



Arielle Cerini, MFA, PhD

Portfolio UI/UX Design

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ARIELLE CERINI

MFA
PhD

Creative Problem Solver & Strategic Thinker

Portfolio
UI/UX Design

[VIEW PORTFOLIO](#)

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HEALS

Health Advisor

RPI – IBM HEALS Program

Position

Design Research Assistantship

Role

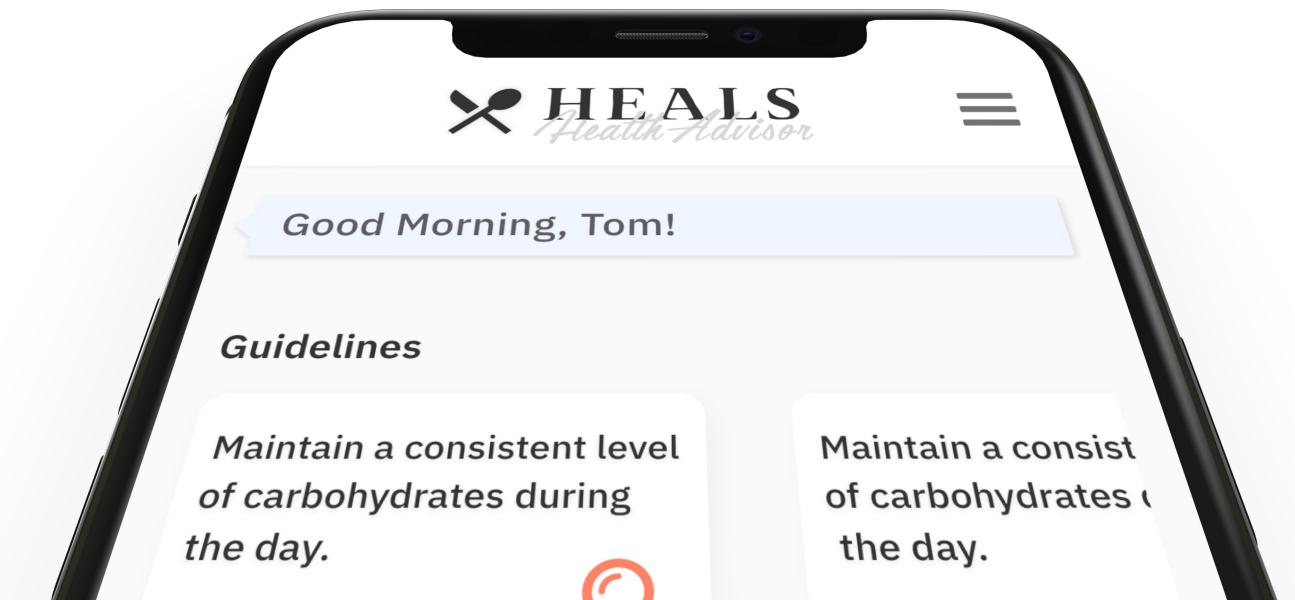
UI/UX Designer & Front-end Developer

Tools & Technology

Adobe XD & Nuxt.JS

Worked to develop a health application prototype with a team of researchers. Application designed for user testing and proof of concept. Developed and executed design research methodology to aid in UI/UX design development.

[VIEW PROTOTYPE](#)





Design Goal

Individuals with diabetes are given guidelines to follow to help live a healthier lifestyle; however, those guidelines are often difficult to understand and are not accompanied by information regarding how to better adhere to them.

How do we help individuals with diabetes to lead a healthier lifestyle?

Assumptions:

Individuals with diabetes are not adhering to the necessary health guidelines

Part of the reason why people do not follow the guidelines is because they do not know how

Presently, if an individual with diabetes wants to receive custom guidance on how to better adhere to the necessary guidelines, they need to go to a nutritionist or an expert.

People do not go to nutritionists because of the high cost.

If people had custom guidance, they would follow it



Solution

A health application that provides personalized advice for individuals with diabetes. The application should provide a detailed analysis of the individual's behaviors and use that knowledge to make suggestions about their diet. The application should be able to be fully integrated with a food logger system, and it should provide recommendations in the form of written advice or recipes.

Personalized information and advice will be provided to the individual by an AI Health Advisor. This information should be seen as most important and given the greatest weight within the end design. **The application will contain advice at varying levels of personalization.** For example, a user will be shown the guidelines that are most relevant to them; however, those guidelines come from a pre-defined list. The personal experience comes through in the ‘why.’ **The novelty of the application is the ability to provide the individual with the ‘why.’**



Design Considerations

How to differentiate the personalized content from the scripted/standard information?

UI/UX Should

- Communicate Authority
- Inform
- Build/Alter Behavior(s)
- Empower
- Promote a Healthier Lifestyle
- Encourage

Solution Requirements

Should differentiate the personalized content from the rest.

Not all personalized content should be considered equal—we want to highlight where the ‘why’ is provided.

When the why is being provided, it should be clear what it is about.

The end solution should be accessible.

Feedback should be positive and negative—when seeking to alter behaviors, it is just as important to tell people what they are doing that is correct.



Proposed Solutions

How to differentiate the personalized content from the scripted/standard information?

1. Usage of known visual indicators
2. Color-coded content
3. Saturation as personalization
4. Skeuomorphic vs. Flat



Proposed Solutions

Usage of known visual indicators

UI containers that contain personalized commentary on the recommended recipes or guidelines can allude to a 'chat bubble.' Chat bubbles are learned indicators for commentary or discussion.

The image displays two side-by-side wireframe prototypes of a UI interface, likely for a food application. Both prototypes feature a header with sections for 'ACHIEVEMENT', 'DID YOU KNOW?', and 'SUGGESTION'. Below these are sections for 'Current Status', 'What You Can Do?', and 'Source Materials'.

Left Prototype: The 'Source Materials' section is highlighted with a yellow background. It contains three cards: 'Mexican Omelette', 'Sweet Potato Curry with Quinoa', and 'Easy Shakshuka'. Each card includes nutritional information and a link to a detailed view.

Right Prototype: The 'Source Materials' section is highlighted with a pink background. It contains the same three cards: 'Mexican Omelette', 'Sweet Potato Curry with Quinoa', and 'Easy Shakshuka'. Each card includes nutritional information and a link to a detailed view.

In both prototypes, the 'Source Materials' section is enclosed in a rounded rectangle with a thin black border, which is a visual indicator of a 'chat bubble' or personalized content.

Assessment

The usage of the chat bubble container creates a clear distinction between the commentary and the standardized UI.

The chat indicator helps to communicate what the content is commenting on.

It does not provide an easy way for users to differentiate the varying levels of personalized content.



Proposed Solutions

Color-coded content

Use color to communicate whether the feedback is positive or negative (if you are or are not meeting the guideline) and deliver all AI feedback in a consistent color.

The image displays two wireframe prototypes of a mobile application interface. Both prototypes feature a grid of cards. The left prototype uses color-coded icons (smiley face for achievement, question mark for did you know, lightbulb for suggestion) and text descriptions to indicate the type of feedback. The right prototype maintains the same visual structure but replaces the colored icons with a single purple question mark icon across all three card types, demonstrating a more consistent design approach.

Assessment

Color-coding content makes it easier to understand where the AI is providing the why, but it is unclear what the information is in reference to.

It is a known fact within the field of HCI that the usage of color alone to differentiate types of information is ineffective because it is not accessible to individuals who are colorblind. Color can be used to encode information, but it should be done so in supportive of some other method.



Proposed Solutions

Saturation as personalization

The more saturated the content the more personalized it is

The proposed solution consists of five mobile application screens arranged horizontally, each showing a different level of personalization through color coding.

- Low Personalization (Light Gray):** Shows a neutral interface with light gray cards for achievements, suggestions, and facts. The "Source Materials" section has a yellow-green card.
- Moderate Personalization (Medium Gray):** Shows a medium gray interface. The "Source Materials" section has a red card.
- High Personalization (Dark Gray):** Shows a dark gray interface. The "Source Materials" section has a dark green card.
- Very High Personalization (Very Dark Gray):** Shows a very dark gray interface. The "Source Materials" section has an orange card.
- Highest Personalization (Black):** Shows a black interface. The "Source Materials" section has a light orange card.

Each screen displays a headline, a "Current Status" section, a "What You Can Do?" section, and a "Source Materials" section. The "Source Materials" section is consistently highlighted in a color that corresponds to the overall theme of the screen. The screens also include nutritional information and cooking instructions.

Assessment

People who are colorblind can see differences in saturation.

Provides a clear way to see how personalized the information provided is.

Would benefit from the inclusion of some of the previously explored methodologies.



Proposed Solutions

Skeuomorphic vs. flat

AI-provided content is skeuomorphic, and standardized content is flat.

The image displays five wireframe prototypes arranged horizontally, illustrating the transition from skeuomorphic to flat design. Each prototype is divided into three main sections: Headline, Current Status, and What You Can Do?.

- Skeuomorphic Prototype:** The first two prototypes on the left represent skeuomorphic design. They feature rounded corners, shadows, and a yellow-to-green gradient background for the Headline section. A green speech bubble labeled "Source Materials" points to the bottom section. The "What You Can Do?" section contains a red button-like element.
- Standardized Prototype:** The third prototype in the middle represents a more standardized or flat design. It uses a white background with a grey header bar. The "Source Materials" section is represented by a simple grey box.
- Flat Design Prototype:** The last two prototypes on the right represent flat design. They use a minimalist aesthetic with white backgrounds and grey header bars. The "Source Materials" sections are shown as simple grey boxes.

Headline: Description of achievement.

Current Status: Lorem ipsum dolor sit amet, di os consectetur adipiscing elit, sed do eiusmod tempor incididunt ut fsl labore et dolore magna aliqua.

What You Can Do?: Lorem ipsum dolor sit amet, di os consectetur adipiscing elit, sed do eiusmod tempor incididunt ut fsl labore et dolore magna aliqua.

Source Materials: Placeholder for images or links.

Headline: Description of achievement.

Current Status: Lorem ipsum dolor sit amet, di os consectetur adipiscing elit, sed do eiusmod tempor incididunt ut fsl labore et dolore magna aliqua.

What You Can Do?: Lorem ipsum dolor sit amet, di os consectetur adipiscing elit, sed do eiusmod tempor incididunt ut fsl labore et dolore magna aliqua.

Source Materials: Placeholder for images or links.

Headline: Description of achievement.

Current Status: Lorem ipsum dolor sit amet, di os consectetur adipiscing elit, sed do eiusmod tempor incididunt ut fsl labore et dolore magna aliqua.

What You Can Do?: Lorem ipsum dolor sit amet, di os consectetur adipiscing elit, sed do eiusmod tempor incididunt ut fsl labore et dolore magna aliqua.

Source Materials: Placeholder for images or links.

Pasta with Special Sauce: 30 MIN EASY

Pasta with Special Sauce: 30 MIN EASY

Ingredients:

- 255 g kidney beans
- 120 g maple syrup
- 75 g walnuts
- 1/2 tsp baking powder
- 3 eggs

Directions:

- Nunc convallis arcu ipsum, condimentum congue turpis mattis et.
- Sed porta, mauris quis posuere blandit, risus mauris ornare justo, in eleifend massa.

Mexican Omelette: Selected for: salmon, med diet, high protein
140 Calories 12g Carbs 3g Added Sugars

Mexican Omelette: Selected for: salmon, med diet, high protein
140 Calories 12g Carbs 3g Added Sugars

Sweet Potato Curry with Quinoa: similar to chicken curry with rice in your history
210 Calories 21g Carbs 4g Added Sugars

Sweet Potato Curry with Quinoa: similar to chicken curry with rice in your history
210 Calories 21g Carbs 4g Added Sugars

Easy Shakshuka: Features: eggs, tomatoes, spicy, med diet
90 Calories 7g Carbs 0g Added Sugars

Easy Shakshuka: Features: eggs, tomatoes, spicy, med diet
90 Calories 7g Carbs 0g Added Sugars

Assessment

While there is a clear distinction between personalized and scripted/standard content, the end UI comes across as dated, and the skeuomorphism makes it challenging to focus on the flat content. While we want to highlight personalized content, the standard content is still essential.

When designing the UI and UX for informative content, it is recommended to lean more toward minimalism.

It could be beneficial to allow this exercise to inform the end design by using depth to communicate the priority of content. Should be done subtly.



Visual Solution

Saturation + Visual Indicator + Color-coded Content + Depth as Priority

Overall Assessment

Each of the explored solutions had its own positives and negatives. After analyzing the outputs of each design exercise, it is clear that none of the proposed solutions can effectively meet the needs of the given design problem. Therefore, it is recommended that the end solution implore them all.

Design Solution

Chat bubble containers should be used to contextualize what is being explained.

Saturation should be used to differentiate how personalized the information is. This will also help to create a visual hierarchy within the content, where the most personalized content is seen as the most important.

Color-coding content can be an effective way to differentiate achievements vs. suggestions but should be used in conjunction with some other visual indication, such as an icon.

While the combining of skeuomorphism and flat visual design methodologies impacted the legibility of the content, it is important to note that the exercise only made use of the methodologies at an extreme level. Additional visual experimentation and research should be done on how this might be implemented more subtly.



UI Design

Constructing a Color Palette

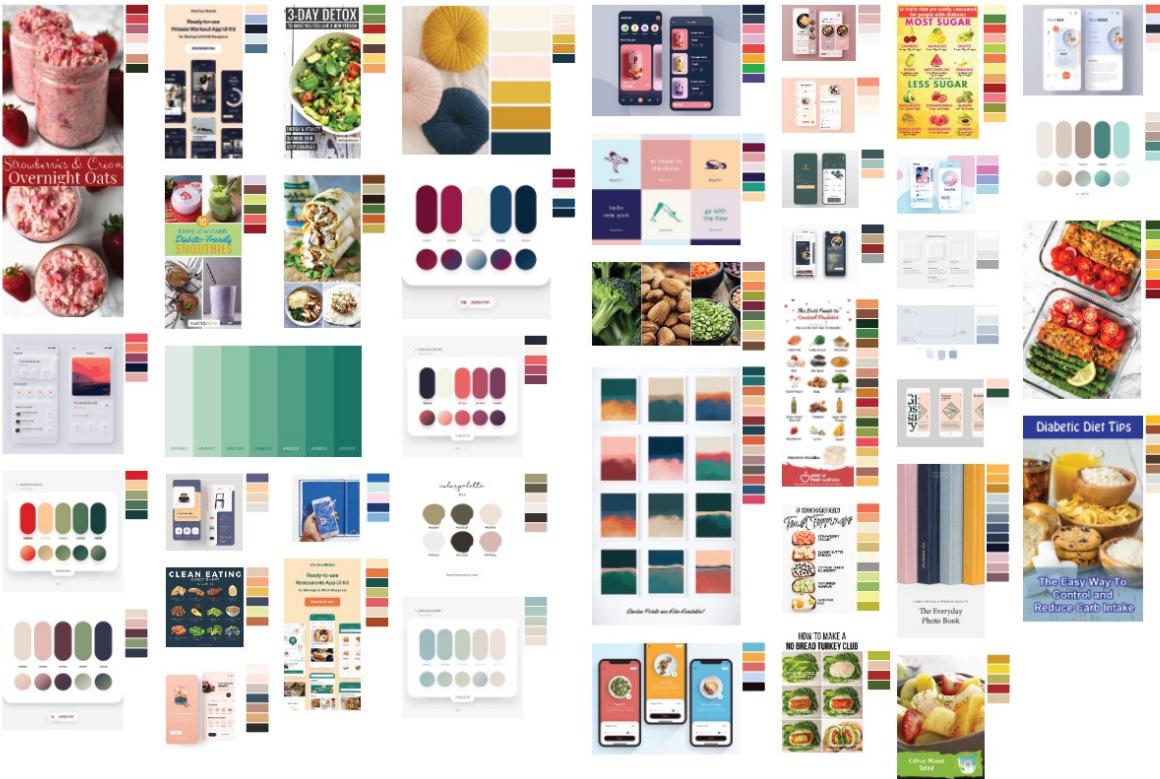
Design Methodology

1. Curate related images
2. Pull swatches from images
3. Remove images
4. Organize swatches into a grid
5. Create color map
6. Perform analysis



Experimentation

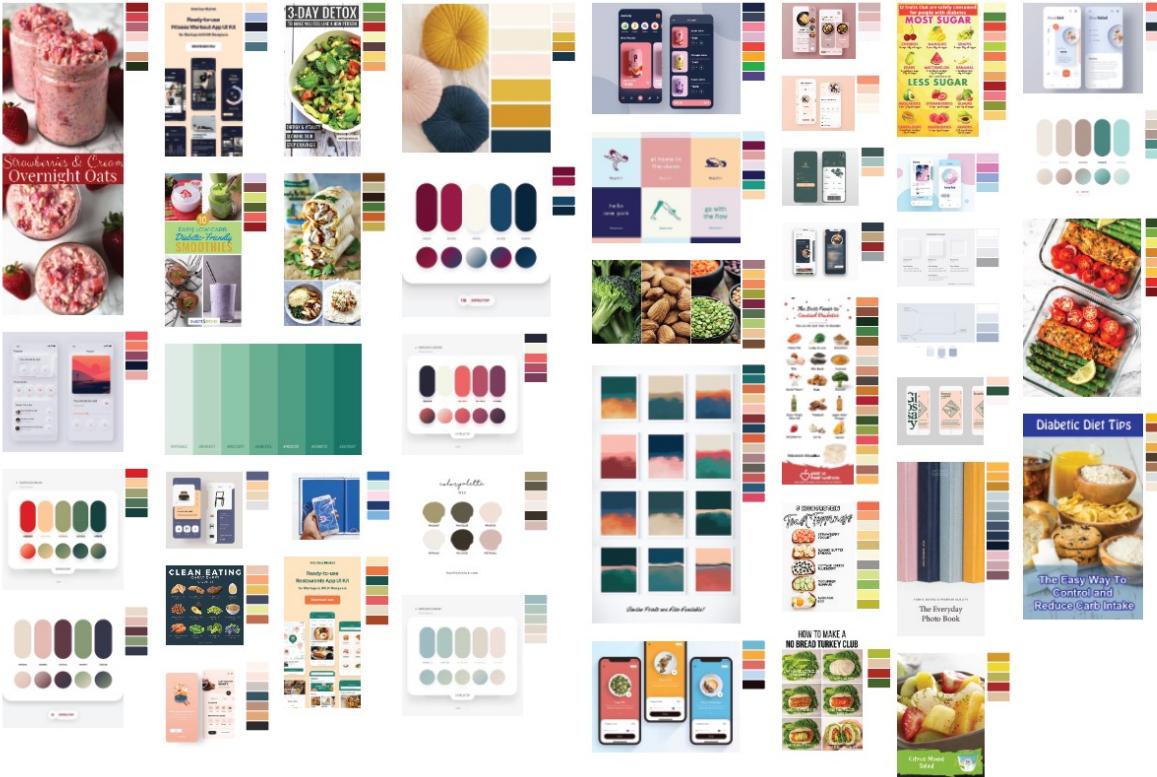
Curate related images





Experimentation

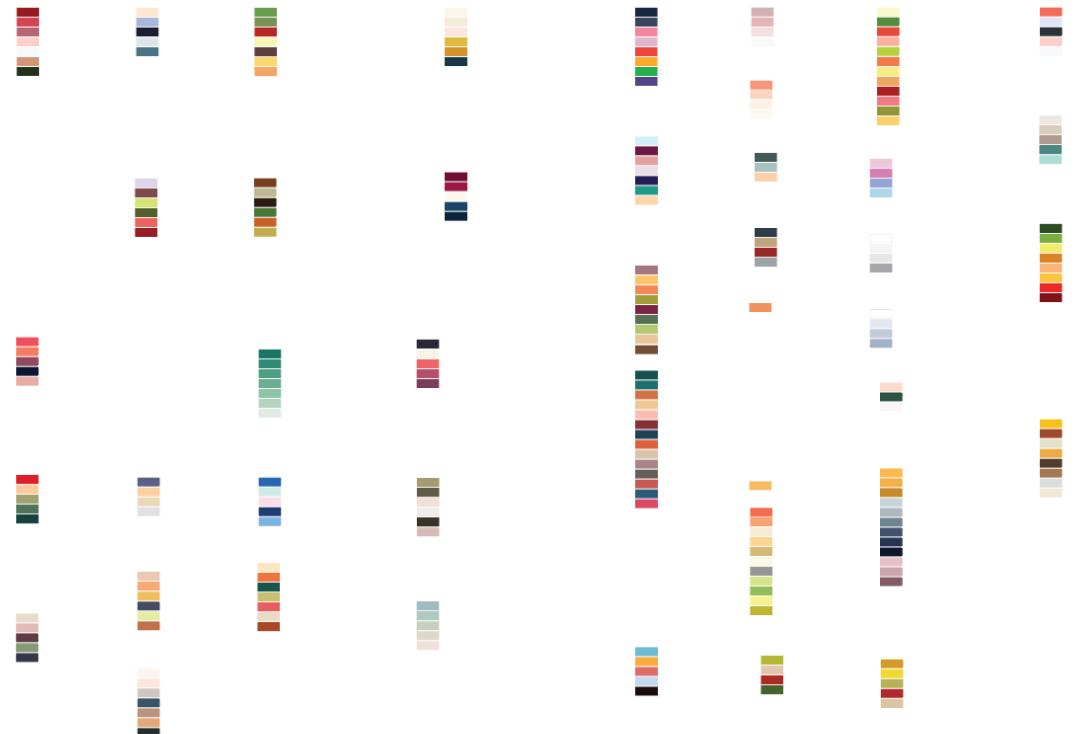
Pull swatches from images





Experimentation

Remove images





Experimentation

Organize swatches into a grid





Experimentation

Create color map





UI Design

Constructing a Color Palette

Design Methodology

1. Curate related images
2. Pull swatches from images
3. Remove images
4. Organize swatches into a grid
5. Create color map
6. Perform analysis

Observations

Many of the extracted color palettes featured warm primary color tones with cooler colors used for accents.

Within the extracted colors, darker tones were more likely to be cooler.

Most color palettes did not use ‘true red’ or ‘true blue’; instead, they used related colors in their place.

When yellow was used within the color palettes, it was frequently found to be more of a mustard.

Within the color palettes, a significant amount of contrast existed between the light and dark tones.



User Profiles:

Profiles were constructed for demoing the application.



♀ **Jennifer Anisfeld**

Accountant

Age: 35 **Weight:** 135 **Height:** 5ft 5in

Status: Diabetic, Fixed Insulin Dosing

Goal: Maintain

Likes: Cheese, Bread, Chocolate, Coconut

Dislikes: Brussel Sprouts

Restrictions: Peanut Allergy



♂ **Robert Walden**

CEO

Age: 58 **Weight:** 285 **Height:** 5ft 10in

Status: Pre-diabetic

Goal: Lose Weight

Likes: Milk, Apple, Pasta, Pizza

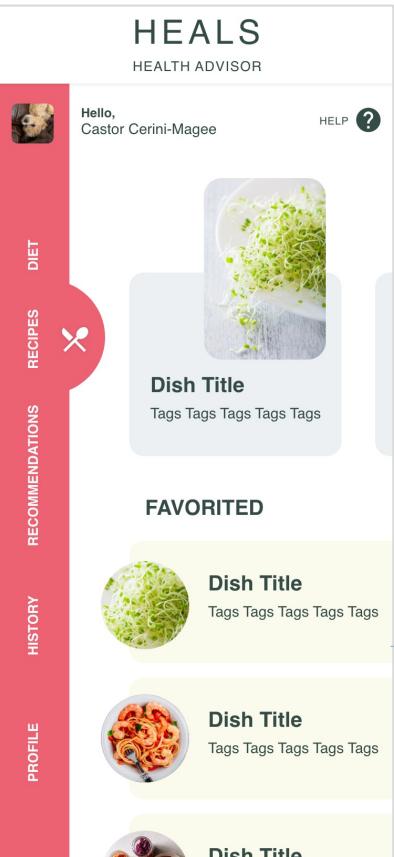
Dislikes: Bread, Tomatoes

Restrictions: None



Design Solution

Option 1

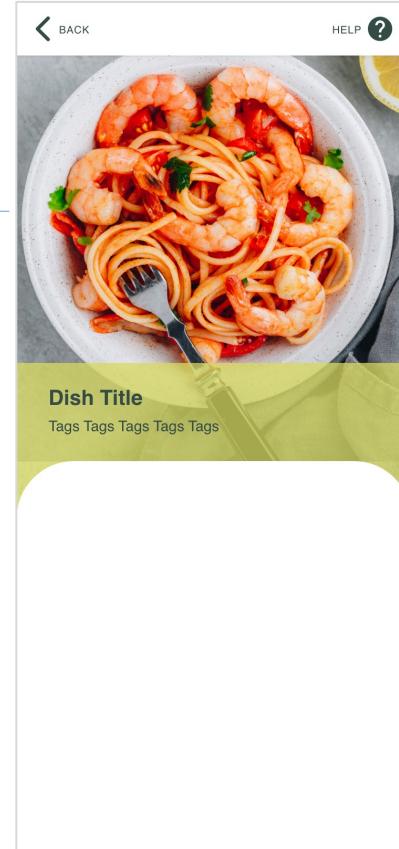


Recipe Catalog Page

A catalog of recipes for the user. The top section showcases recommended recipes that have been identified by the AI using the individual's food preference profile, their current active guidelines, the time of day, and their previously favorited recipes.

Recipe Page

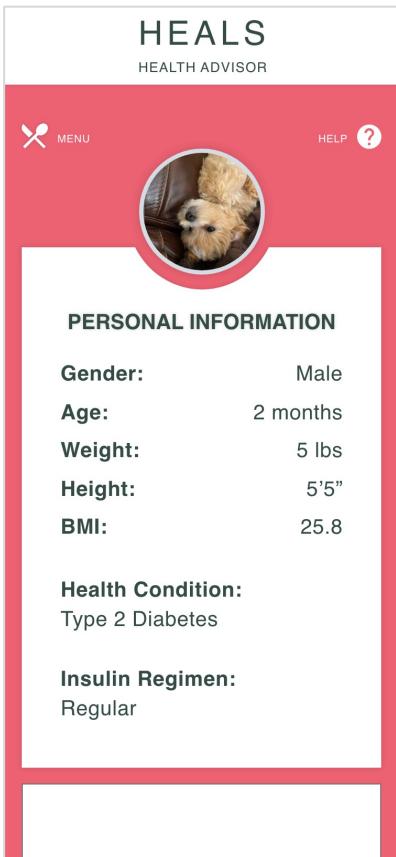
Should include the following: what the dish is, how to make it, why it was recommended, and what its nutritional information is.





Design Solution

Option 1

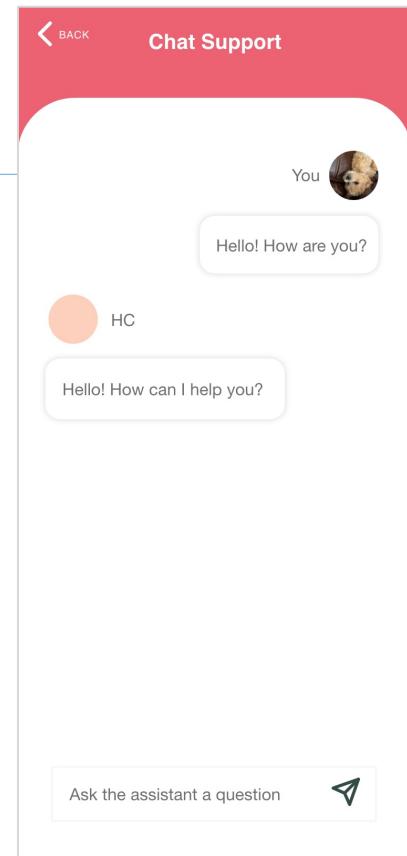


Profile Page

Where the user can view their information, update their details, and link up to any integrations.

Health Advisor Chat

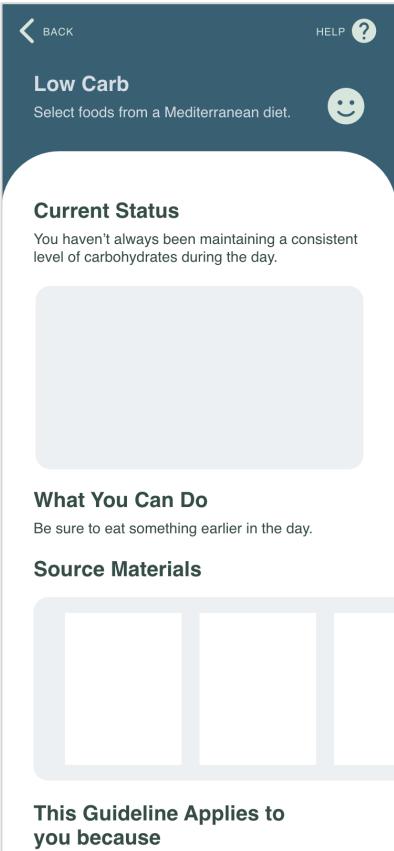
Area of the application where the user can ask the AI questions and get recommendations





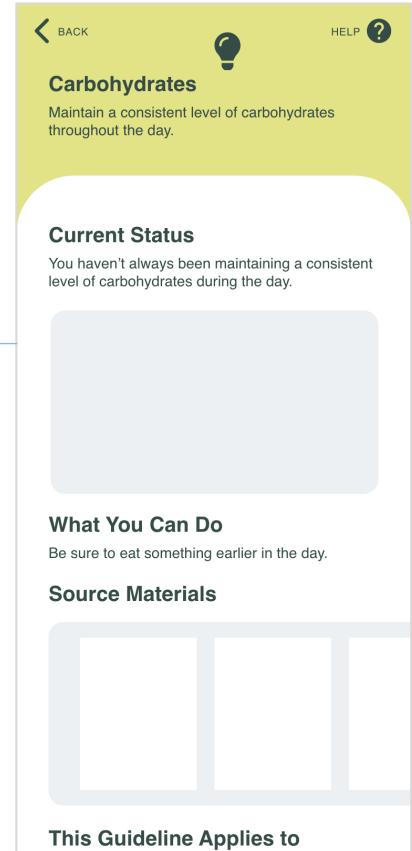
Design Solution

Option 1



Guideline Page (Achievement)

Page showcasing an achievement that the user has completed. This is a specific guideline that the user is adhering to that they previously weren't or that is frequently not met by individuals with their condition.



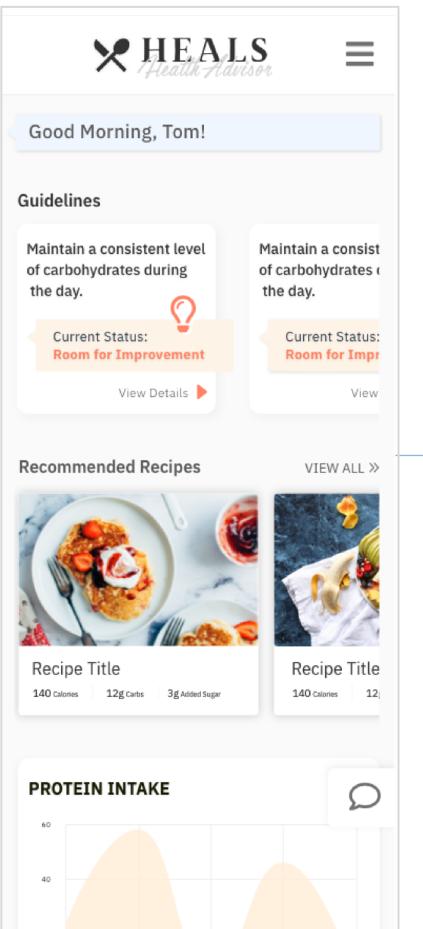
Guideline Page (Suggestion)

Page showcasing a suggestion that the AI identified for the user based on a guideline that they are currently not meeting.



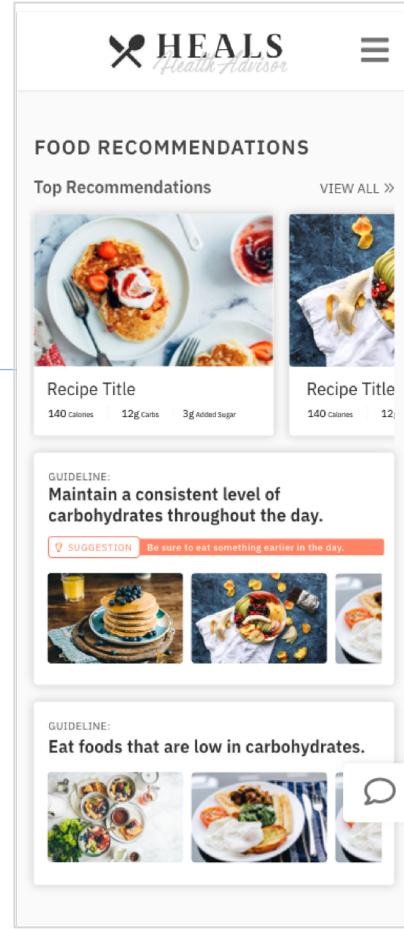
Design Solution

Option 2



Application Homepage

The top of the page features a chat message from the advisor to the user. The message will contain a personalized message for the user that could be a reminder, fact, or suggestion. The rest of the page features a series of sliders that are representative of the different sections of the application.



Recipe Catalog Page

Recipes are shown to the user based on their active recommendations. As the user scrolls through the page, they are presented with recommended recipes based on their user food and dietary profile.



Design Solution

Option 2

The Guidelines page displays a list of dietary guidelines:

- Maintain a consistent level of carbohydrates throughout the day. Current Status: Room for Improvement. Click to view details and suggestions.
- Eat foods that are low in carbohydrates. Current Status: [insert status here]. Click to view details and performance.
- Maintain a consistent level of carbohydrates throughout the day. Current Status: Room for Improvement. Click to view details and suggestions.
- Maintain a consistent level of carbohydrates throughout the day. Current Status: Room for Improvement. Click to view details and suggestions.

Guidelines Page

A list of the dietary guidelines for the individual's condition and how they are currently performing. When the user clicks on the card, they will be navigated to the guideline overview page where they can get additional information on their performance and how to better adhere to the guideline.

Guideline Overview Page

An overview of an individual guideline and how the individual is performing against that guideline. The page contains an overview of the user's performance with information explaining it. In addition, there is additional literature where the user can go to find out more about the guideline and why it is essential, as well as a list of recommended recipes.

Maintain a consistent level of carbohydrates throughout the day.

Current Status: Room for Improvement

CARBOHYDRATES INTAKE

Over the past month, your carbohydrate intake has been low during the early half of the day.

SUGGESTION
Be sure to eat something earlier in the day.

This Guideline Applies to you because
You have Type 2 Diabetes
You are on constant dose insulin therapy



Final Design

Implemented Solution

User Flow:

[View User Flow](#)

Prototype

[View Prototype](#)

