

Case Studies

for Thalia Su

2021



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IMITATE

Video-based mobile communication platform that accelerates acquisition of skills like public speaking, sales and interpersonal communication.

Tools & Tech Used

Adobe XD

Illustrator

HTML

CSS/SASS

Angular

Miro

DevOps

Developed For

iPad

Desktop

IMITATE

User Persona



Sgt. First Class Smith

“I am ready and willing to serve my country and do everything I can for my fellow soldier. These men and women are family.”

Stats

26-37 yrs old / male / Fort Bragg, NC / associates degree / Army, 82nd Airborne Division / married with 1 child

Bio

Sgt First Class Smith has been in the military for 9 years now and will be deploying for his 4th time to the Middle East soon. He is in charge of several young soldiers and wants to ensure they all are able to perform well out in the field. Smith is worried that the technology could get in his way.

Goals

- + Quickly and adequately prepare soldiers for real-life situations
- + Make a difference in the war

Frustrations

- + He's already overwhelmed during training, a new tool could be an obstacle
- + He is still dealing with mild PTSD

IMITATE

Authoring

Challenge

Rating systems are used to rate learners' performance. They are composed of KPAs, behaviors, and anchors.

We needed a way to manage and author rating systems. When authoring, we wanted to give users the ability to cherry-pick definitions from existing rating systems.

My Role

I was the UX designer on a team of 7 who closely worked with the project manager, research associate and web developers.



IMITATE / Authoring

Using Existing Style Guide

IMITATE already had a well-defined style that I could work from. I reused components like buttons and cards for the Manage Rating Systems list.

Rating System 1	In-Progress
Description Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.	
KPAs Communication & Delivery, Learning Environment, Instructional Technique, Subject Matter Expertise, Assessing Effectiveness	
Last Edited Mar 15, 2019	
 View	 Edit
Rating System 2	Inactive
Description Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.	
KPAs Communication & Delivery, Learning Environment, Instructional Technique, Subject Matter Expertise, Assessing Effectiveness	
	Date Created Mar 19, 2019
 View	 Create New From
	 Activate
Rating System 3	Active
Description Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.	
KPAs Communication & Delivery, Learning Environment, Instructional Technique, Subject Matter Expertise, Assessing Effectiveness	
Date Created Mar 18, 2019	
 View	 Create New From
	 Deactivate
Rating System 4	Active
Description Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.	
KPAs Communication & Delivery, Learning Environment, Instructional Technique, Subject Matter Expertise, Assessing Effectiveness	
	Date Created Mar 18, 2019
 View	 Create New From
	 Deactivate

IMITATE / Authoring

Drawing Inspiration From Previous Designs

The original design I inherited came with a card and a sidebar. Entering information into the sidebar on the right changed content on the left-hand card. Users could select a KPA or behavior rectangle but not type into it.

The screenshot shows the IMITATE application interface. At the top, there is a navigation bar with links: DASHBOARD, RATE, RESULTS, PRACTICE VIDEOS, LESSONS, RATING SYSTEMS (which is highlighted in orange), RECOMMENDATIONS, STORAGE, and USERS. On the far right, there is a user profile for "Gwen Campbell" (Administrator) with a dropdown arrow and a help icon.

In the main content area, there are two tabs: "Manage Rating Systems" (selected) and "Create New Rating System". Below these tabs, the title "INTEL School Inter-professional Skills" is displayed. The main workspace contains two KPA cards:

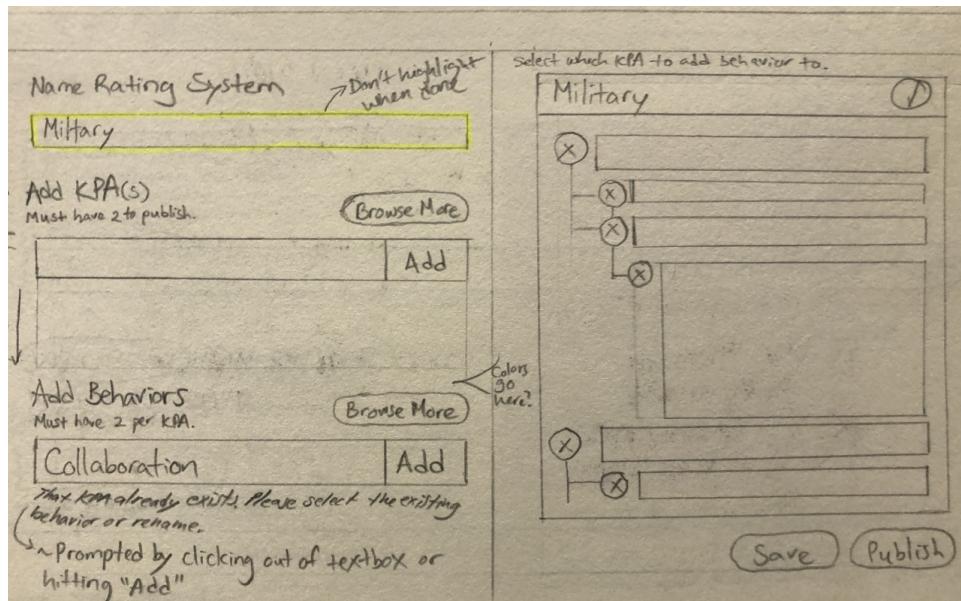
- Untitled KPA** (2 behaviors): Contains two behavior rectangles labeled "Untitled Behavior" and "Untitled Behavior 2", each with a delete icon (X). Below these is a button "+ Add Behavior".
- Untitled KPA 2** (5 behaviors): Contains five behavior rectangles, each with a delete icon (X). Below these is a button "+ Add KPA".

At the bottom of the workspace, there are "Cancel" and "Save" buttons. To the right of the workspace, there is a sidebar with fields for "KPA Name" (Untitled KPA) and "KPA Definition" (Summarize the purpose of this KPA (200 character limit)). There is also a "KPA Color" section with a grid of color swatches.

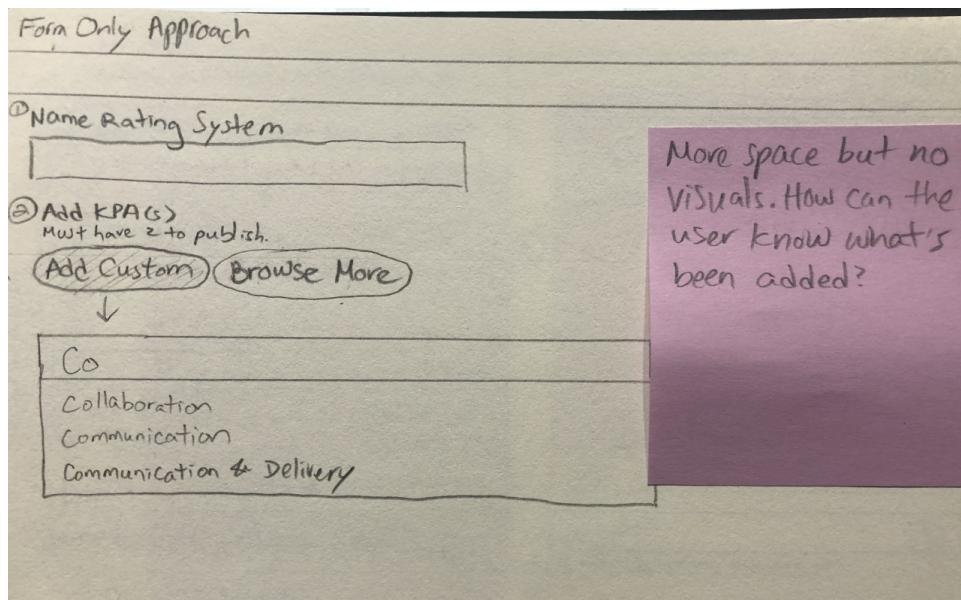
IMITATE / Authoring

Lo-Fidelity Wireframes

After sketching out many variations, I realized I wanted to be able to interact with the content directly.



At first, I tried to maintain the old system, except with the layout reversed. The form went on the left and the card on the right.



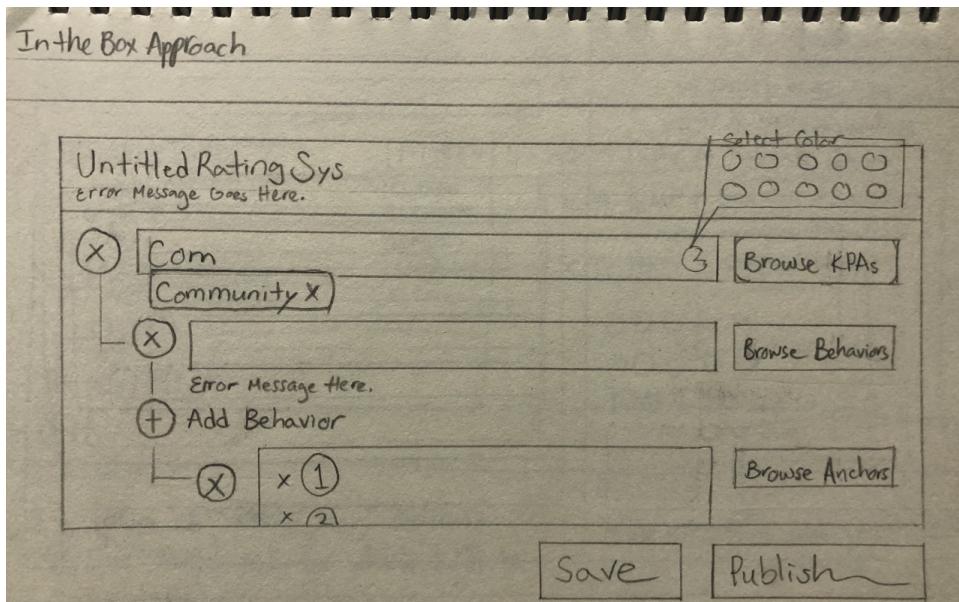
I attempted a "form only" approach but that came with obvious drawbacks.

There was more space for the form but no visuals, making it difficult for the user to tell what had been added.

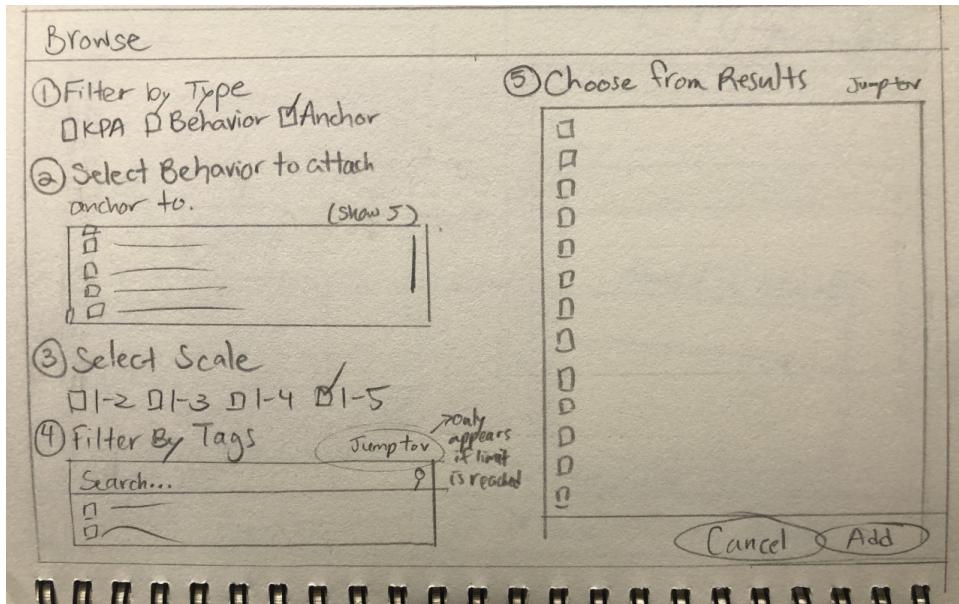
Here, the user can choose from the autocomplete dropdown, create a new custom KPA, or browse more options. This design was wholly unintuitive.

IMITATE / Authoring

Lo-Fidelity Wireframes



Then, I eliminated the form in favor of the card. I tried slightly different visual for autocomplete that I hoped was unintrusive.



If the user clicked "Browse...", a pop-up would appear allowing the user to bulk add KPAs, behaviors, and anchors.

In the end, I realized it was best to limit the amount of information the user saw at once.

IMITATE / Authoring

Troubleshooting Challenge

The project manager requested that we allow users to cherry-pick KPAs, behaviors, and anchors and decide the number of each. This would potentially allow countless mixing-and-matching combinations.

From a UX perspective, burdening the user with too many decisions would not be conducive to a pleasant app experience. The user might even grow frustrated and abandon the authoring process altogether.

It might be easier to have users add KPAs and their related behaviors together instead of picking them separately.

After speaking to my teammates, I learned this was an issue on the research and development side too.

From the RA's perspective, anchors would not make sense out-of-context from their behaviors (because they are a rating scale defined in relation to their behavior).

From the devs' perspective, the numerous combinations create a mess in the database. Moreover, pre-existing tables tied behaviors and anchors together and would take significant technical effort to overhaul.

Our collective concerns led the team to a compromise: Behaviors and anchors must always be tied together, with the number of anchors staying the same.

IMITATE / Authoring

Hi-Fidelity Mockups and Final Prototype

On the right, a search function pulls from existing content.

On the left, users edit the rating system name and description, pick KPA colors, and fill fields using autocomplete.

To conserve space, unfocused KPAs and behaviors are collapsed.

The screenshot displays the IMITATE Authoring application interface. On the left, the 'Rating Systems' tab is active, showing the 'Untitled Rating System' configuration. This screen includes sections for 'Untitled KPA' (with two collapsed 'Untitled Behavior' items) and 'Untitled KPA' (with an 'Add Behavior' button). At the bottom are 'Save' and 'Publish' buttons. On the right, a 'Browse Existing Content' panel is open, featuring a search bar and a dropdown for 'Rating System'. The IMITATE logo is visible at the bottom of the right panel. A red circular badge with the number '10' is in the bottom right corner.

IMITATE / Authoring

The screenshot shows the IMITATE / Authoring application interface. At the top, there's a navigation bar with links for DASHBOARD, RESULTS, RATE, TRAINING CONTENT, RATING SYSTEMS (which is highlighted in orange), and USERS. Below this, there are two buttons: "Manage Rating Systems" and "Create New Rating System". The main content area is titled "Untitled Rating System" and contains a tree structure for KPA (Key Performance Area) and Behavior. On the left, there's a sidebar with a search bar labeled "Search" and a list of items with "Add" buttons. The items listed are: Assessing Effectiveness, Communication & Delivery, Instructional Technique, Learning Environment, Subject Matter Expertise, Subject Matter Expertise 2, and Subject Matter Expertise 3.

Untitled Rating System

Untitled KPA

Untitled Behavior

Untitled Behavior

Add Behavior

Untitled KPA

Add KPA

Type here...

Assessing Effectiveness

Communication & Delivery

Instructional Technique

Learning Environment

Subject Matter Expertise

Subject Matter Expertise 2

Subject Matter Expertise 3

In this view, the user searches by KPA. Clicking "Add" fills in the selected KPA on the left.

IMITATE / Authoring

The screenshot shows the IMITATE / Authoring application interface. At the top, there is a navigation bar with links for DASHBOARD, RESULTS, RATE, TRAINING CONTENT, RATING SYSTEMS (which is highlighted in orange), and USERS. Below this, there are two buttons: "Manage Rating Systems" and "Create New Rating System". The main content area is titled "Untitled Rating System" and contains a tree structure under the heading "Assessing Effectiveness". The tree has a root node "Untitled Behavior" which branches into five "Undefined Anchor" nodes numbered 1 through 5. To the right of this tree, there is a sidebar titled "Browse Existing Content" with a search bar and a list of categories: "Adaptation to Audience", "Creating Dialogue and Participation", "Establishing Credibility", "Nature of Checks on Participation", and "Setting a Learning Environment", each with an "Add" button. The "Rating System" dropdown is set to "Intel".

In this view, the user searches by behavior. The user can click "View Anchors" to expand information or "Add" to fill in the selected behavior and anchors on the left.

IMITATE / Authoring

Lessons Learned

Include developers early in the design process. Learning what is technically feasible prevents the team from wasting time.

After receiving more feedback from other designers, I would combine the form and the search component into one card so users could understand their relation to each other better.

Finally, thanks to some feedback from the Marines who used the BETA, we added the ability to add an existing KPA and its attached set of behaviors in one click (seen below).

The screenshot shows the IMITATE software interface. At the top, there is a navigation bar with links for DASHBOARD, RESULTS, RATE, TRAINING CONTENT, RATING SYSTEMS (which is highlighted in orange), and USERS. On the far right, there is a user profile for "Laura Smith" (Admin) and a help icon.

In the main area, there is a sub-navigation bar with "Manage Rating Systems" and "Create New Rating System". Below this, a card titled "Untitled Rating System" is displayed, showing a tree structure of "Untitled KPA" nodes, each with an "Edit" button and a delete icon. One node has two "Untitled Behavior" children, and a "Add Behavior" button is shown.

To the right, a modal window titled "Browse Existing Content" is open. It has a "Type*" dropdown set to "KPA" and a "Rating System" dropdown set to "Intel". A "Search by KPA" input field contains "Type here...". The results are listed in two sections:

- Communication**
 - Communication
 - Clarity Some Really Really Long Title Here
 - Professionalism and Respect
 - Complete and Concise
 - Closed-Loop Communication
- Cooperation and Resource Management**
 - Clarity Some Really Really Long Title Here
 - Professionalism and Respect
 - Complete and Concise

Each result item has an "Add" button next to it.

IMITATE

Manage Lessons

Challenge

Users of IMITATE are able to view lesson content and download attached media, such as audio, documents, or presentations.

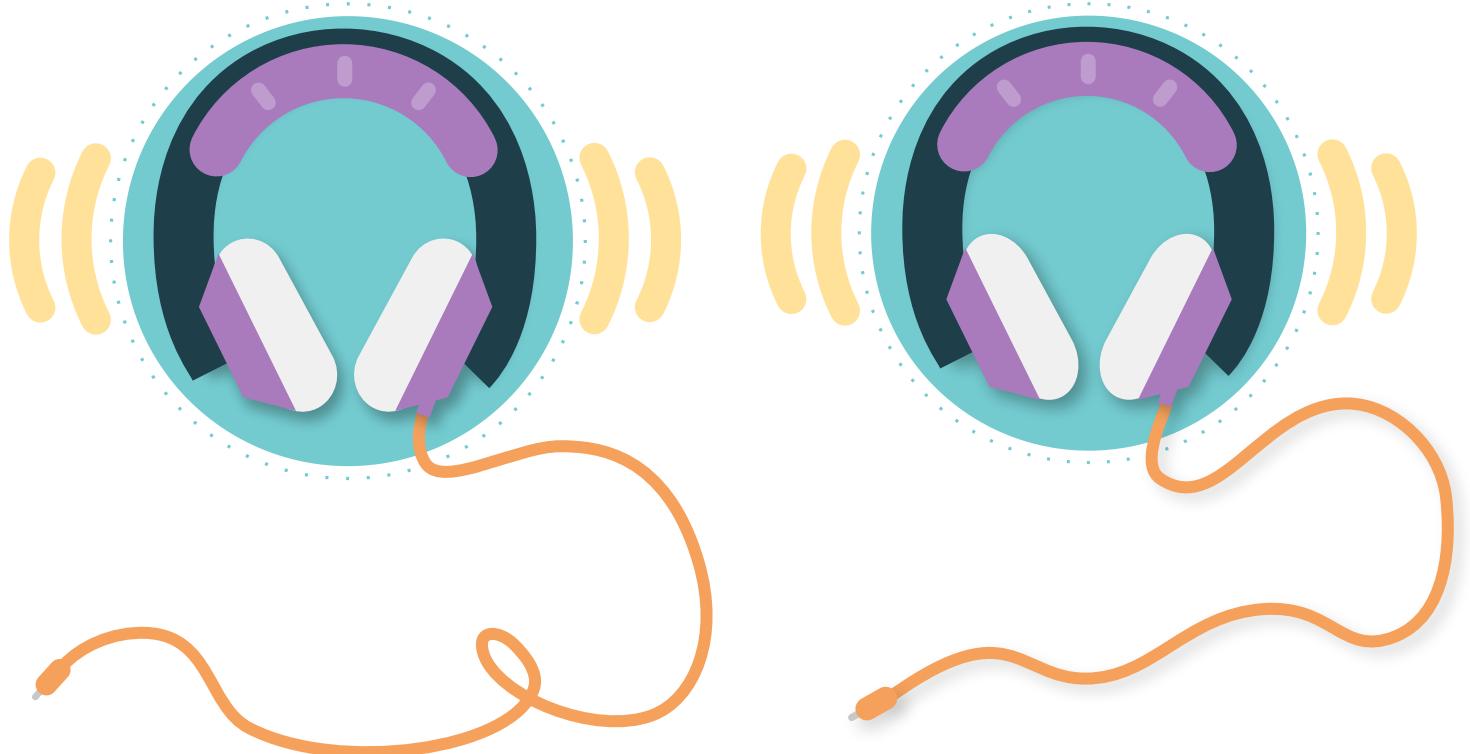
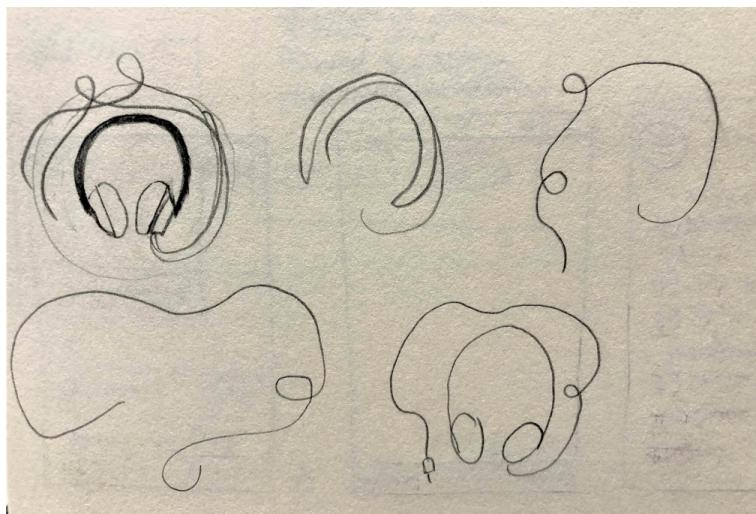
We needed to find a way to utilize empty space and convey the type of media that could be downloaded.

The screenshot shows the IMITATE platform interface. At the top, there is a header bar with three colored dots (red, yellow, green), the user name "Codeante", and a dropdown menu "bluefirex". Below the header is a navigation bar with icons for back, forward, home, and search, followed by a lock icon. The main menu includes "IMITATE", "DASHBOARD", "LESSONS" (which is highlighted in orange), "RESULTS", and "SELF-REFLECTION TOOL". On the right side, there is a user profile for "Laura Smith" (User) with a question mark icon. The main content area displays a lesson titled "Title of Lesson Lorem Ipsum Ⓜ". The lesson description starts with "Communication and Delivery: Presence as a Public". Below the title, there are two tabs: "INTRODUCTION" (which is highlighted in orange) and "SUMMARY". The introduction text reads: "Presence as a Public Speaker is about having the sufficient amount of knowledge in a subject matter to clearly, comfortably, and confidently explain the material to an audience. The more knowledgeable an instructor is with the material, the more relaxed he or she will be with presenting the topic, allowing the instructor to focus on charismatic and dynamic speaking abilities in their delivery. The strength of an instructor's delivery and their presence as a public speaker directly influences the audience's view of the instructor's credibility and knowledge in the subject matter."

IMITATE / Manage Lessons

Design Process

My early sketches tended to be a bit too complex. When I put the graphics together in Illustrator, I simplified features and made several versions.



IMITATE / Manage Lessons

Final Graphics

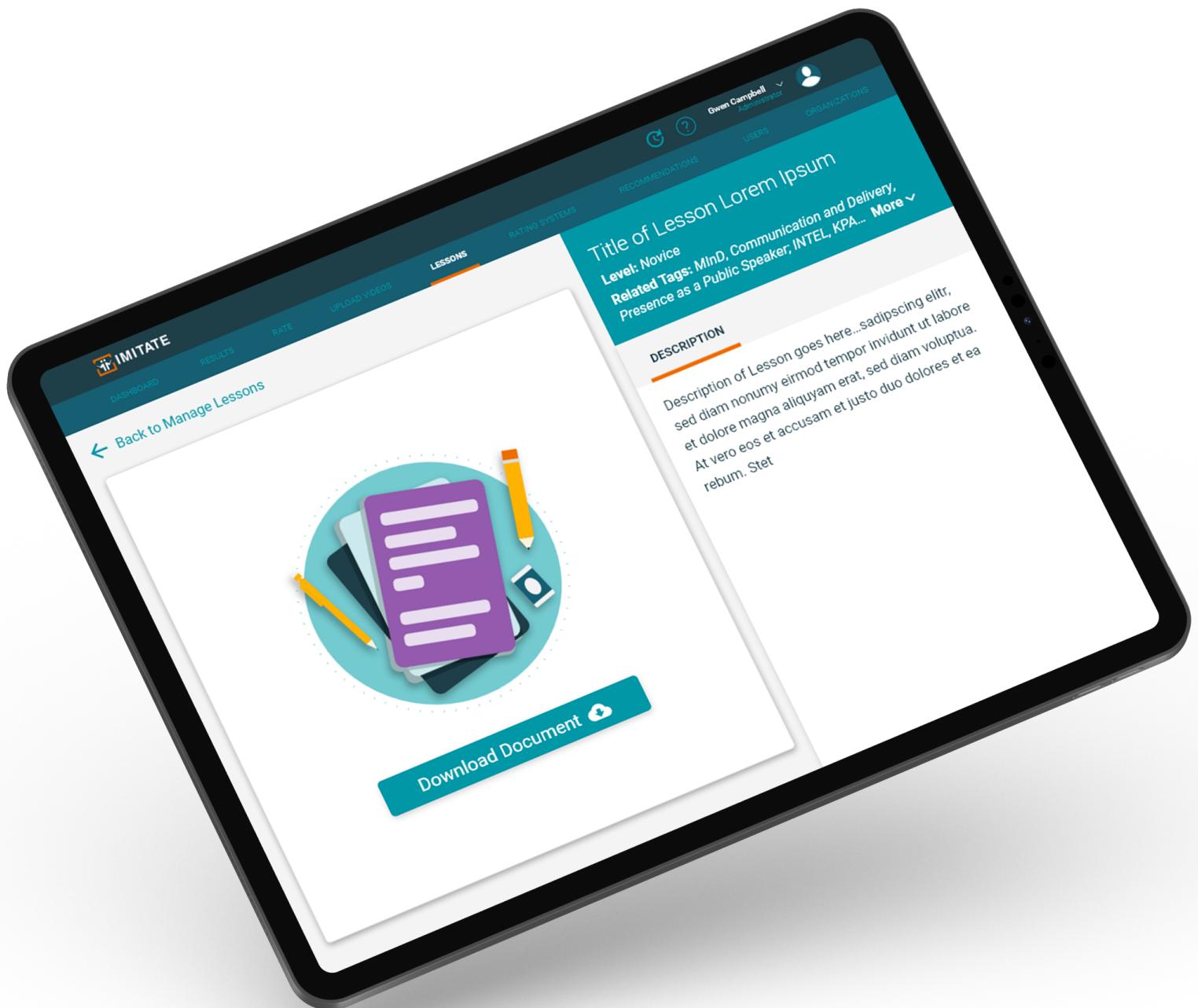
To maintain consistency, I used the same circle background and rounded corners. (The presentation graphic reuses an existing graphic.)



IMITATE / Manage Lessons

Final Mockup

I sought to bring attention to the call-to-action with the final mockups.





Venture™

Venture is a multimodal mobile navigation tool that adapts to different user needs with a flexible interface, audio and vibrotactile cues.

Tools & Tech Used

Adobe XD

Miro

DevOps

Developed For

iPhone

Android

User Persona



Nathan Hatfield

“I can't wait to explore my campus and meet new people.”

Stats

18-24 yrs old / male / Orlando, FL / high school / student / unmarried

Bio

Nathan has recently started college and is now living on campus, away from his family. Nathan is cognitively impaired and needs more help than others to navigate around the campus. Nathan still wants to fit in with his fellow students and prefers to not stand out because of his functional limitations. He cannot drive himself places.

Goals

- To look cool/not stand out
- Be independent and explore new places with confidence

Frustrations

- He possibly has trouble with...
 - + Attention
 - + Math/Numbers
 - + Memory
 - + Oral Language
- + Psychological
- + Reading
- + Social Skills

User Persona



Maureen Johnson

"I want to live the same way as I did, many years ago."

Stats

65-100 yrs old / female / Orlando, FL / retired / family includes daughter, caretaker and grandchildren

Bio

Maureen is a 73-year-old woman with MCI that affects her short-term memory and other functions, like her ability to learn routes and new symbols and sustain attention. Maureen is not tech savvy and prefers analog to digital. When she's in the middle of tasks, she frequently forgets what she's been doing. She needs more help than others to

Goals

- + She wants to feel safe, smart, and autonomous.

Frustrations

- + She's not good with technology
- + She possibly has trouble with...
 - + Attention
 - + Math/Numbers
 - + Memory
 - + Oral Language
 - + Psychological
 - + Reading
 - + Social Skills

Trip Planning

Challenge

Trip Planning was conceptualized to make taking trips easier.

It has four stages:

- 1.** Search Location
- 2.** Schedule Trip
- 3.** Select Route
- 4.** Add Trip Notes

Project requirements specified a scope of 4-7 (depending on how you count) different types of users:

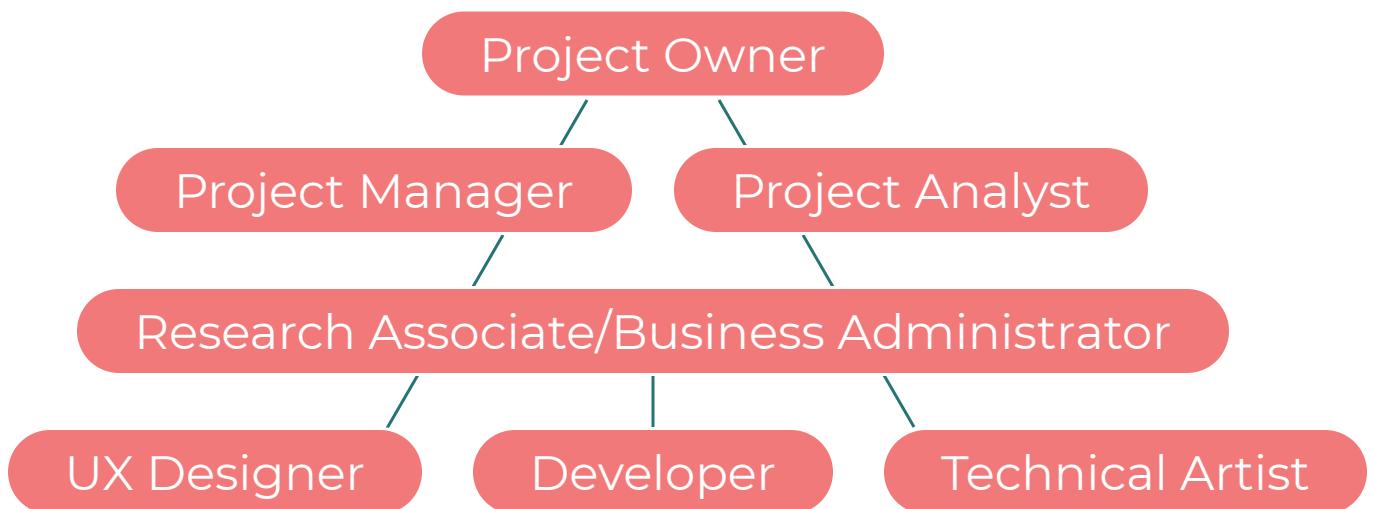
- + Those with intellectual/developmental disabilities (IDD)
- + Those who are deaf and hard-of-hearing
- + Those who are blind and hard-of-seeing
- + Support persons who might assist users

For the sake of brevity, I only included personas for IDD users, the group that ultimately became the focus.

Trip Planning

My Role

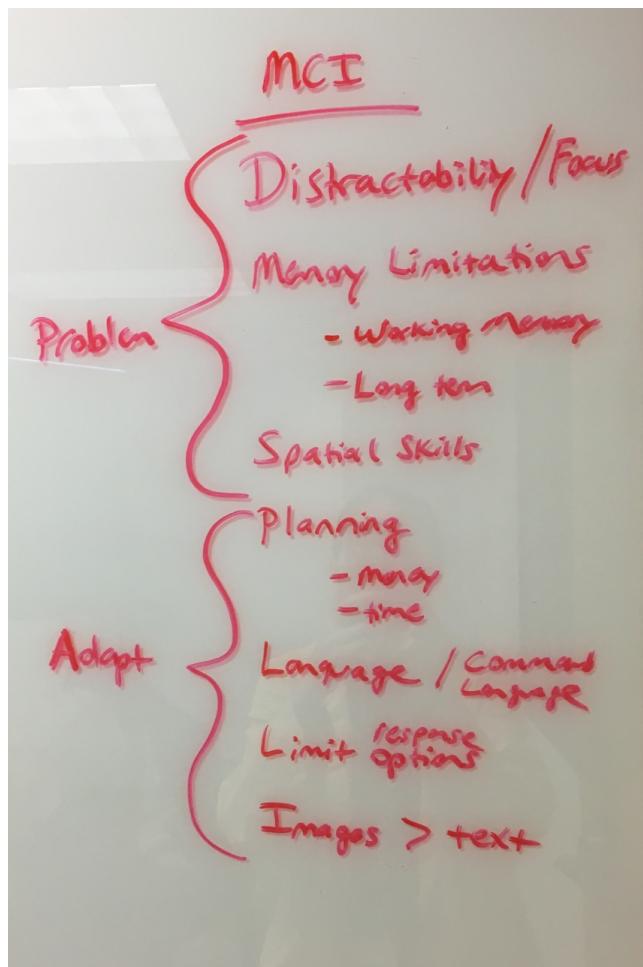
I was the UX designer on a team of 7. I most closely worked with the researcher, developer and technical artist. Developers and technical artists often changed, so we had to be sure to communicate often and get new people up-to-speed.



Venture / Trip Planning

Ideation

In the beginning, the team often discussed how the phone would adapt to the user. We made sketches and referenced journey maps from a previous phase of the project.



Early sketch identifying the potential challenges and solutions for IDD users.

Potential Challenges: distractibility/focus, long-term and working memory limitations, and spatial skills.

Potential Solutions: allowing trip planning, simplifying language, limiting response options, and favoring images over text.

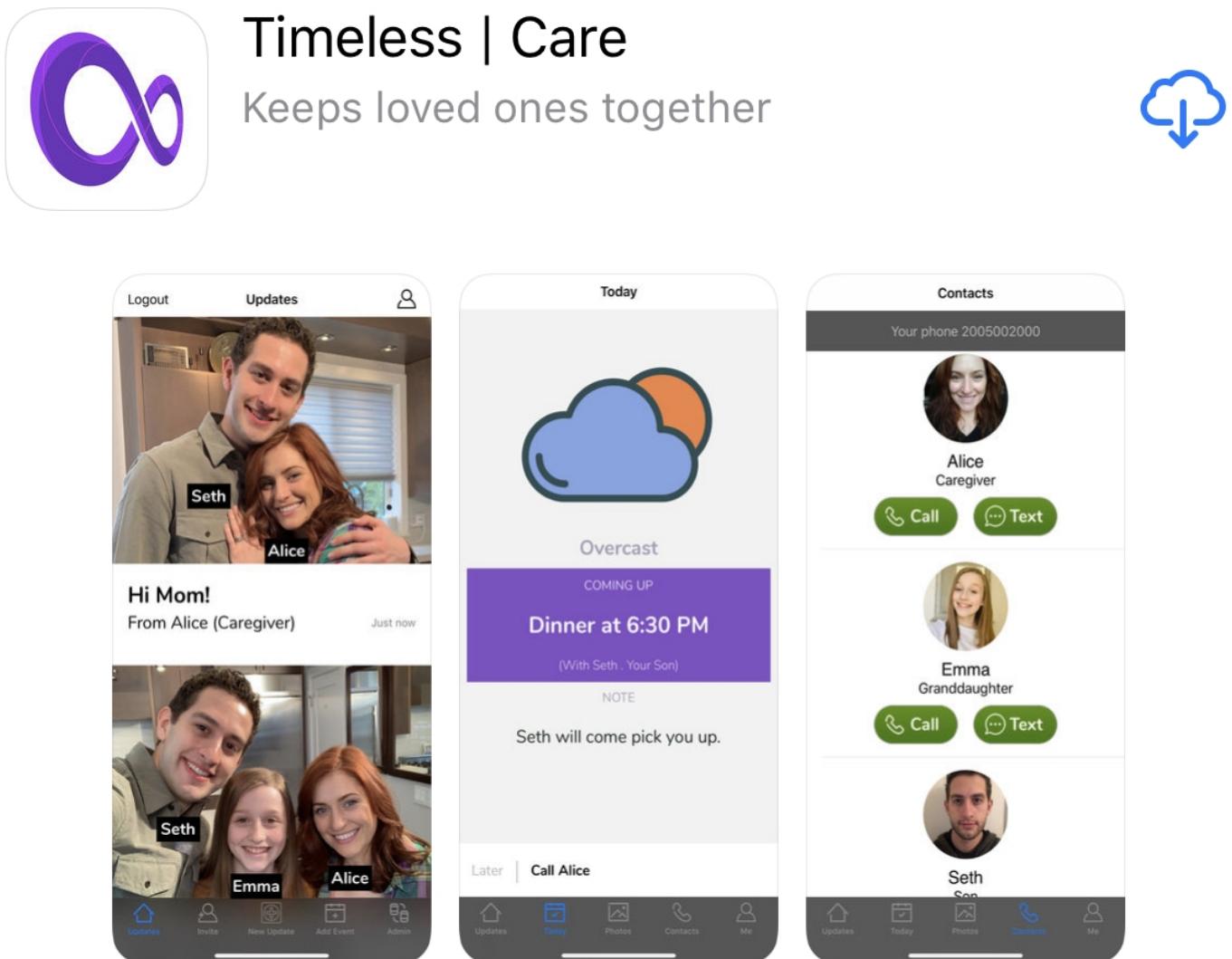
(MCI stands for Mild Cognitive Impairment, a term the team used to use before it was changed in favor of IDD.)

Venture / Trip Planning

Researching UI

One of the apps I looked at when conducting research was Timeless. It's designed for patients with Alzheimer's to help them recognize friends and family.

I particularly like the way they handled onboarding, contacts, and reminders. Their simplified interface was along the lines of what I was looking for.



Venture / Trip Planning

Researching UI

Haptimap guidelines for map applications aided me in design, especially when it came to the navigation feature.

A couple of key principles:

Provide information multimodally so when one mode fails, another can make up for it. For example, in situations where hearing sounds or feeling/touching the device is an issue, a user may still be able to read the interface.

Design for flexibility. Allow the user to customize their preferences. For example, an IDD user might opt into phone notifications from Venture.

Venture / Trip Planning

Researching UI

Microsoft's Inclusive Toolkit includes the following graphic illustrating the difference between types of impairments, making the argument for the multimodal, inclusive approach.

	Permanent	Temporary	Situational
Touch			
	One arm	Arm injury	New parent
See			
	Blind	Cataract	Distracted driver
Hear			
	Deaf	Ear infection	Bartender
Speak			
	Non-verbal	Laryngitis	Heavy accent

Style Guide

I. Logo



(Logos created by another designer)

II. Typography

Nunito Sans

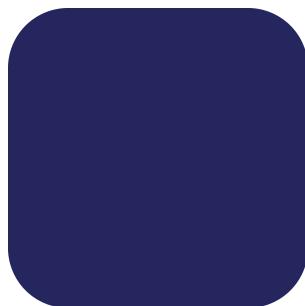
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o p q r s t u v w x y z

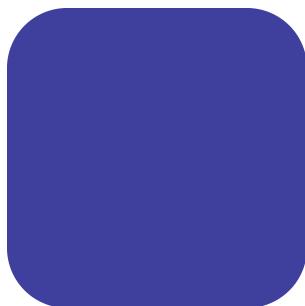
1 2 3 4 5 6 7 8 9 0

Heading	30px Bold
Subheading	23px SemiBold
Body	16px Regular

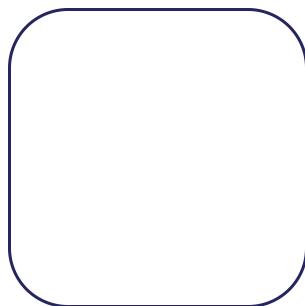
III. Colors



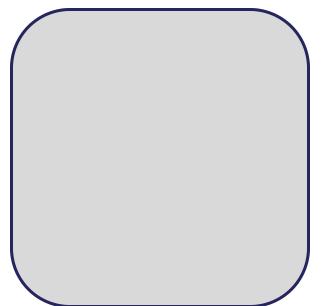
Background
#26265E



Background 2
#3F3F9D



Prompt Base
#FFF



Overlay
#000
38% opacity



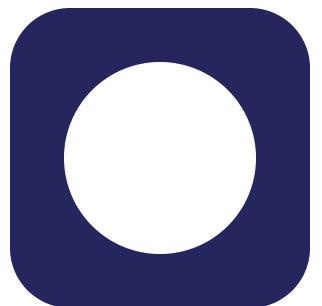
Action Button
#6C66E1



Button Pressed
#3F3F9D



Warning
#FA4387



Text/Icons
#26265E

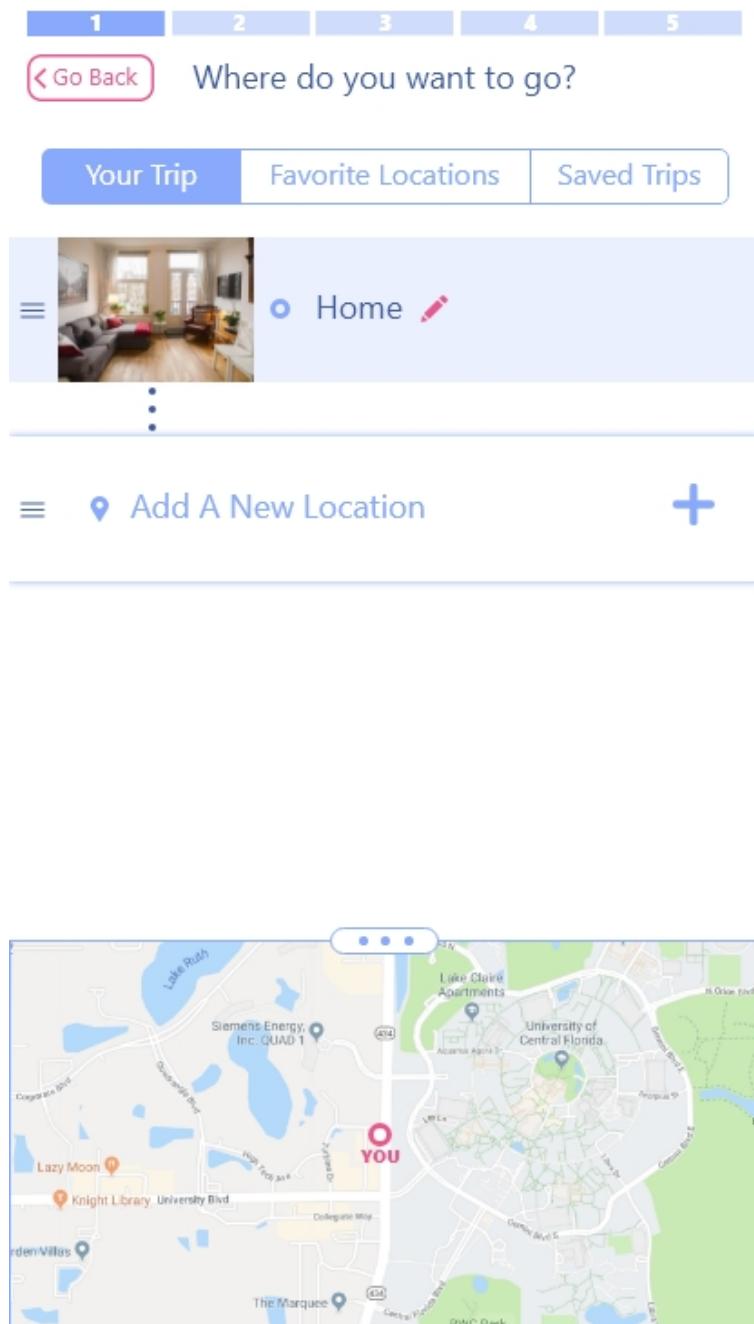
Colors on dark backgrounds meet WCAG 2.0 level AA standards.

White text on pink color must be above 18.66px.

Venture / Trip Planning

Original Mockups

The mockups from an earlier phase formed the foundation of the latest mockups. I liked the clean design and user flow but I was overwhelmed by the number of customization options. As a result, I pared down the functionality (i.e., by removing Favorite Locations and Saved Trips tabs from search).



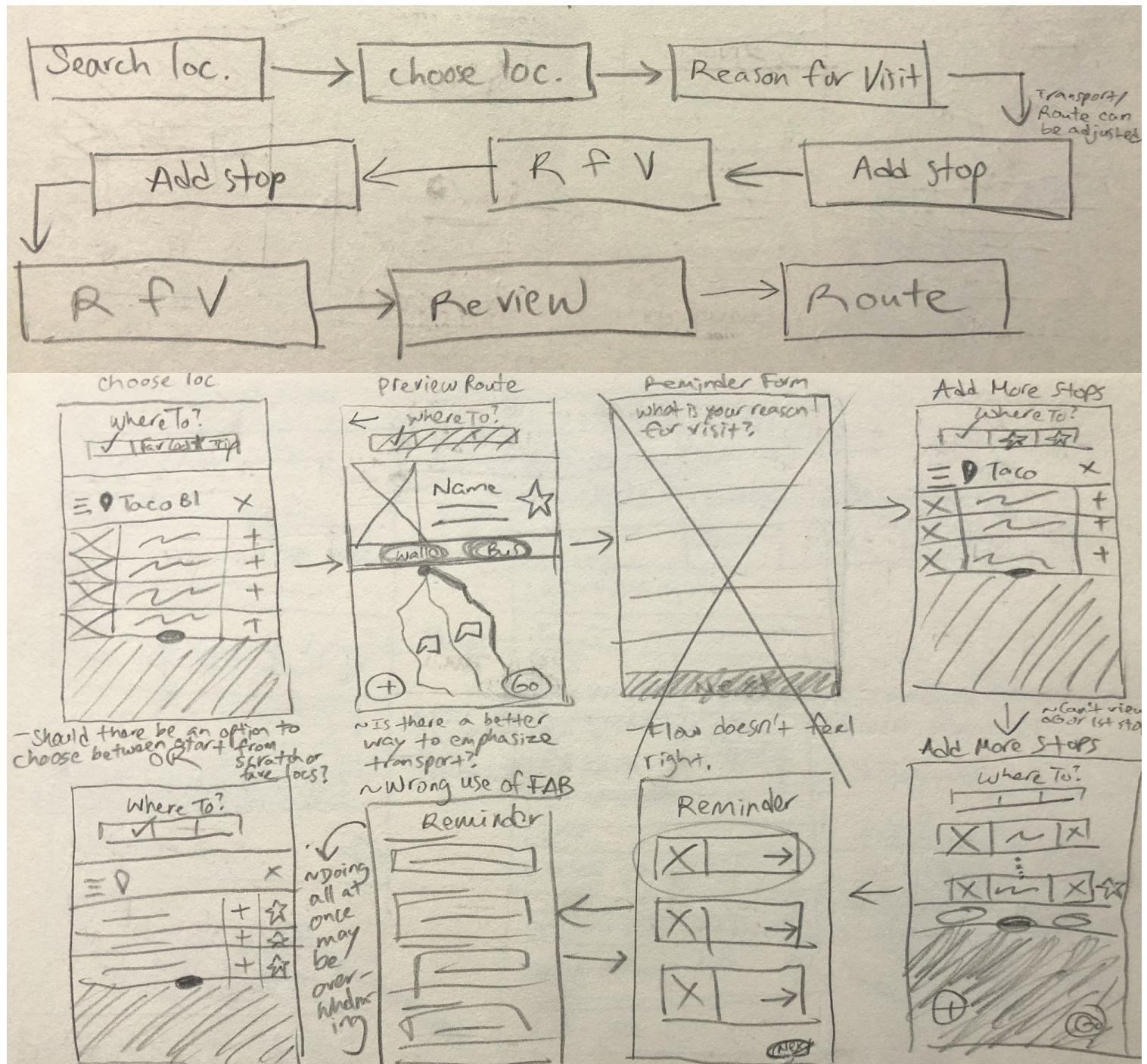
I kept the breadcrumbs at the top to remind the user of what they were doing at all times and changed the heading from a question to a direct action, to be understood at a glance. I also moved back/next buttons to the bottom of the screen, where they would be easier to reach on mobile.

These mocks followed a light theme and used pink for action buttons. I ended up changing the color palette because I was requested to use a dark background with white text for higher contrast. Pink was often interpreted as red too, so I reserved pink as a warning color.

Venture / Trip Planning

Lo-Fidelity Wireframes

I spent a while experimenting with the order of steps in trip planning before settling on the final order.

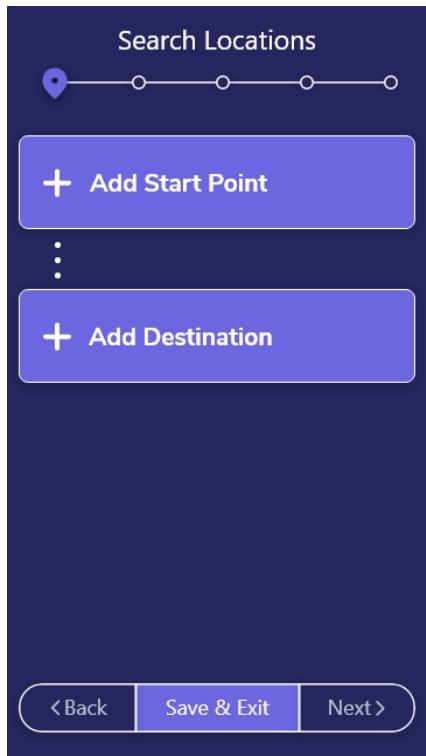


Early sketches of Search Location and Add Trip Notes (a.k.a. Reminders)

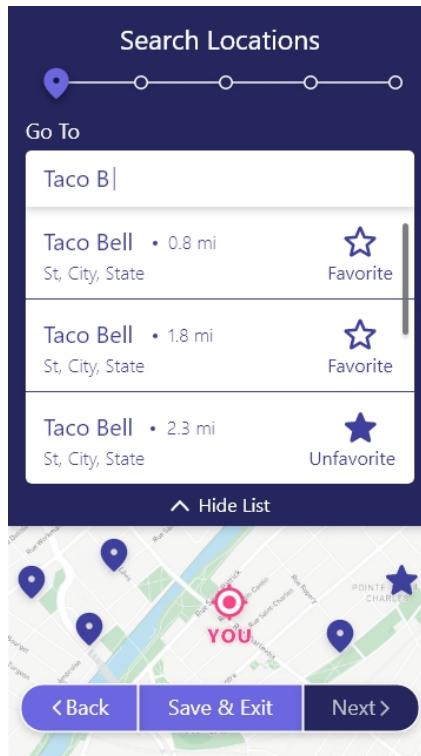
Venture / Trip Planning

Hi-Fidelity Mockups/Final Prototype

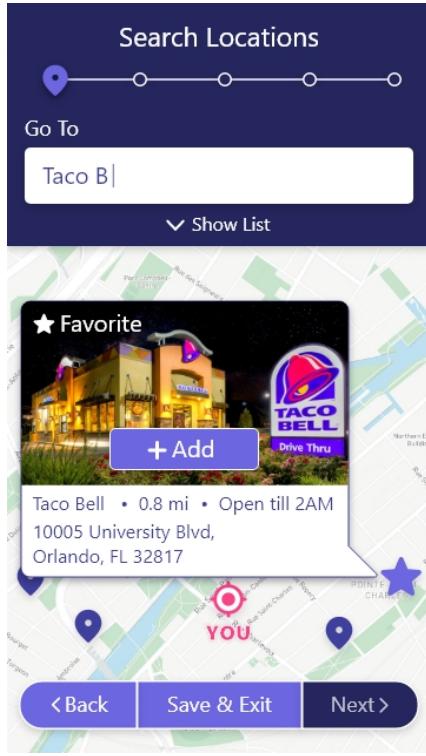
1.



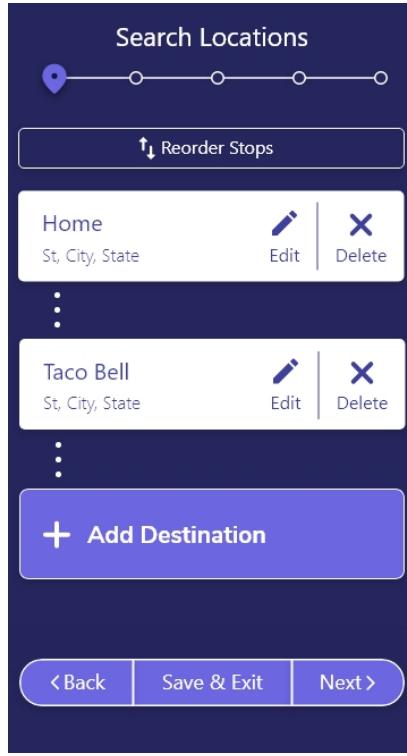
2.



3.



4.



1. The user chooses to add a location. The addition of Save & Exit is there in case the user wishes to jump out of the trip planning process and return later.

2. Search locations and see them appear on the map.

3. Pressing Hide List and selecting a star or location icon causes a pop-up to appear.

4. Once two locations are added, the user can move onto the next step.

~Please note the progress bar should have 4 steps at the top, not 5.

Venture / Trip Planning

Hi-Fidelity Mockups/Final Prototype

1.

Schedule Trip

Make this trip recurring? *

No

Yes

Set alarm to... *

5 min before

10

15

< Back | Save & Exit | Next >

2.



3.

Schedule Trip

Tuesday, December 25 2020

Leave Home by ▾

9 20

10 25

11:30 AM

12 35 PM

1 40

< Back | Save & Exit | Next >

4.

Schedule Trip

December 25, Tuesday

Arrive at Taco Bell by 11:40 AM

Stay at Taco Bell for 30 min

Route Timeline

Home

Taco Bell
11:40 AM - 12:10 PM

< Back | Save & Exit | Next >

1. Once the user clicks on the Schedule Trip button, they'll see a calendar.

2. The user selects the day they wish to travel on.

3. Schedule a time to leave the starting location by.

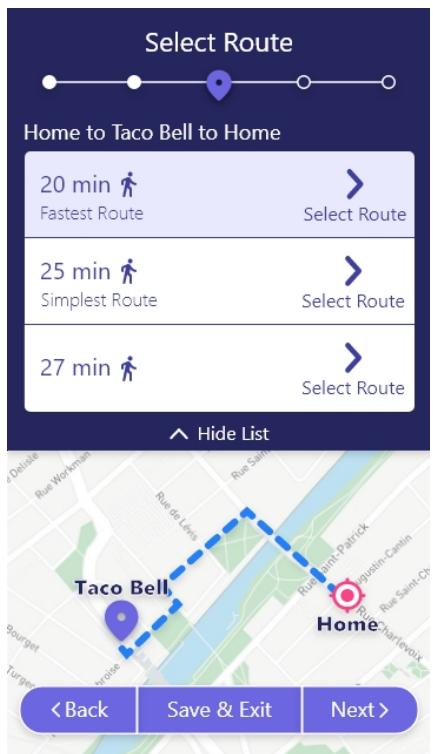
4. Initial Schedule Trip page updates and the user can move to the next step.

~Please note the progress bar should have 4 steps at the top, not 5.

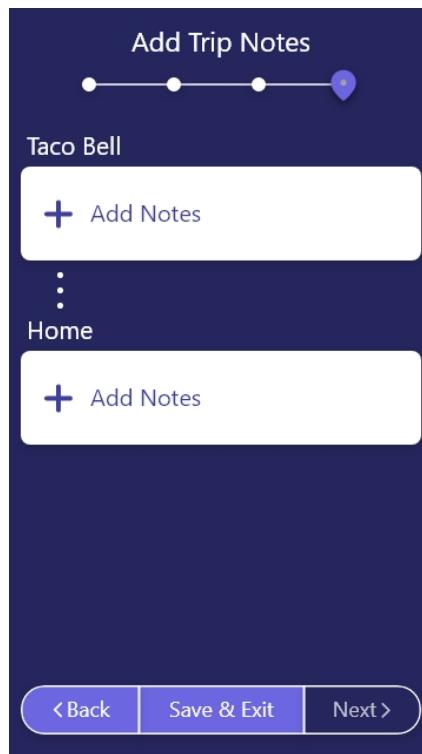
Venture / Trip Planning

Hi-Fidelity Mockups/Final Prototype

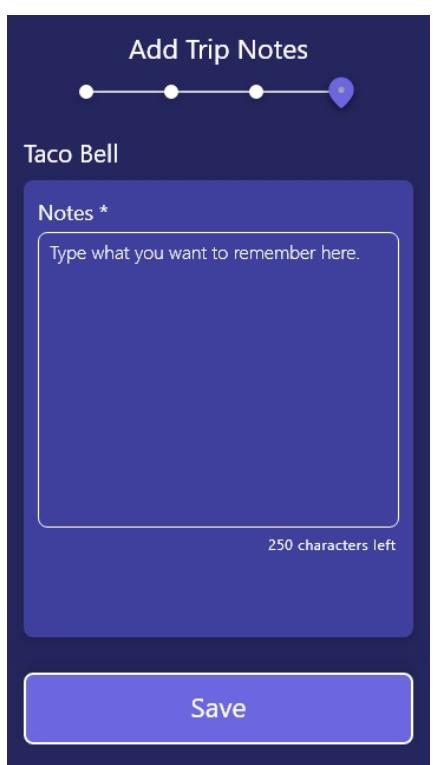
1.



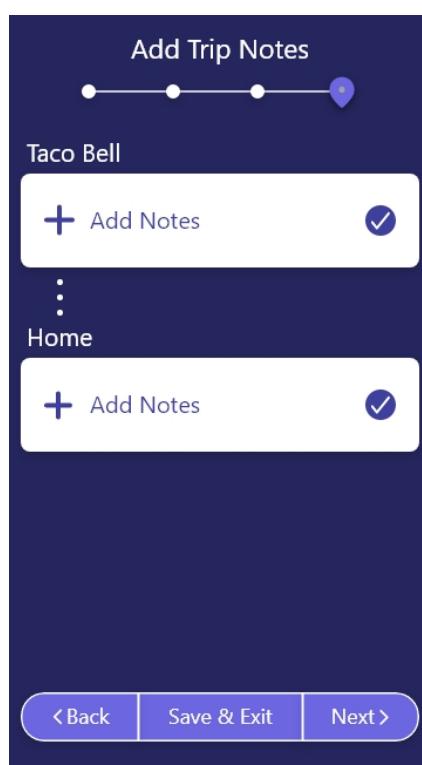
2.



3.



4.



1. Select Route is the 3rd step. When a route is highlighted, it appears below on the map.

2. Add Trip Notes is the 4th step. The user selects a note to add to a location to remind themselves of their reason for visit.

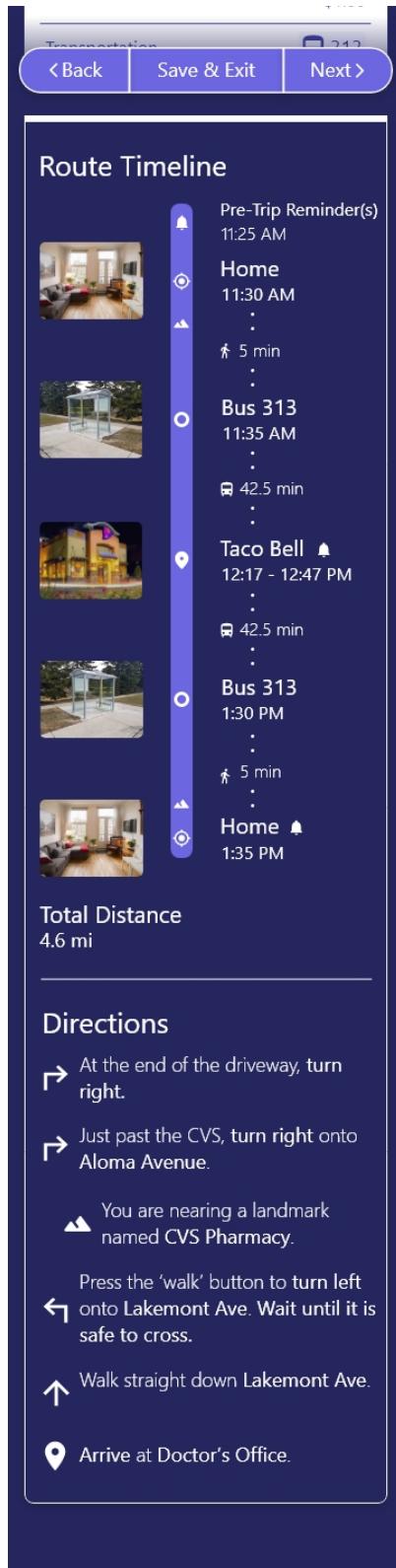
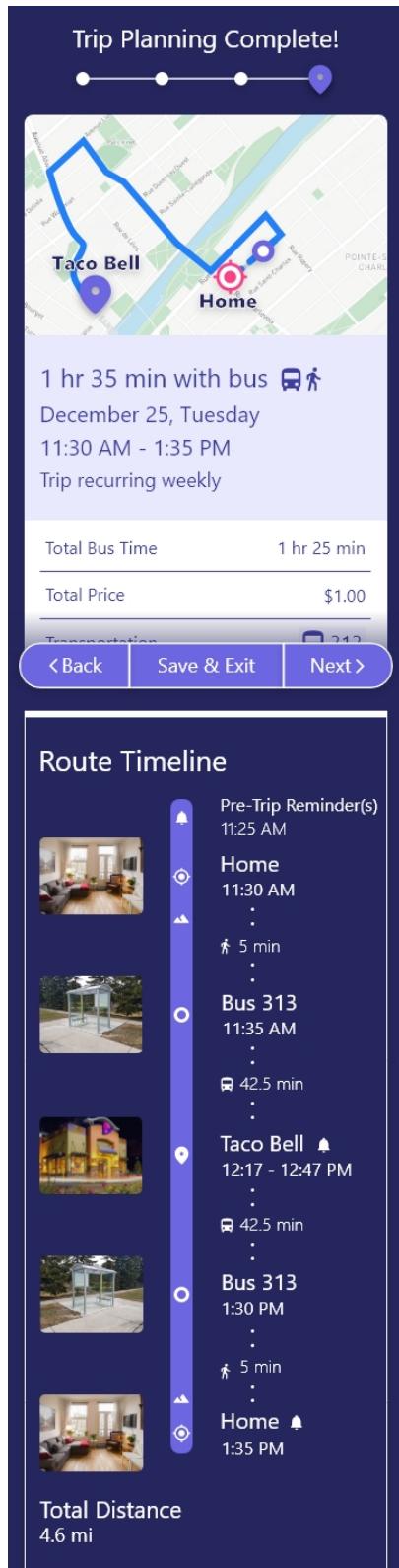
3. Include up to 250 characters in trip notes and click save.

4. When notes are filled in, they are updated with a checkmark.

~Please note the progress bar should have 4 steps at the top, not 5.

Venture / Trip Planning

Hi-Fidelity Mockups/Final Prototype



At last, the trip planning is completed. The user can review their route, and the directions for their route.

When the user clicks "next," they will receive a prompt to name and save their trip.

~Please note that bus routes were removed from scope.

Venture / Trip Planning

Lessons Learned

Minimize scope as much as possible. Designing for many types of users at once caused confusion for everyone involved.

Work with users throughout the design process, especially when designing for marginalized communities. In all fairness, there was a pilot study planned, and the team had limited resources. Still, it is important to be inclusive when designing for minority user groups.

The multimodal approach is a huge benefit to all users, whether they be permanently, temporarily, or situationally impaired.

