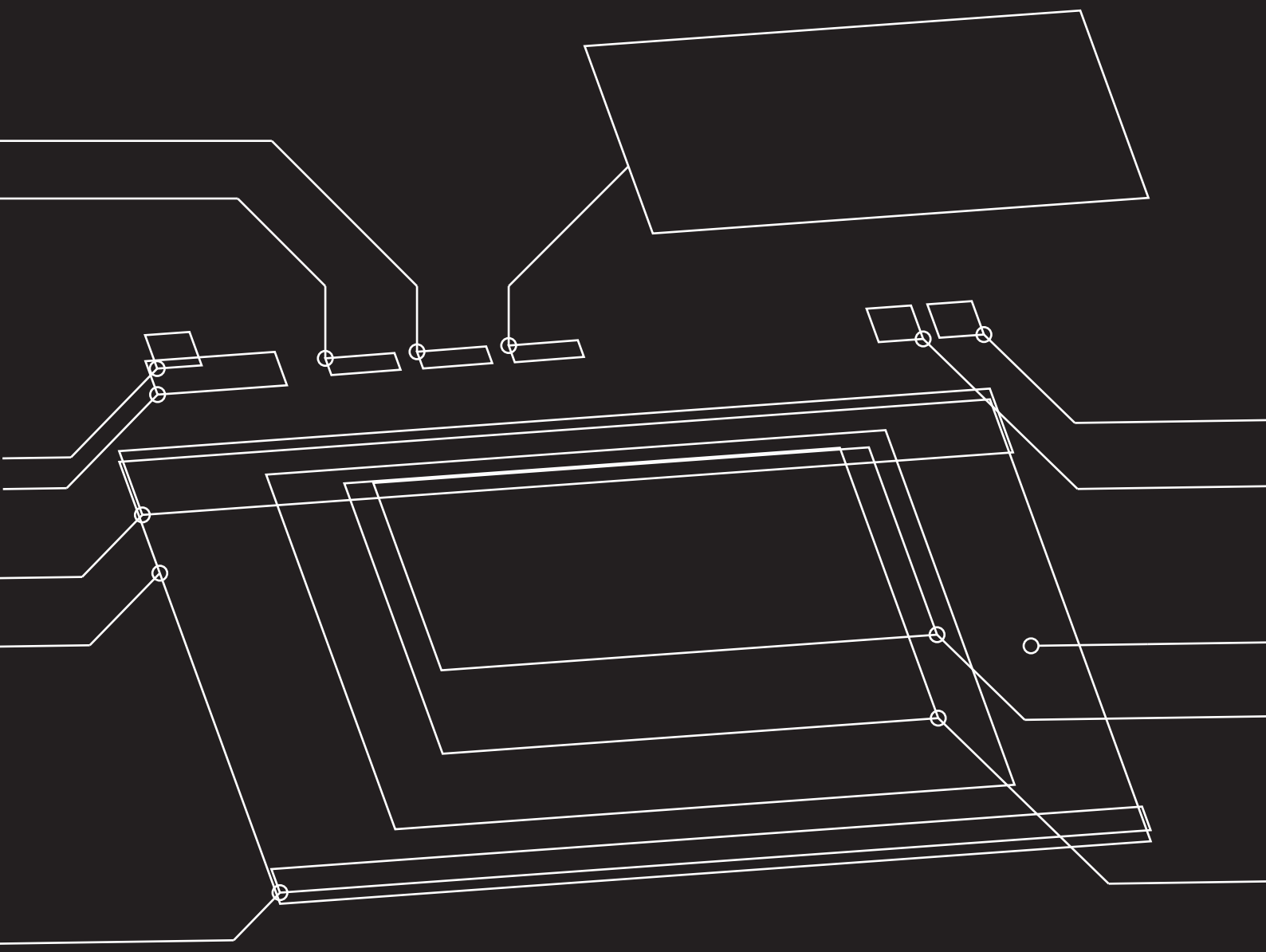

Control Alt Defeat

Deliverable 1

About Hare

The ideas behind Hare is to enable general consumes to get more information about packaged good ingredient's.

We aim to allow users to go overseas, and still be able to make informed choices on the types of products they consume, by being able to pass images to our application, and having it do the rest of the work.

Links

Website demonstration:
http://m.senghare.xyz:8080

GitHub repository:
https://github.com/unsw-se2021/HARE

Group Members

Jack Callandar, Julie Duan, Michael Lloyd, Negar Bolourchi, Ravija Maheshwari

Notes

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Problem Statements

01

There is no immediate, and accessible way to find out about ingredients in a product while or after shopping.

02

Consumers cannot quickly verify the health benefits implications of certain ingredients included in a product while shopping easily.

03

Consumers must manually type ingredients on product packaging to search for information about them online, repeating for each other substance.

04

There is not an easy way to compare the types of ingredients in two packaged products without manual entry and comparison.

05

Travellers or consumers shopping for packaged products in another language don't have an easy way to translate the ingredients list.

06

It may be difficult to determine if a product allergens or substances they might not be able to consume if product packaging is not clear.

07

Finding synonyms for ingredients' names on product packaging is not intuitive and easy while shopping or reviewing items.

08

There is no way of categorising and sorting ingredients in packaged products automatically so that consumers can intuitively review what they are purchasing.

09

When searching for ingredient/substance information online, the quality and type of information is not always relevant or reliable when needed.

Features & Requirements

To address the scope of our application, and to tackle the problems stated we can list the number of direct functional requirements we may need for our applications.

These requirements can be translated directly in to the features that are present in our User Stores, and they are a useful reference to how the group interpreted what our application should do.

REQ 01

User must be able to take picture of packaged good and obtain a list of ingredients

REQ 02

User must be able to take pictures of foreign goods, or packaged goods in a foreign language, and obtain an ingredients list in English.

REQ 03

User must be able to obtain descriptions and brief overviews of the ingredients in a list from a packaged product.

REQ 04

Ingredients obtained from packaged goods must be categorised such that a user is able to infer more information about how they are used, or their purpose in the product.

REQ 05

Users must be able to filter categories of ingredients for highlighting

REQ 06

Users must be able to highlight categories or certain ingredients in packaged products when obtaining the ingredients list.

REQ 07

Users must be able to save ingredients lists from a packaged product somewhere for later viewing or comparisons.

REQ 08

Users must be able to compare packaged products' ingredients lists'.

REQ 09

Users must be able to save and load their preferences/filters, highlighting and ingredient lists.

REQ 10

Users must be able to infer serious health implications that may result from normal consumption of a listed ingredient.

REQ 11

Users must be able to search for allergens or ingredients that may have a specific health implication for them.

REQ 12

If a user doesn't want to save preferences and product profiles, they can still use the OCR and ingredient search features of the application.

User Stories & Features

User stories allow developers to group acceptance criteria into logical blocks, motivated by the customer's high level requirements, which directly tie the behaviour of the system into the behaviour desired by the users. This makes the usability of the system the highest priority in development.

They also allow for the assignment of priorities and story points, two essential components for the Agile development process. Priorities allow developers to effectively make iterative prototypes as required by Agile, and story points allow developers to make progressively more accurate estimations for when the project will be complete.

US-1

Feature: Upload picture of packaging (REQ1, REQ12)
As a Guest

So that I can find information about ingredients in the product

I want to upload a picture of the ingredients on a product

Scenario: Take a picture, or upload an image of an ingredients list to receive information about each ingredient

GIVEN: I am on the default landing page
AND: I have not logged in
WHEN: I click the scan image icon
THEN: I am on the upload page with camera preview
WHEN: I take a picture of the product ingredients
AND: I click submit
THEN: I see a page with details about the ingredients in the picture

US-2

Feature: Scan packaged item with Camera
(REQ2, REQ11)
As a Member

So that I can view categorised information about the usage or purpose of ingredients in a product.

Scenario: Take a picture of an ingredients list to receive information
about each ingredient

GIVEN: I am on the default landing page
AND: I am logged in
WHEN: I click the scan image icon
THEN: I should be on the upload page with a camera preview
WHEN: I take a picture of the product ingredient details
AND: I click submit
THEN: I see a page with details about the ingredients in the picture

US-4

Feature: Log Out (REQ13)
As a Member

So that I can return to the default landing page of the web app.

I want to log out of the app

Scenario: Log Out
GIVEN: I am on any page within the web app
AND: I am logged in
WHEN: I click the 'Logout' button
THEN: I am taken to the default landing page and am not longer logged in

US-3

Feature: Log In (REQ13)
As a Member

So that I can save my previous scans, enable ingredient highlighting, and compare multiple products.

Scenario: Log In
GIVEN: I am on any page within the web app
AND: I am not logged in
WHEN: I click the 'Log In' button
THEN: I should be on a Login page
WHEN: I correctly enter my credentials
THEN: I should be on the user preferences page, logged in

US-5

Feature: Select pre-set highlighting preferences for ingredients
(REQ4, REQ6)
As a Member

So that I can easily identify ingredients of common preferences

I want to choose a pre-set to highlight these ingredients

Scenario: Select a pre-set in my ingredients preferences

GIVEN: I am logged in
AND: I am on the user settings page
WHEN: I scroll to ‘Highlighting Preferences’
AND: click on any of the sample preference settings
THEN: Future ingredient details will display selected ingredients
with custom colour using a pre-set

US-6

Feature: Define custom highlighting rules for viewing ingredient (REQ5, REQ9)
As a Member

So that I can easily identify ingredients

I want to create a pre-set to highlight chosen ingredients or ingredient categories

Scenario: Create a highlighting rule set in my preferences

GIVEN: I am logged in
AND: I am on the user settings page
WHEN: I scroll to ‘Highlighting Preferences’
AND: click ‘Customise’
WHEN: I choose my ingredient and colour
THEN: Future ingredient details will display selected ingredients

US-8

Feature: Save ingredient lists for later viewing (REQ7)
As a Member

So that I can view the ingredients of saved items easily

I want to have easy access to frequently bought products

Scenario: I want to check the ingredients of an item I've previously scanned

GIVEN: I am logged in
AND: I am on the user homepage
THEN: I should see a list of previously scanned items
AND: I have previously saved the ingredients of the item
WHEN: I click on my saved item list
THEN: I see the ingredients of item in the list I click on

US-7

Feature: Compare the ingredients of two packaged items (REQ8)
As a Member

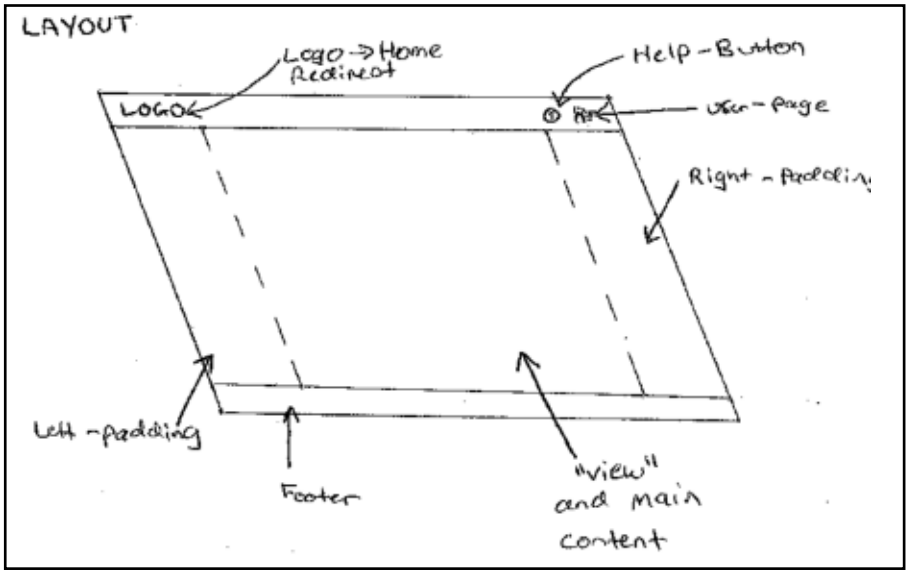
So that I can make a well-informed decision about which product to buy

I want to obtain a side-by-side comparison of the ingredients list of two chosen products

Scenario: Chose two products to receive a detailed description and an ingredients list of both products for comparison

GIVEN: I am logged in
AND: I am on the product page form ‘Saved products’
AND: I have scanned, then saved, at least two items
WHEN: I click the "compare" button
THEN: A page appears with all the items I have saved
WHEN: I select two items from the modal
THEN: I see a page with a side-by-side comparison of the two items.

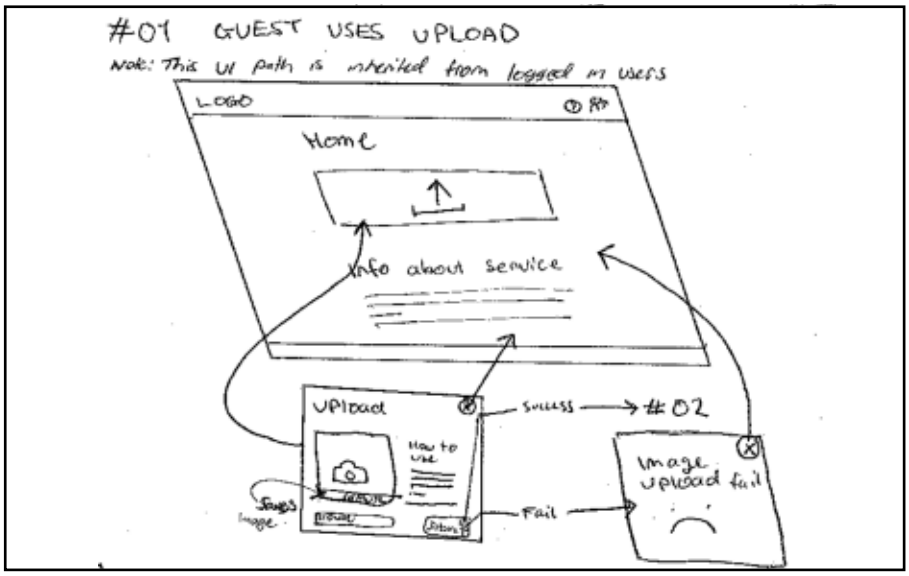
Low Fidelity User Interface



General Layout

To keep the user interface consistent, some persistent elements have been chosen so that the user has a frame of reference at all times.

This includes the Navigation Bar, Footer, Logo, and somewhere to get assistance with the application.



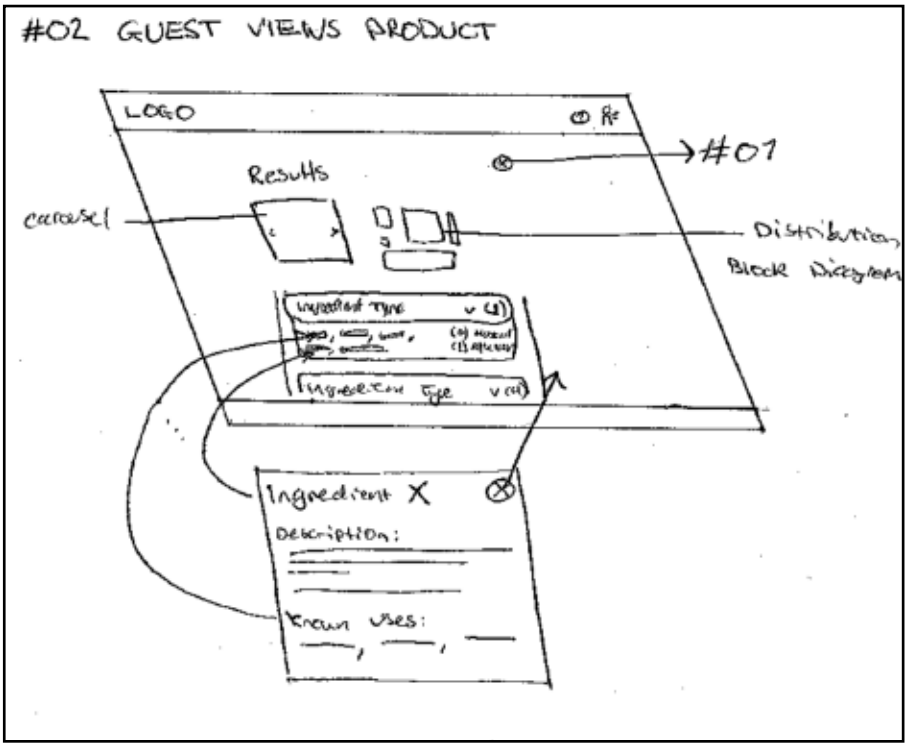
01 - Guest UI Experience

Not all users of our website are expected to log in, but the user interfaces encountered by the guest aren't necessarily different from normal users.

Some features are not available, but this particular user interface path is the same with regular users as well.

Some featured pages are:

- The Home page
- The Upload page
- The "Bad image" page

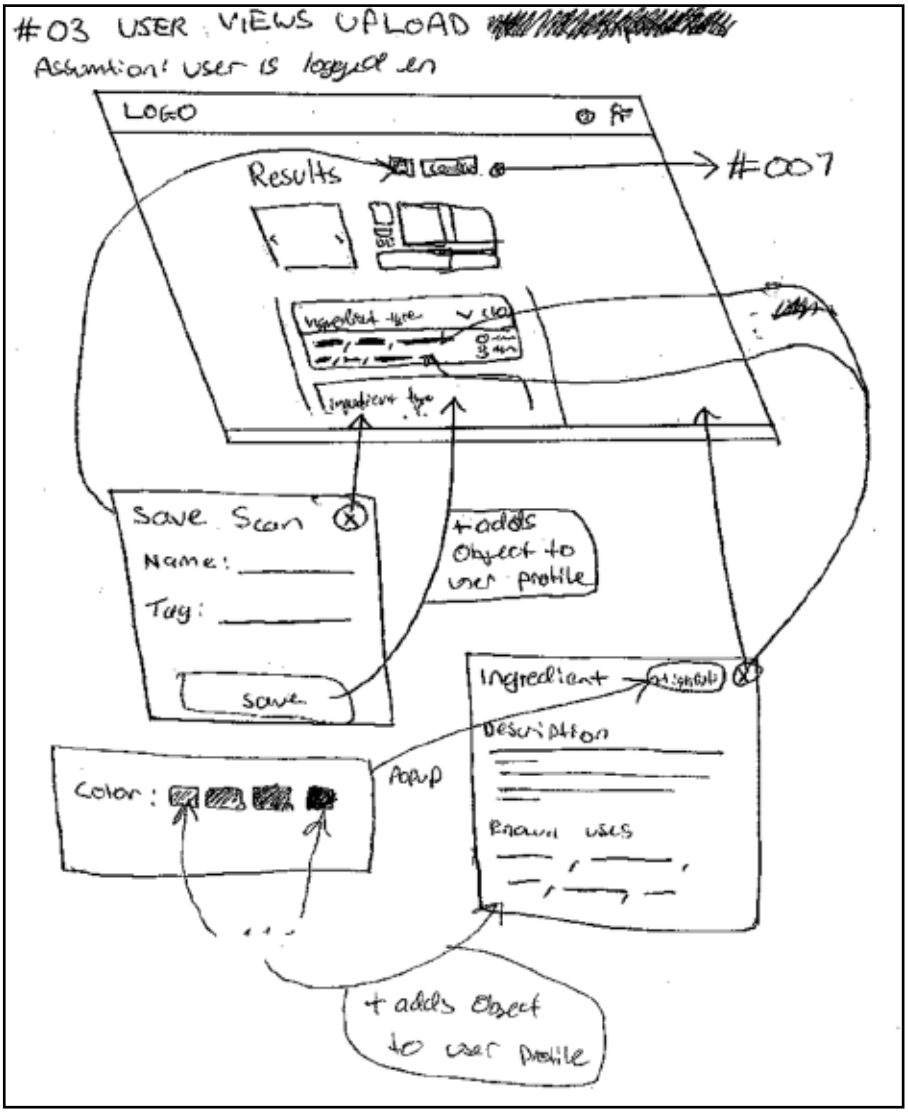


02 - Guest results view

When a guest has finished uploading an image successfully, they can visit a page of useful results acquired from using an OCR on the pictures uploaded.

Some pages featured here are:

- The “product” results page
- A pop-up page for a detailed view for a particular ingredient.

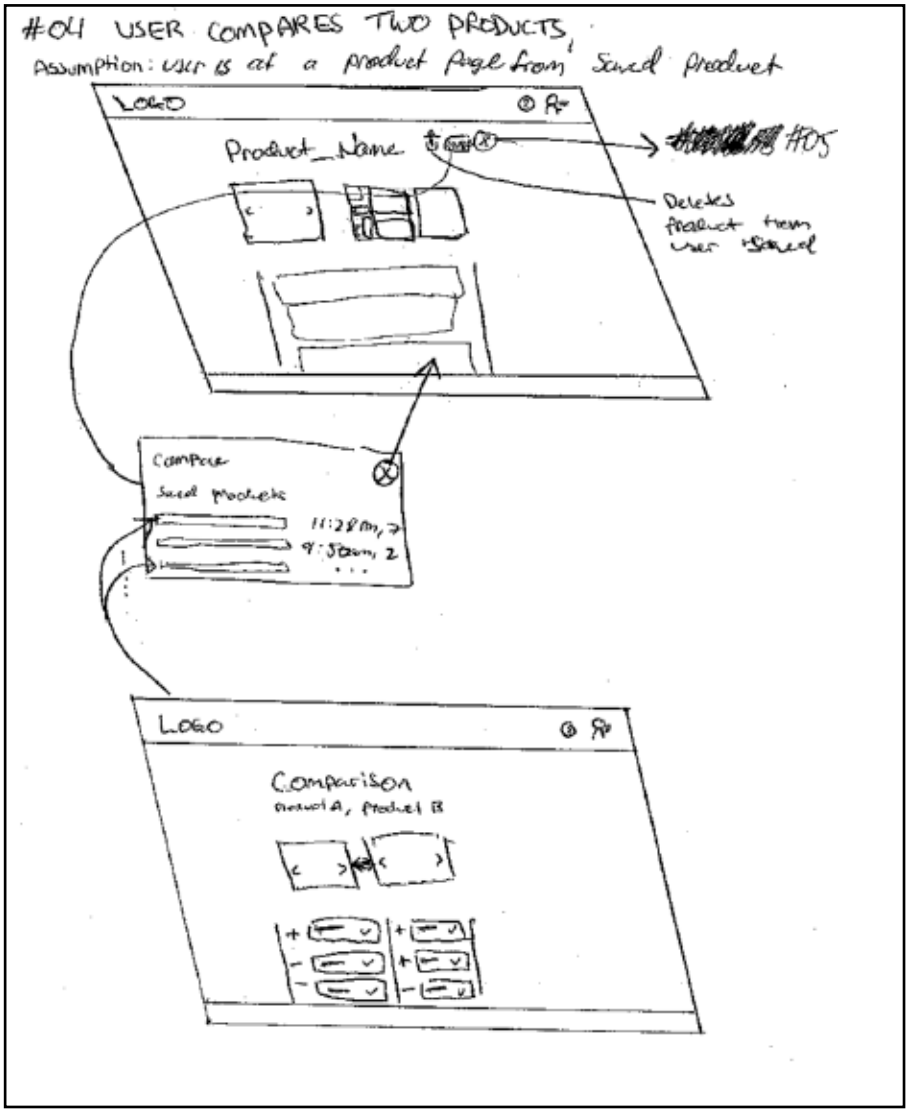


03 - User views results of scan

The UI for a user after they have run a scan is slightly different. They have access to saving the results from a scan, as well as the ability to add ingredients in that scan to their highlights preferences.

They also have the ability to bring up a comparison page, with another product they’ve scanned in the past.

Some pages featured here are:
- The “product” results page, but for members
- The “Save Scan” pop-up
- The detailed ingredients pop-up
- The “Set ingredient highlighting” pop-up for clicking on a specific ingredient

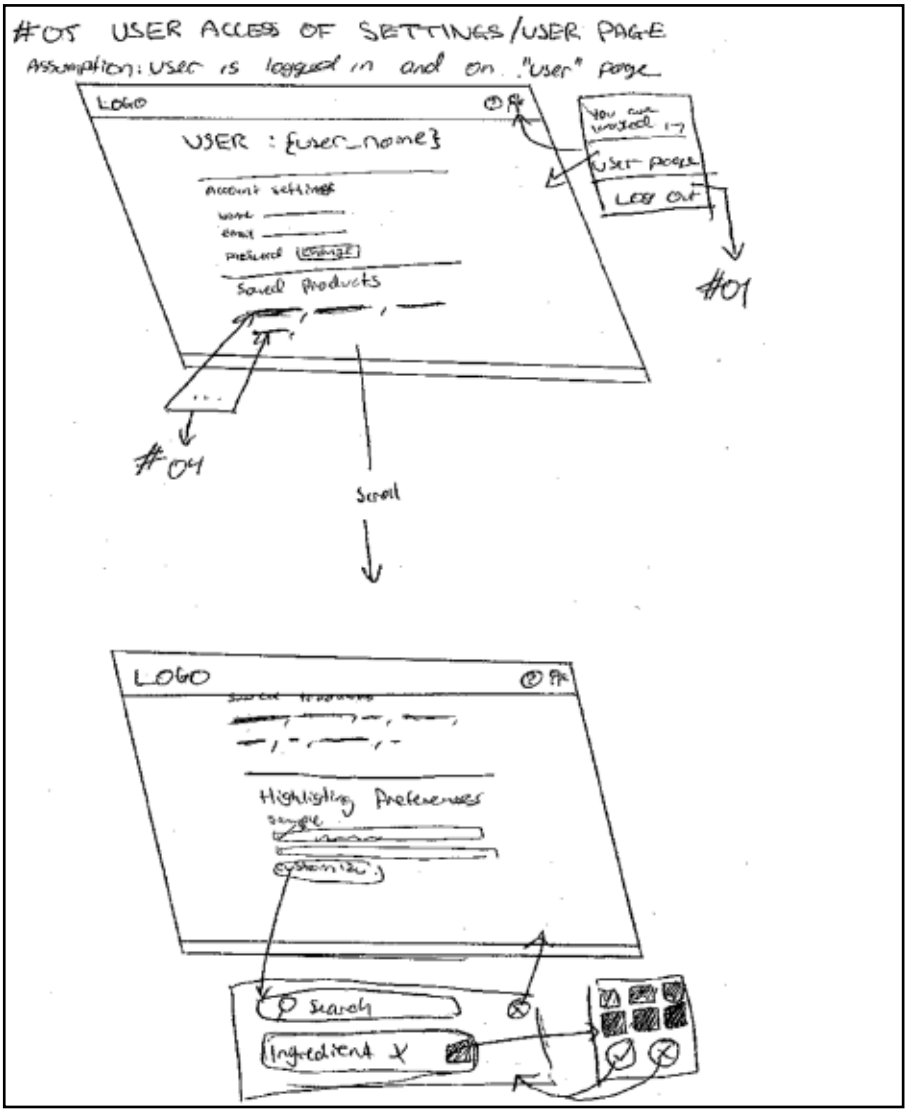


04 - User compares two products

When a user logs in, and saves an item, they gain the ability to compare a product's packaging that they just scanned to one of the scans they have previously. This draws up a side by side comparison of the types and number of ingredients by category for both.

Some pages featured here are:

- The "product" results page, but for members
- A pop-up window for which saved scan the user would like to compare to, after clicking "compare"
- A results page of comparison between the two products

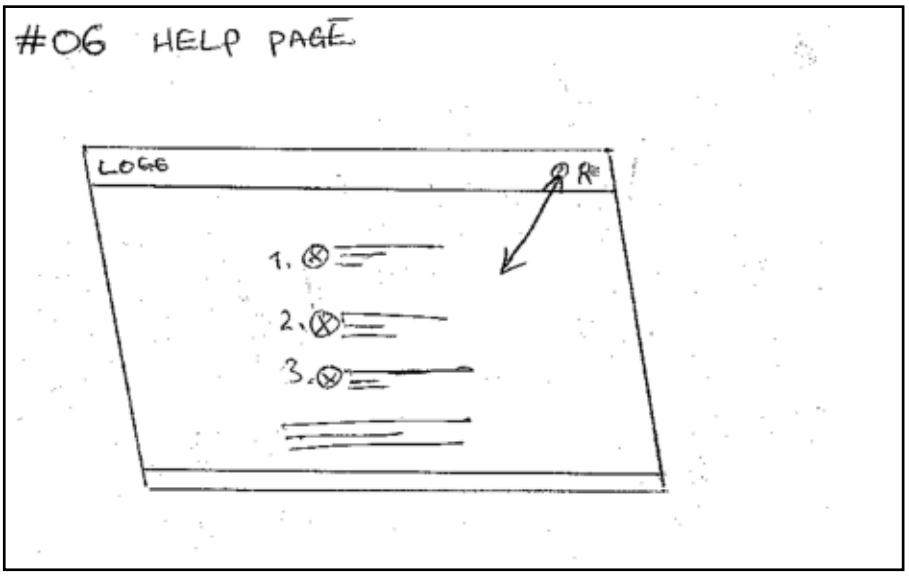


05 - User changes their settings

Users who have logged in have the ability to modify their settings.

In Account settings, they can change the details they log in with, in Saved Products they can see their previous scans and results, and in Highlighting Preferences they can change the preferences they have for how ingredients are highlighted in each scan.

Some pages featured here are:
- User preferences page
- Select custom highlighting pop-up

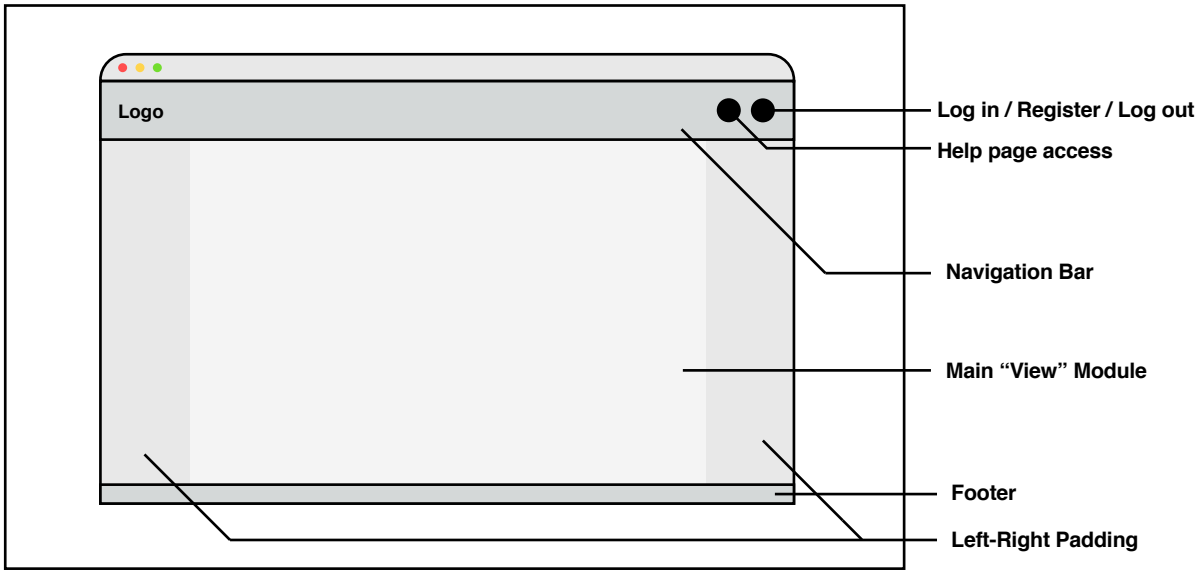


06 - User clicks the “Help” button

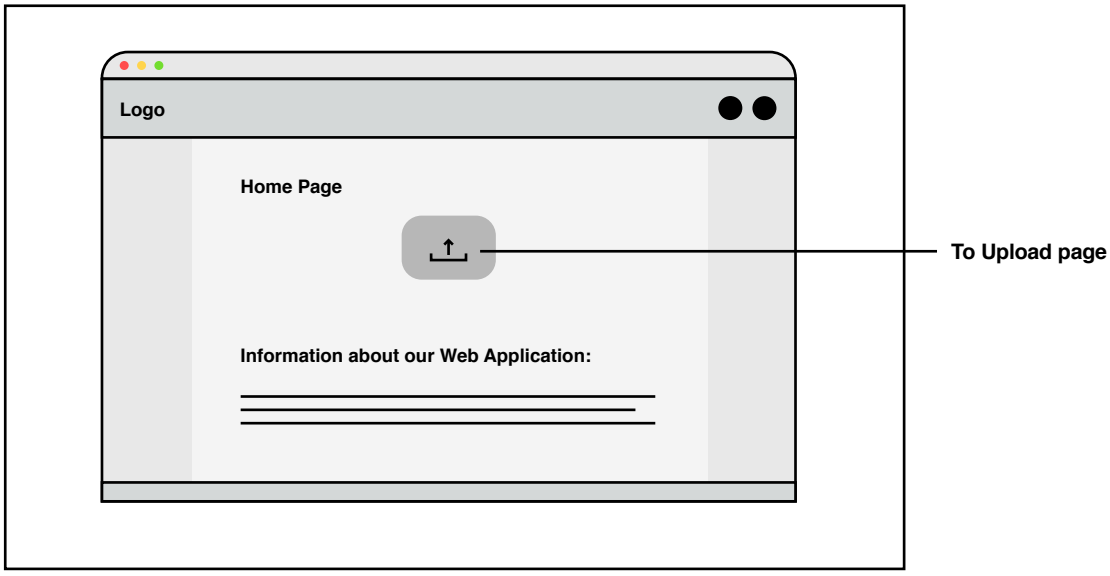
It’s expected that users might want some more information about how to use the web app. Clicking the question mark on the navbar redirects them to this.

High Fidelity User Interface

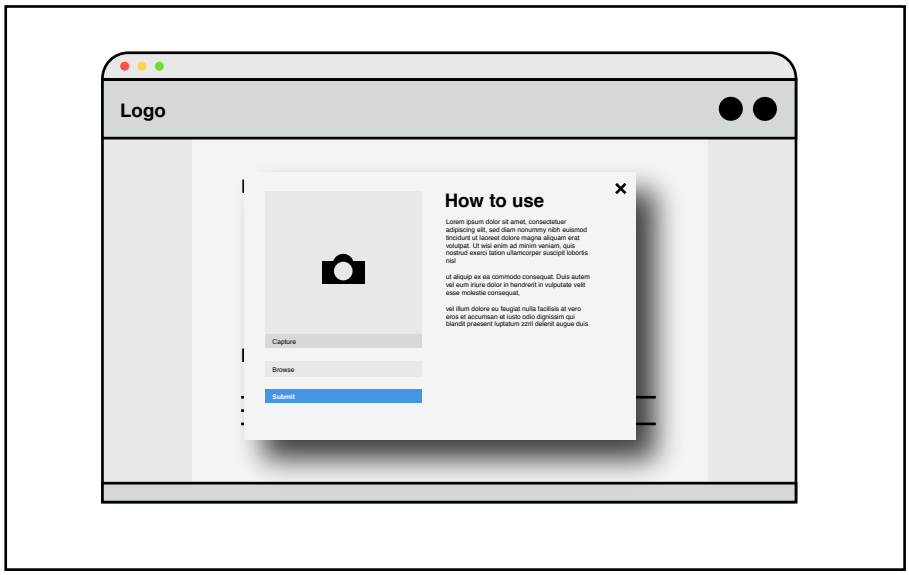
General Layout



01 - Default Landing Page



02 - Upload pop-up

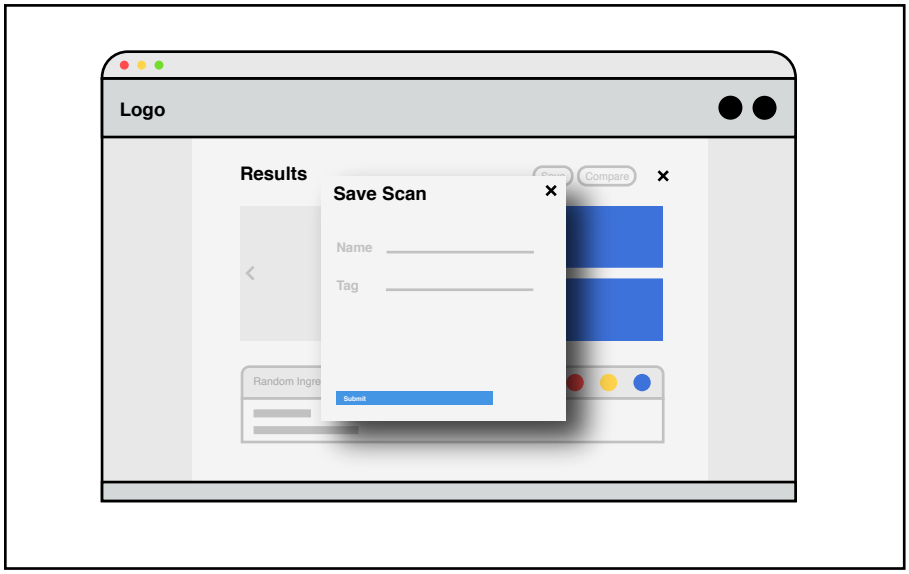


03 - Product Results Page

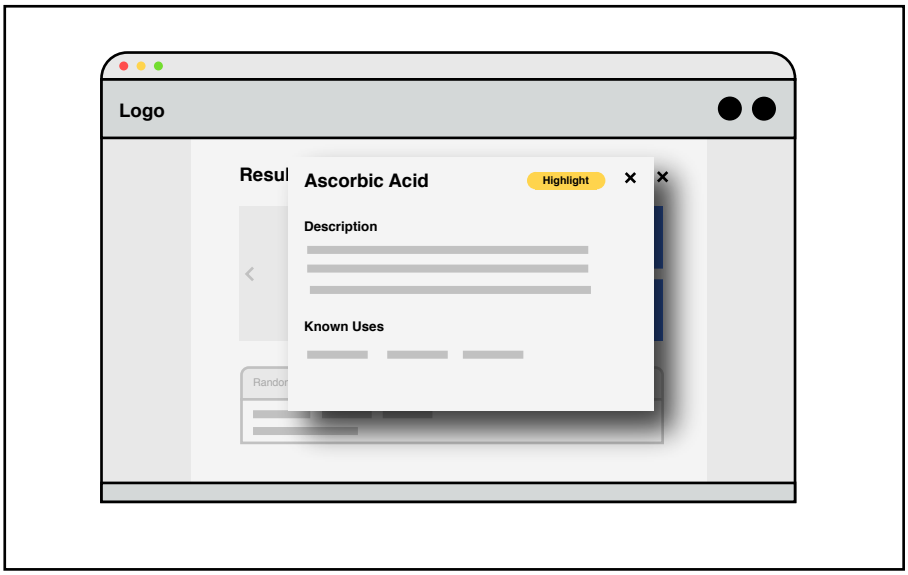
04 - Ingredient Details Pop-up

05 - User Product Results

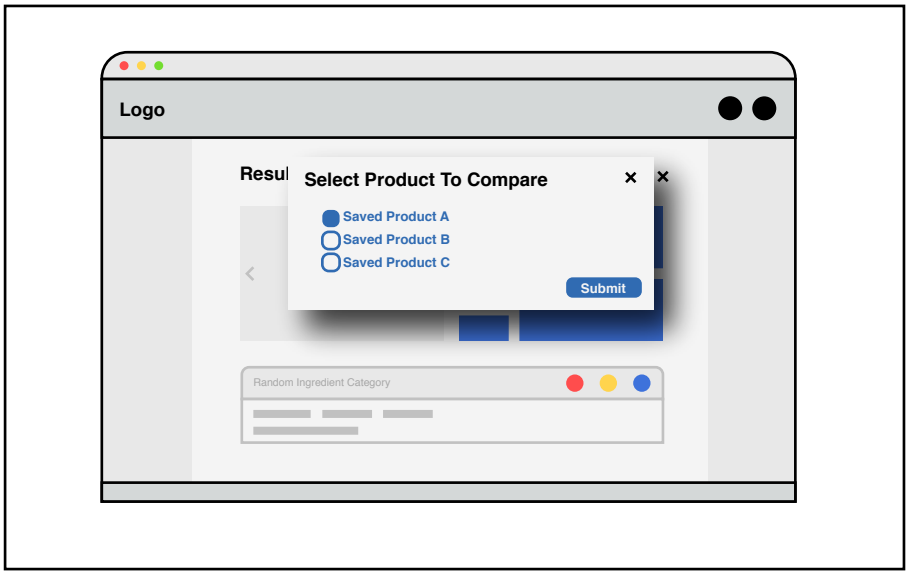
06 - User Save-Scan Pop-Up



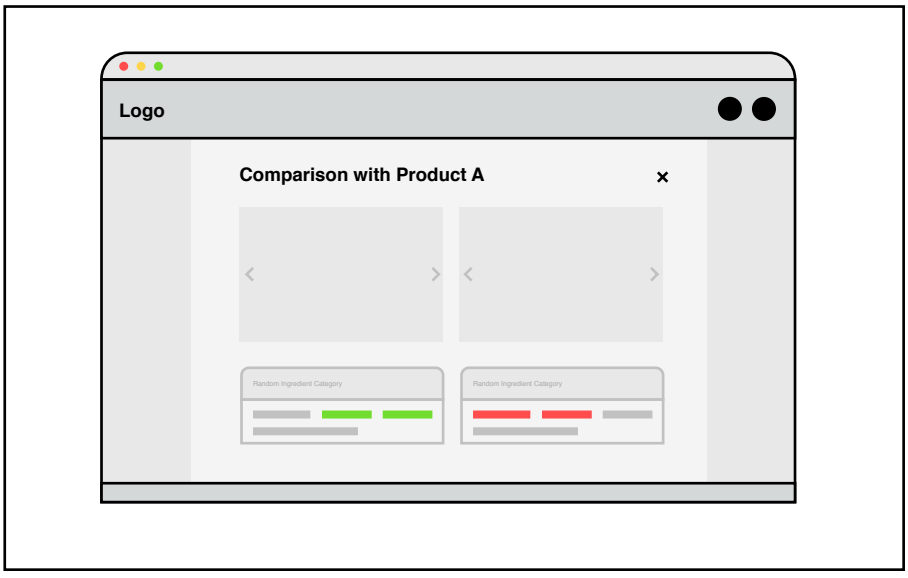
07 - User Save Highlight From Ingredient Pop-Up

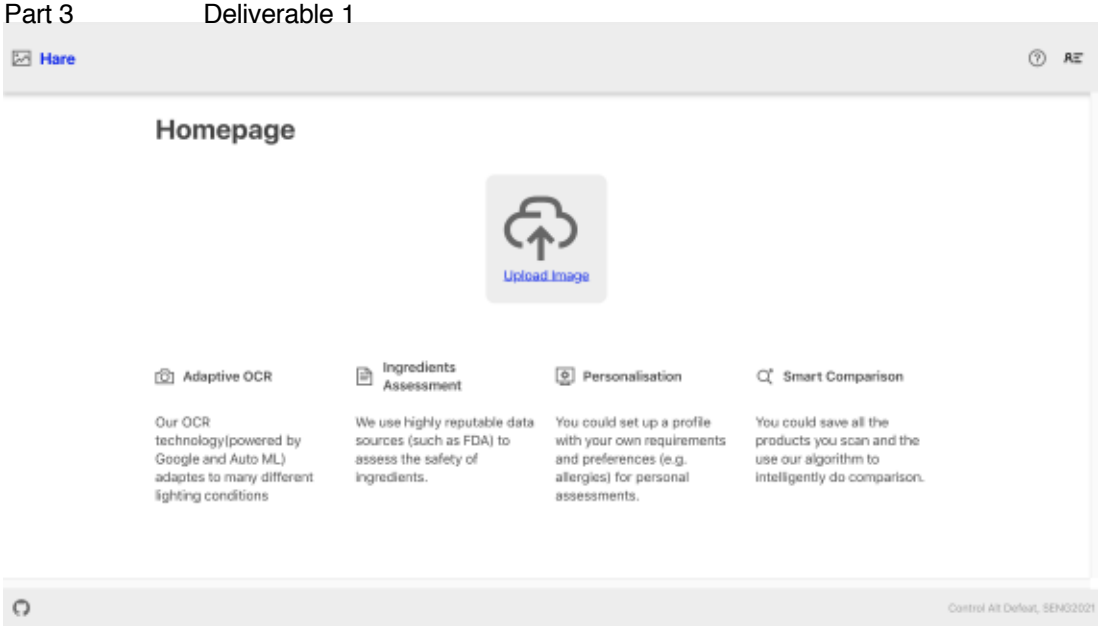


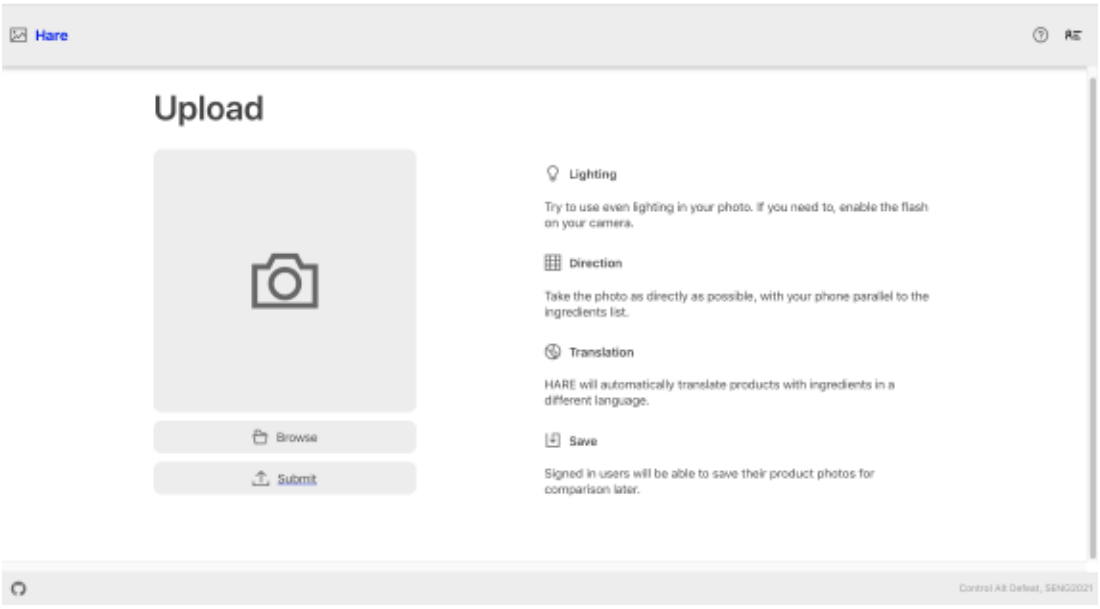
08 - User Selects Second Product For Compare Pop-Up

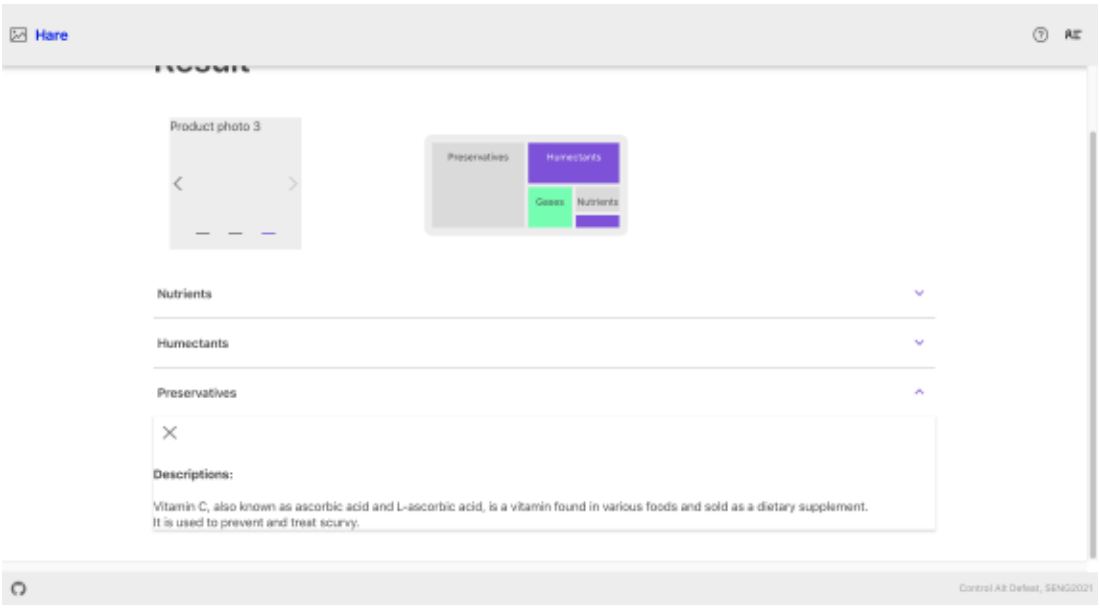


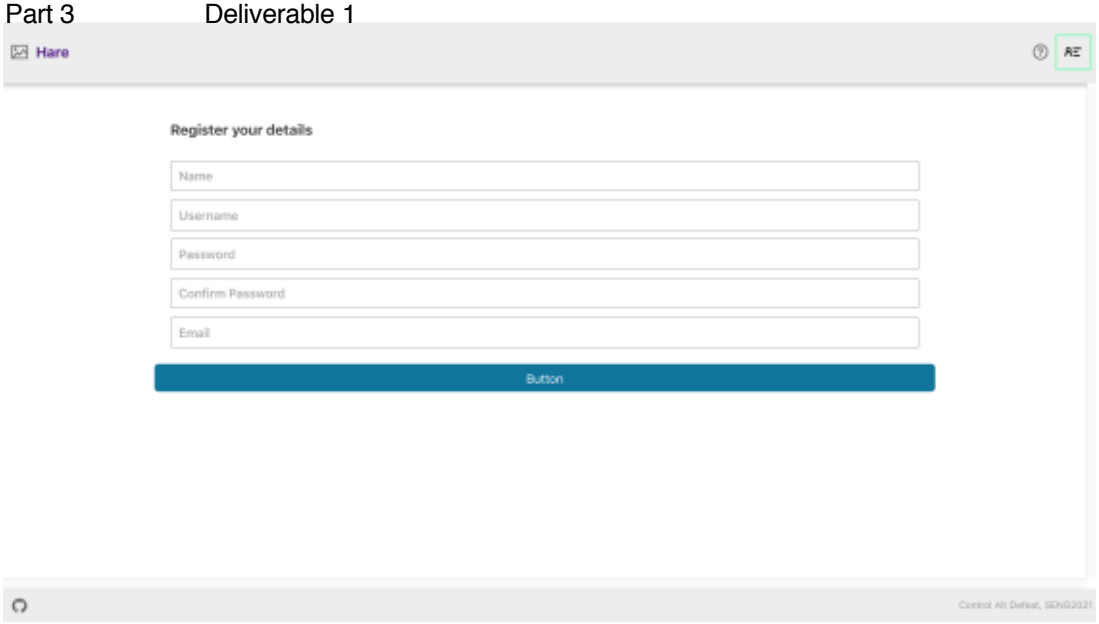
09 - User compares two products

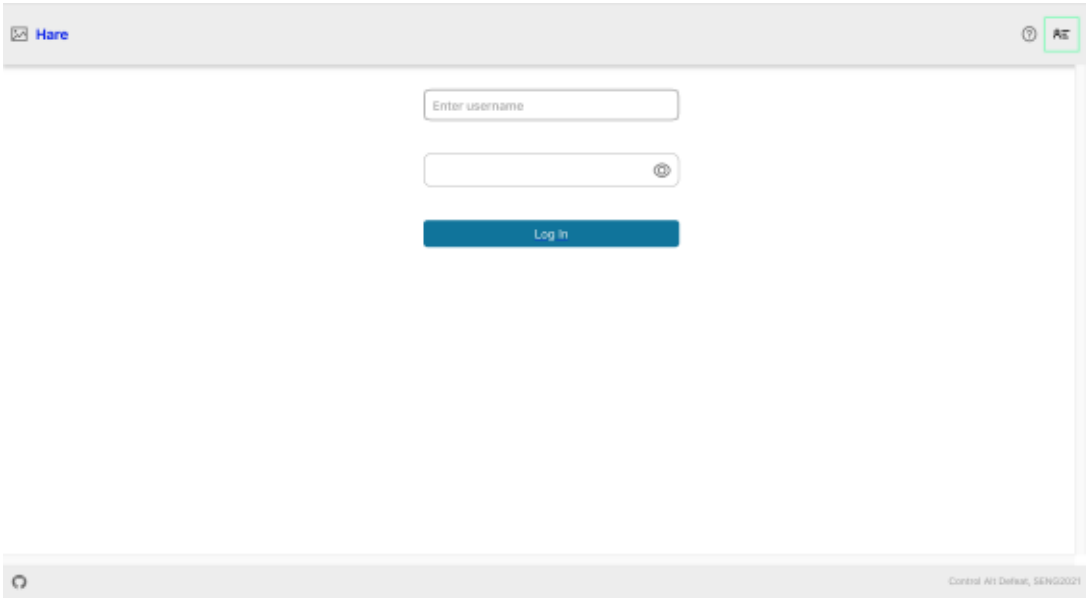


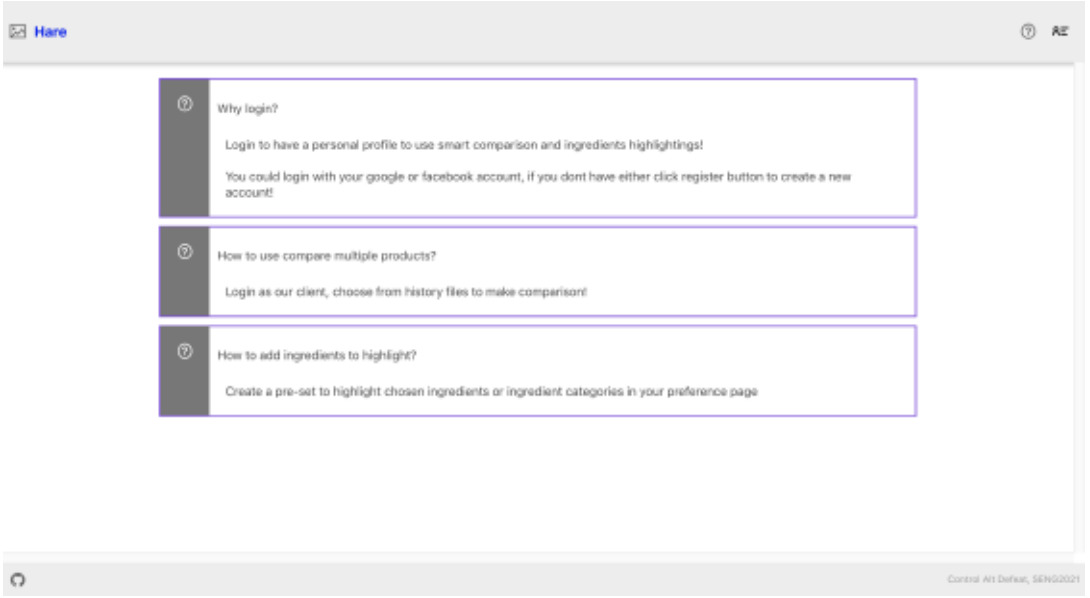

Hare
Homepage
Upload Image
Adaptive OCR
Our OCR technology(powered by Google and Auto ML) adaptes to many different lighting conditions
Ingredients Assessment
We use highly reputable data sources (such as FDA) to assess the safety of ingredients.
Personalisation
You could set up a profile with your own requirements and preferences (e.g. allergies) for personal assessments.
Smart Comparison
You could save all the products you scan and the use our algorithm to intelligently do comparison.
Control Alt Defeat, SENG2021

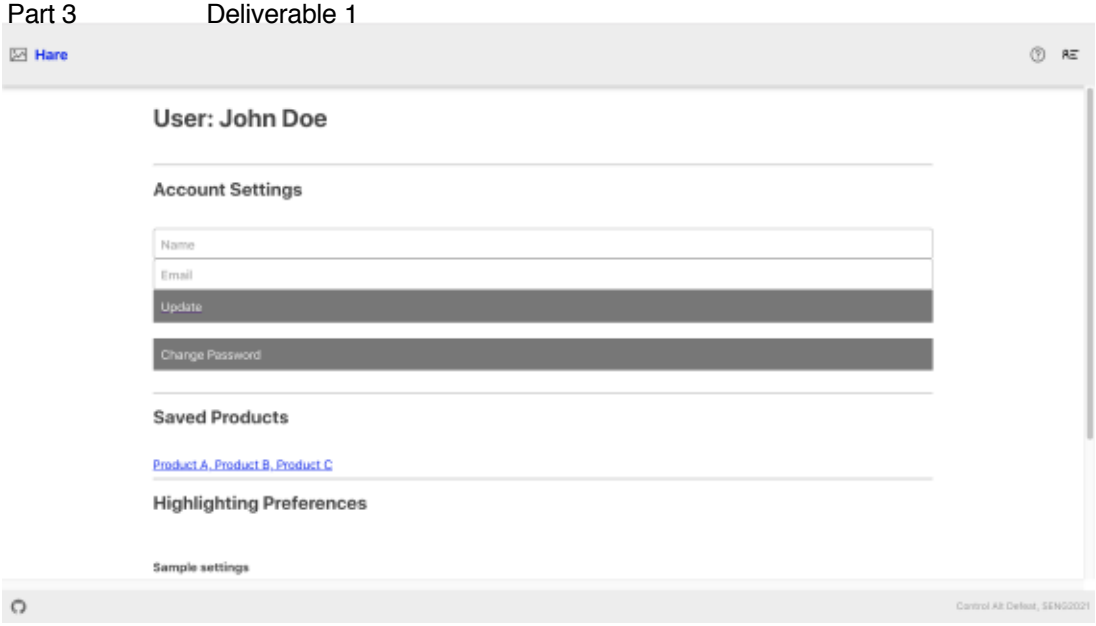

Hare
Upload
Browse
Submit
Lighting
Try to use even lighting in your photo. If you need to, enable the flash on your camera.
Direction
Take the photo as directly as possible, with your phone parallel to the ingredients list.
Translation
HARE will automatically translate products with ingredients in a different language.
Save
Signed in users will be able to save their product photos for comparison later.
Control Alt Defeat, SENG2021


Hare
Product photo 3
Preservatives
Humectants
Gases
Nutrients
Nutrients
Humectants
Preservatives
Descriptions:
Vitamin C, also known as ascorbic acid and L-ascorbic acid, is a vitamin found in various foods and sold as a dietary supplement. It is used to prevent and treat scurvy.
Control Alt Defeat, SENG2021


Hare
Register your details
Name
Username
Password
Confirm Password
Email
Button


Hare
Enter username
Log in


Hare
Why login?
Login to have a personal profile to use smart comparison and ingredients highlightings!
You could login with your google or facebook account, if you dont have either click register button to create a new account!
How to use compare multiple products?
Login as our client, choose from history files to make comparison!
How to add ingredients to highlight?
Create a pre-set to highlight chosen ingredients or ingredient categories in your preference page


Hare
User: John Doe
Account Settings
Name
Email
Update
Change Password
Saved Products
Product A, Product B, Product C
Highlighting Preferences
Sample settings