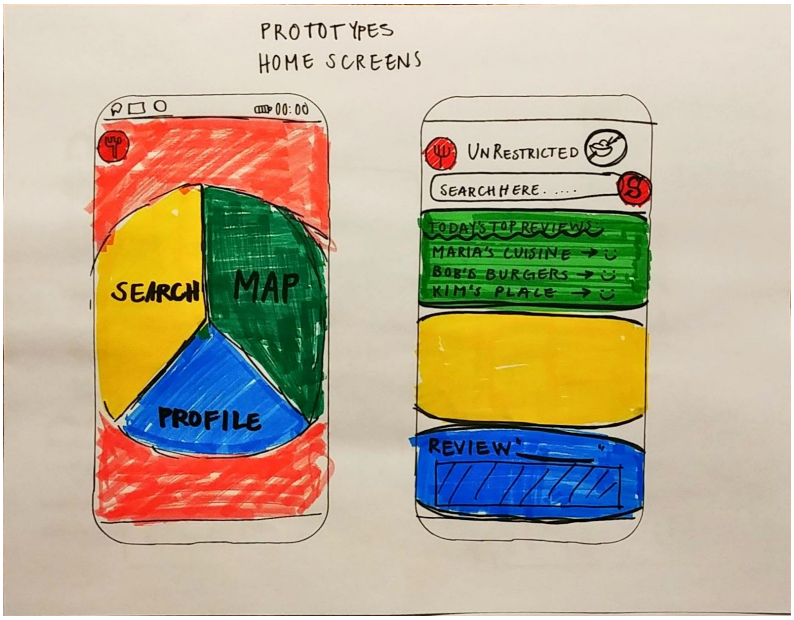


This is a close-up of our 'sketching on sticky notes' brainstorming process. The sketch in the photo illustrates our attempt to come up with some logo ideas that would convey the app's functionality to the user. The main idea that we derived from this exercise was to show food and a restriction that is "broken".

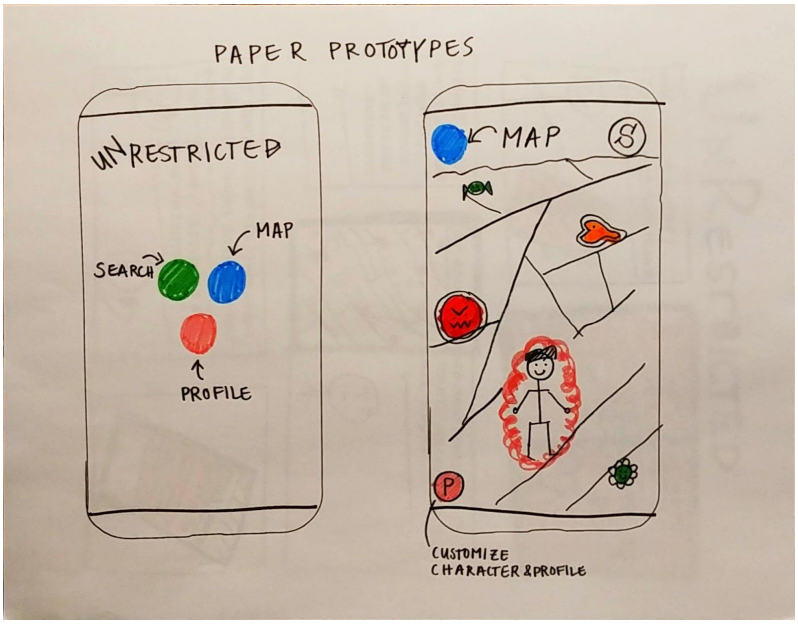
Storyboards

See Appendix A

Paper-Proto-prototypes



Here is a first look at what we thought the prototype should look like. It is very simple, with three different frames to use. However, to simplify things further, we decided to minimize the design and keep it simple, as follows:



Task Centered Design Walkthrough

Walkthrough - Setting up a profile on UnRestricted

Jeff is a Celiac who doesn't have and patience for anything that tastes like shellfish. Short on time he decides to eat out, finding UnRestricted helpful he decided to set up a user account to expedite the process of finding a place to eat which suits his dietary preferences and needs. Opening the app he decides to log in with his email. He enters his name, email and creates a password. He chooses his gender, male. He states his age 22 and picks the dietary restrictions based on medical reasons, celiac. He then clicks on the "Not on list" option to take him to the "Dietary choice I don't like" screen. He finds shellfish and selects it. He is then done creating his profile.

Description of Step	**Does the user have the knowledge/training to do this step?**	**Is it believable that they would do it? That is, are they motivated?**	**Comments (including possible solutions)**
Clicks on the email button to register with his email.	The interfaces asks which method that they want to sign up with and the mail button is usually associated with email sign ups.	Yes, it saves preferences and allows them to sign up with email. Users are wary about providing emails when they just want the service of the app, may close if they just want to access app.	A skip button is provided for those who want to find restaurants however functions which require a profile will prompt for creation when the user tries to access them.
Inputs email	Yes the user interface has a blank space with the email text field displaying what needs to go inside the box.	Yes	A common occurrence for profile creation.
Re-Inputs email.	Yes the user interface has a blank space with the email text field displaying what needs to go inside the box.	Yes	A common occurrence for profile creation.
Inputs password	Yes the user is prompted by the UI	Yes the user would not want their data to be	A common occurrence for profile creation.

	again.	accessed by a third party.	
Re-Inputs password	Yes the user is prompted by the UI again.	Yes the user would not want their data to be accessed by a third party.	A common occurrence for profile creation.
Enters Address	Yes the user is prompted by the UI text field.	The user may be hesitant to provide that information.	The app should disclose to the user that information will be kept private and that the location will only be used to find locations close to them where they can eat.
Presses Next	Yes the user interface has a written prompt to go next.	Yes	A common occurrence for profile creation.
Enters Sex	The User is prompted by the screen.	The user may wonder why they need to input their sex for a food app.	The sex should be optional and not take up a screen.
Presses Next	Yes the user interface has a written prompt to go next.	Yes	A common occurrence for profile creation.
Enters age	The User is prompted by the screen.	The user may wonder why they need to input their age for a food app.	The age should be optional and should not take up a screen. The age could also be explained as to filter what restaurants are displayed as some don't cater to those under a certain age.
Presses Next	Yes the user interface has a written prompt to go next.	Yes	A common occurrence for profile creation.
Presses a Dietary Restriction Bubble	The user is prompted to pick what they	Yes they should be motivated to pick what	The most common dietary restrictions

	cannot eat. The icons will highlight the options they cannot eat.	they medically cannot eat because they would be harmed if they didn't.	could be at the top and then filtered down to the least common to reduce user searching.
Presses button to pick an item not on the list	Once the user runs out of options to pick the last remaining option is for items that are not medically important.	A lot of people's food preferences depends on what they enjoy as a food item. Combing medical restrictions with taste restrictions is motivating to what people eat.	Instead of not on the list the prompt could say, Ingredients you don't prefer. It's confusing to have two item lists with vague descriptions.
Scrolls to find shellfish	Scrolling has become a common method for traversing a list of items.	Yes, to find ingredients they don't like.	—
Presses shellfish Button	The same style of prompting is kept from before to keep up consistency.	Yes	The goal here is to take less weight on the items they don't prefer. This could lead to still showing these items but on the bottom of the list of restarting they could eat at instead of removing them entirely.
Clicks Finish	Yes the user interface has a written prompt to finish.		

Walkthrough - Search for restaurants matching my dietary restriction of no red meat.

Jen has chosen not to eat red meat. One evening after finishing up work at the office, she decided to find a place to eat out for dinner. She decides to try out the 'UnRestricted' app to help her find a restaurant nearby, which serves non red meat dishes. Jen opens the app, clicks 'skip login', and searches for 'no red meat'. Jen taps on a few big, happy restaurant icons and reads reviews for 'Marios Kitchen' and 'The Purple Fork'. Jen finds out that 'The Purple Fork' has a great chicken and fennel dish by reading a review. Jen decides to go eat at 'The Purple Fork'!

Description of Step	**Does the user have the knowledge/training to do this step?**	**Is it believable that they would do it? That is, are they motivated?**	**Comments (including possible solutions)**
Open app	This is an every-day action for a smartphone user.	yes, the user wants to find a place to eat.	
Skip login	With a quick glance at the login options, the user sees that they have the option of skipping login.	yes, the user does not feel the need to login. they just want to find food.	
On map/search screen, tap on search bar	A search bar is common in many apps. Ours follows a familiar visual pattern.	yes, the user is searching for a restaurant with non red meat options. So naturally, they will want to use the search function.	
Keyboard appears, type in 'no red meat'	The user may be unsure what format their search query should be in. The user may be unsure if 'no red meat' will return meaningful results. But the user will try.		Auto Completing or giving related searches may give the user confidence that their search is valid.
Tap the search🔎 button	This follows the familiar search pattern.		

	The user may also press enter on the keyboard.		
The keyboard disappears and the map changes position, highlighting a few restaurants. Tap a large, green restaurant icon with a happy face.	The restaurant icons are brightly colored and large. Visually, it is obvious they are tappable. The map moves to surround a few restaurant icons. With the icons being the only possible actions other than search on the screen, it is clear the user should tap on one.	The user is motivated because the app has found a few possible restaurants. The app has helped the user narrow down their search. Now the user just needs to look at the possibilities. The larger the restaurant icon, the more positive reviews, and the more likely the user will like it.	
Read the restaurant 'Mario's Kitchen' review and restriction pop-up.	The user can read, and this is the only text on screen.	The user wants to know whether this restaurant has non red meat options, and if it is good.	The app could highlight reviews talking about red meat or red meat dietary synonyms. i.e. vegetarian or chicken dishes both would not have red meat. The app should show whether the restaurant is friendly to restrictions related to red meat. The user probably does not care if the restaurant serves gluten free dishes.
Tap a medium sized, green restaurant icon with a happy face.	*discussed above*	The user was not interested in the previous restaurant based on its reviews and restrictions pop-up. They will	

		consider other options.	
Read the restaurant 'The Purple Fork' review and restriction pop-up.	*discussed above*	*discussed above*	
Tap the restaurant review and restriction pop-up.	It is natural for a user to tap on something they want more information about. That being said, it is not currently obvious that the pop-up is tappable.	The user is interested in this restaurant. They would like to confirm their interest by learning more.	Adding a visually obvious 'see more' button to the pop-up would make it clear to the user that they can tap on the pop-up to get more information.
Read a few reviews	The user can read, and reviews are the only items on screen. Reviews at the bottom of the screen are half cut-off, so it is visually obvious that the user can scroll to see more reviews.	The user wants to learn more, so they read what others are saying.	The user may miss some key information if they only read restaurant reviews. - When is the restaurant open? - What is the restaurant's address? - Does the restaurant do take out? Perhaps the app could ask reviewers to submit this information along with their reviews and present it to users. OR We could link to the restaurant on google maps.

Walkthrough - Review

Bob has been using the application UnRestricted for a while now. Through the application, he found a restaurant that he deemed worth trying out. Now, Bob would like to review this restaurant. He opens the app and logs in, since he is already a regular user, his profile is already set up. He finds the restaurant on the map and taps the icon. The small blurb of the restaurant pops up, and Bob presses the blurb once again. A frame pops up, to write a review, Bob presses the "Write a Review" button on the screen. Another frame pops up, this is for the review. Bob can now type his review, add recommended review tags and press submit. Now Bob's review is online.

Description of Step	**Does the user have the knowledge/training to do this step?**	**Is it believable that they would do it? That is, are they motivated?**	**Comments (including possible solutions)**
Open app	This is an every-day action for a smartphone user.	yes, the user wants to find a place to eat.	
Login	The user already has a profile set up and the login credentials are pretyped into the app.	Yes the user has logged in before.	
On map	The map is already placed over the restaurant they had just finished eating at.	Yes, the user had searched for a restaurant with GF burgers previously	Alternatively the user can search for the restaurant.
Click on restaurant they want to review.	The user had to have previously clicked on the restaurant before when they searched for gluten free burgers.	They had gotten a recommendation by someone elses review, they found the review helpful and wanted to add more towards the review of the restaurant.	
Press write review.	The review area is	The user is already in	

	blank. The pre written text would indicate that the user should write a review.	the process of writing a review so they would be motivated to continue to do so.	
Type review.	The keyboard would pop up and prompt the user to type. A usual occurrence for phone apps.	The user is already in the process of writing a review so they would be motivated to continue to do so.	
Press done.	Yes	Yes	
Click recommended review phrases.	The user would need knowledge on the idea of picking a predefined phrase that encapsulates their experience.	The user who doesn't usually like to write reviews might feel more inclined to just pick a predefined phrase.	A helper instruction could be used to instruct the user on how to show the user what to do.
Submit	Yes	Yes	

Task Centered Walkthrough Summary

We performed and documented three task centered design walkthroughs on the following core tasks: profile creation, searching for restaurants with non red meat dishes, and writing a review. In our stage two document we additionally had the tasks: finding restaurants based on information in the users profile, and viewing menus of restaurants.

After creating our video prototype, we performed the task centered design walkthroughs and identified problems in our design that need to be solved. Three of these problems were: Information that may seem unnecessary is requested from the user during profile creation, the user may not know that they can tap on restaurant pop-ups on the map screen to learn more about the restaurant, and the restaurant details page does not include restaurant location and hours of operation. Once we had identified these issues, we wrote down some possible fixes.
We also identified small changes and additions that could be made in order to improve the user experience, such as: autocompleting user searches to give the user confidence that the application understands what the user is searching for, including a star rating system for restaurant reviews, and simplifying menus.

We found that our design worked well with the task of writing a review on a restaurant. Our review design is fairly simple and obvious, and helps the user write a useful review by suggesting key phrases. We believe our design will encourage users to contribute high quality information about their dining experience, which means that users looking at reviews and reading information about restaurants will get what they want.

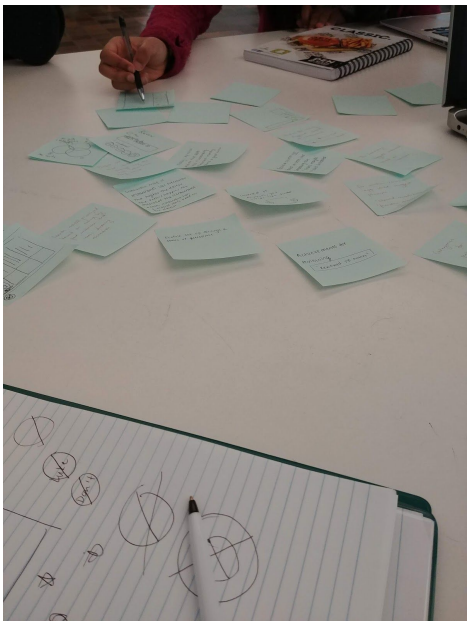
We were surprised by the effectiveness of task centered design walkthroughs. The process helped us identify large and small issues and improvements. Task centered design walkthrough gives a simple and succinct framework for thinking like a user. This framework worked well for us, and we believe it has resulted in a better application design.

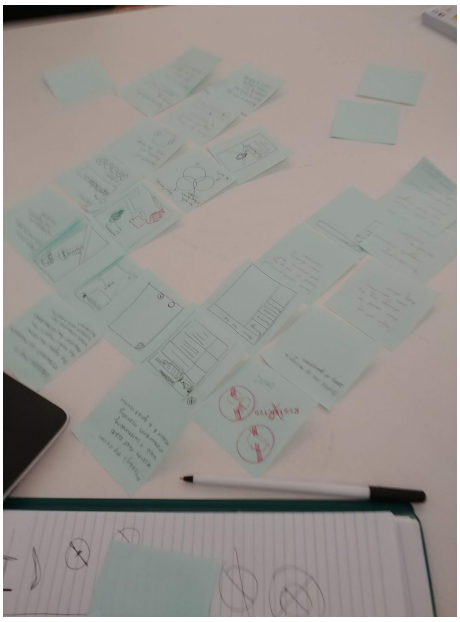
Reflection on Ideate Process

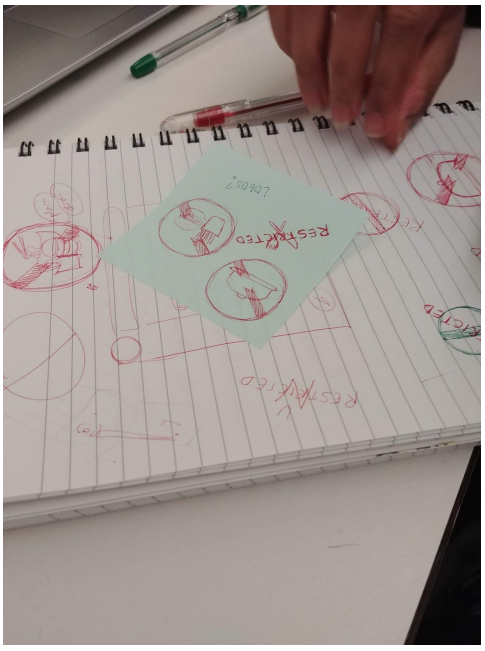
The **brainstorming** part of the ideation process went really well, as the group was able to bounce ideas off each other and see what everyone imagines the application to look like and how it would function. There were some differing ideas, as expected, but they fortunately did not cause a rift in our team dynamics whatsoever. Because our group consists of like minded people we were able to quickly analyze the main ideas of each member's sketches. Therefore, the **affinity diagramming** session resulted in coherent ideas and expectations. We initially decided on having 3 frames: search, map and profile; however, after some discussion and consideration, we simplified it to just the map and the profile is a smaller aspect of the application. Due to the vagueness of how to approach the **storyboards**, we created a few storyboards that included different situations in which individuals would be using our application. After talking to the TA about how to approach the storyboards, we were able to create one strong storyboard that outlines the most functions of the application. Working off the storyboards and ideas, we created a **low-fidelity paper-prototype**. There were some discussions on the ideal look of the prototype, but in the end we were able to agree on compromises and keep it as simple as possible.

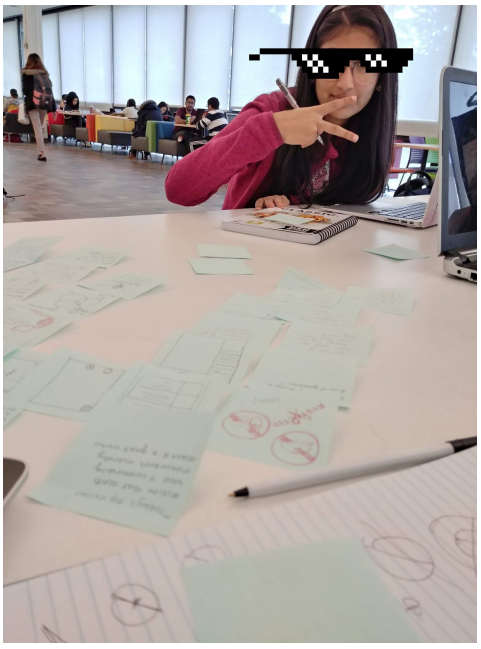
Overall the entire ideation process went as smooth as it possibly could, and while there were some disagreements and discussions, we need those to develop our ideas into better ones. If we were to do the ideation process again, we would not change anything.

APPENDIX A









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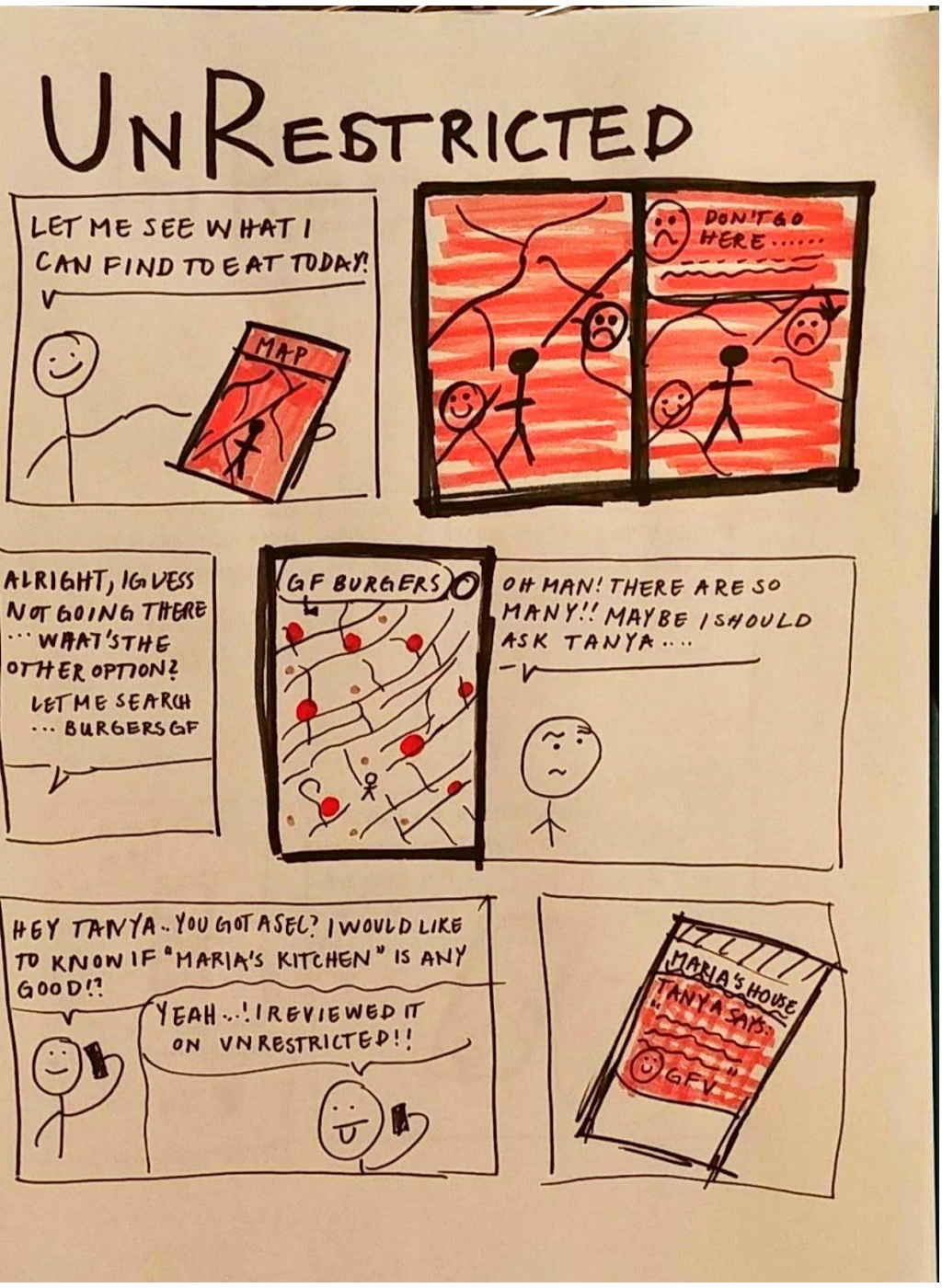

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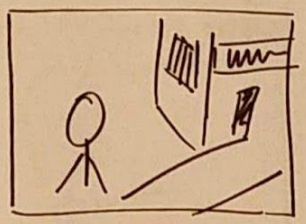
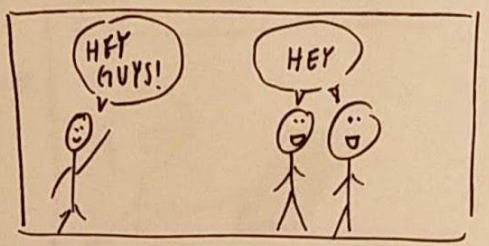
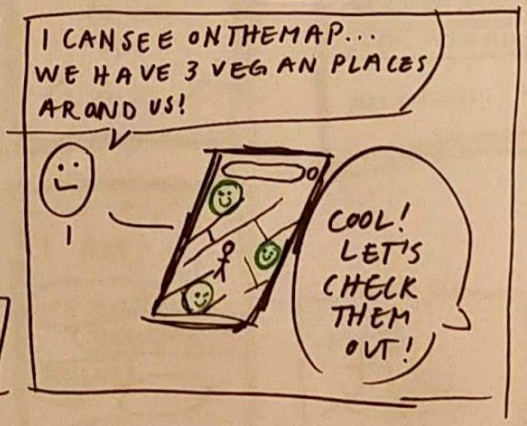
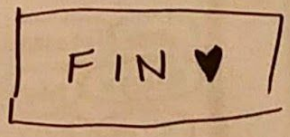









UNRESTRICTED
HI I'M JEFF AND I'M CELIAC! I DON'T LIKE SHELLFISH EITHER
I JUST FINISHED THE PROFILE SET-UP ON UNRESTRICTED!
UN R
YOU ARE
MALE
FEMALE
PREFER NOT TO SAY
YOU ARE
1
YEARS OLD
MEDICAL RESTRICTIONS
CELIAC
LACTOSE INTOLERAN
PEANUT ALLERGY
SHELLFISH ALLERGY
NOT ON LIST... →
DIETARY CHOICE I DON'T LIKE
BROCCOLI
NUTS
MEAT
VEGAN
FISH
G-F
NOT ON LIST... →
I AM...
VEGAN
VEGETARIAN
HALAL
NOT ON LIST... →
Fin

UNRESTRICTED

OR: UNRESTRICTED

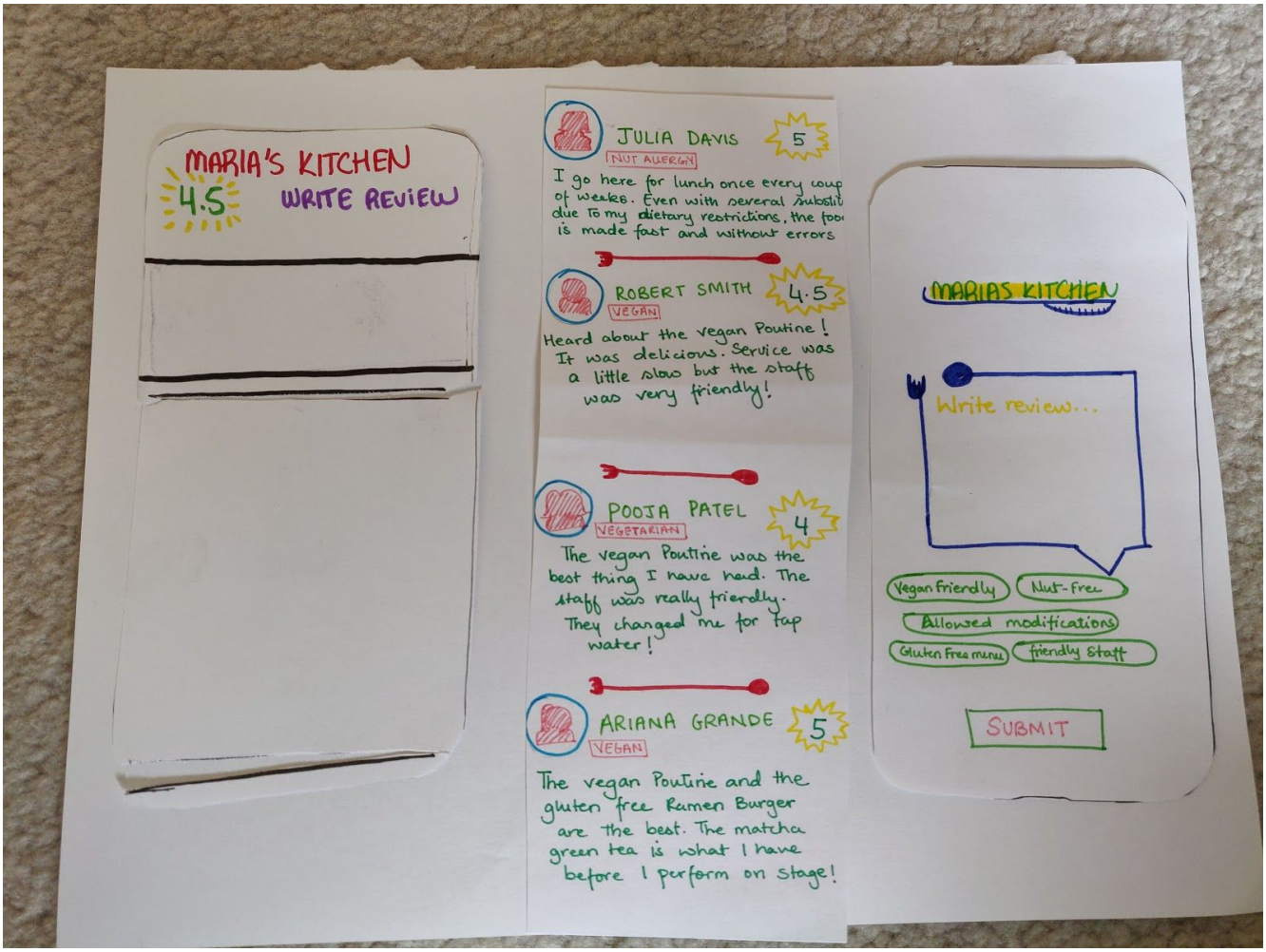
Soft-fi Prototype

What the application would look like to the user and the loading screen once the application has been clicked

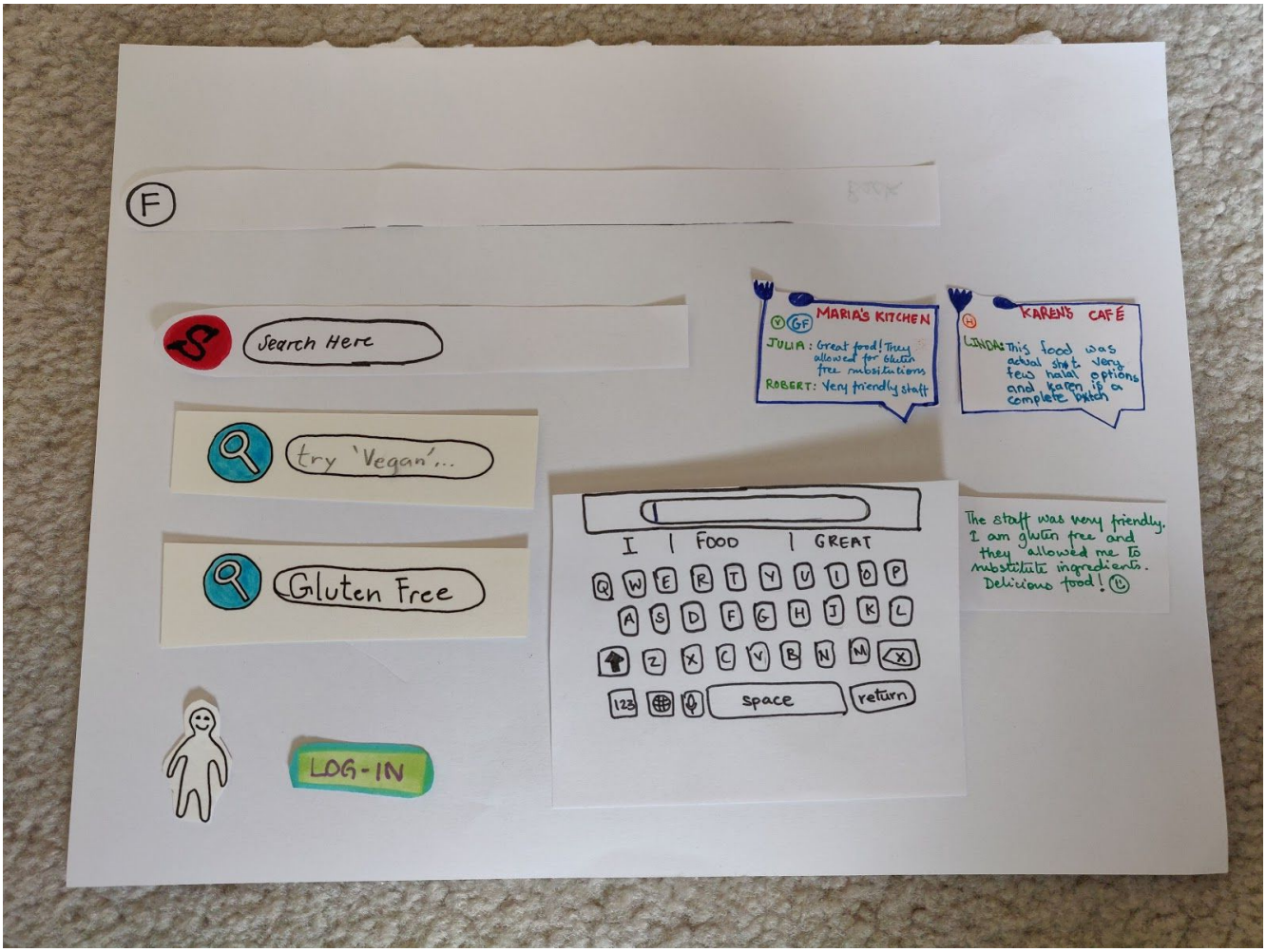
New users are able to customize their dietary restrictions preferences for their profile. Users can also add restrictions if it is currently not listed in the application.

Once users have added their restrictions/preferences, they are directed to a confirmation screen. Image also shows the login screen and the sign-up screen.

Map that the user can interact with, that visually represents the rankings of various local restaurants



Users are able to read and write reviews for local restaurants. On the review screen, users can add “dietary tags”, indicating which restrictions are catered for at a particular establishment.



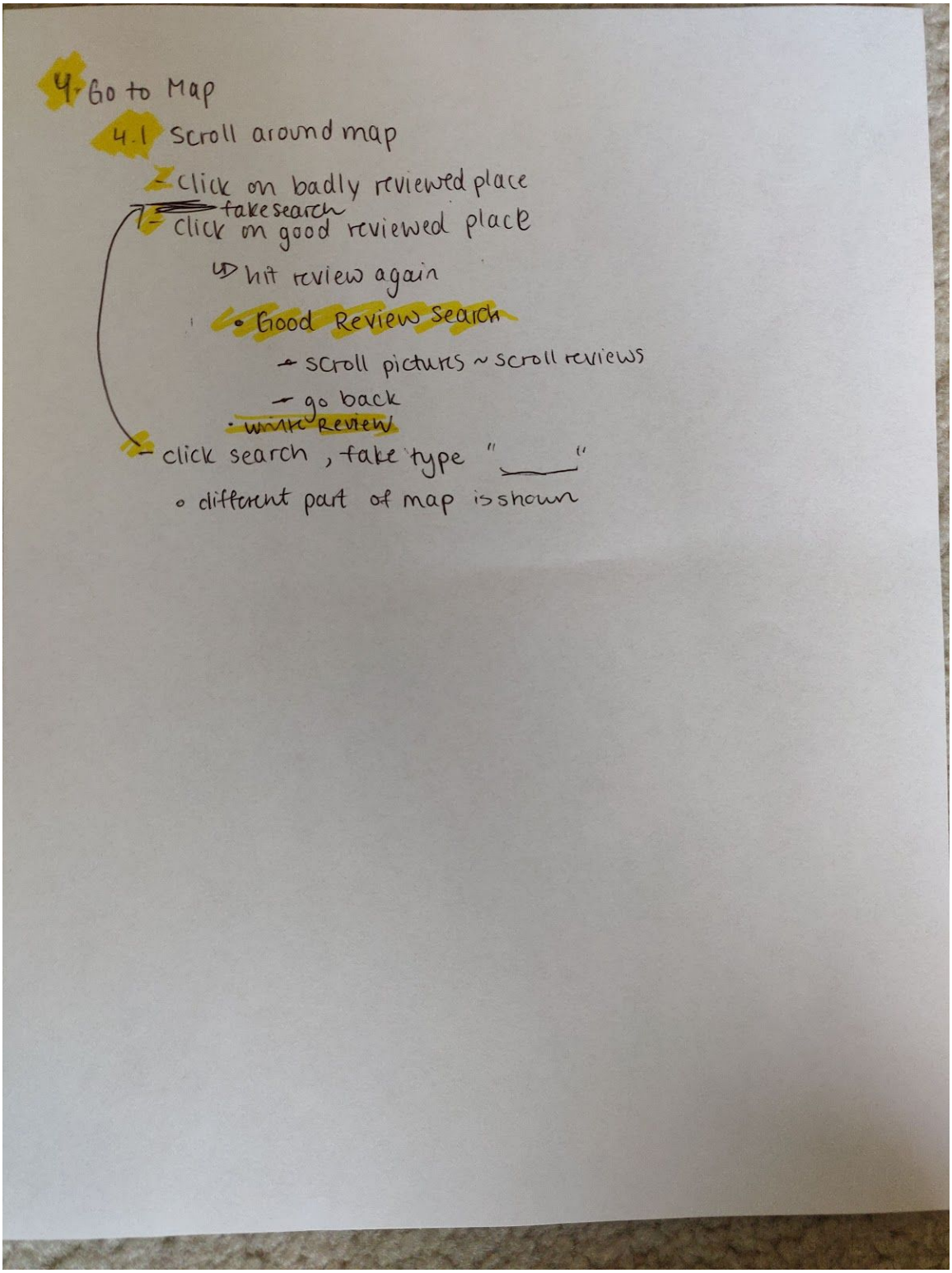
This image shows the different buttons and pop-ups we included in our low-fi prototype. They include the search bars, which appear on the map, the login button, the keyboard which pops up when inputting written queries, and the reviews that pop-up on the map.

Walkthrough for video:

1. "open App"
2. Loading Page
3. Log-in Page
   - 3.1 ~~Hit~~ create Profile (create profile slide) "fake type"
     - ↳ select I am vegetarian ~ hit next
       - • (F) For Finish pops up
     - ↳ scroll down
     - ↳ select Pineapple
     - ↳ select "Not on List"
     - ↳ Not on List page
       - • hit search/text box
       - • keyboard pops up
       - • fake type... Vanilla
       - • hit enter
     - ↳ goes back to "I can't eat" ~ shows vanilla....
       - • hit vanilla
       - • hit (F) for finish
     - ↳ "summary" pops up
       - • hit finish

   ~ Fake Rewind to log in page

   - 3.2 ~~Log in~~ Hit "skip"
4. Go to map...



Overview of the elements included in the video prototype.