

# PROJECT 1: Navionics Interface Evaluation & Redesign

# Overview

Sailing is an inaccessible sport, requiring significant time, resources, and knowledge to participate. The steep learning curve, coupled with limited beginner-friendly resources, makes it challenging for newcomers to involve themselves in the community.

Navionics, a popular sailing navigation app, is an app developed by Garmin, providing it name-brand recognition. However, it falls short of addressing novice and expert user needs through challenging interactions and a chaotic interface. This project aims to evaluate the pain points of Navionics and redesign it to better meet the needs of both expert and beginner users. I use a user-centered design process to ensure feedback across iterations and create an accessible interface for all users.

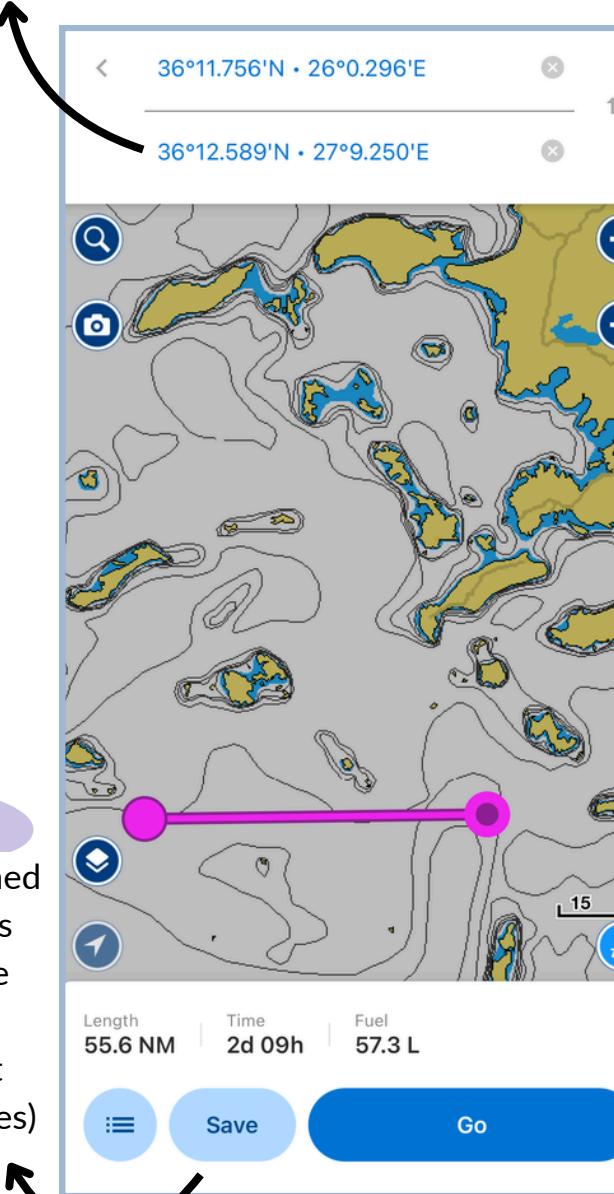


# 1. Interface Critique

I conducted a heuristic evaluation of Navionics following Nielsen's 10 Usability Heuristics [1], which revealed significant pain points with aesthetics, error prevention, information overload, and meeting general user needs.

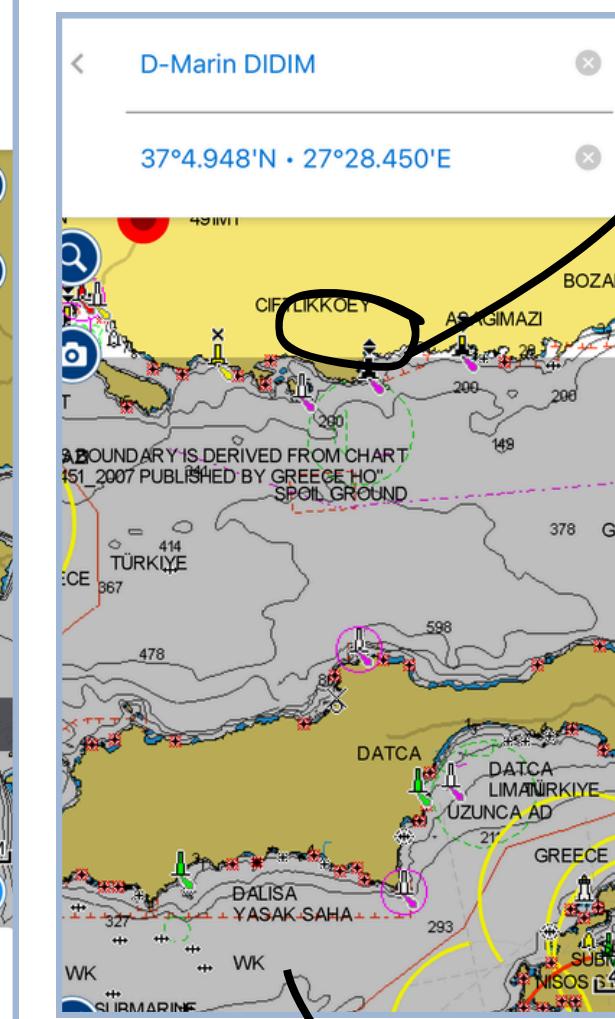
## Error Prevention & User Control

easy to make mistakes or unwanted interactions (e.g. creating a manual route with hazards)



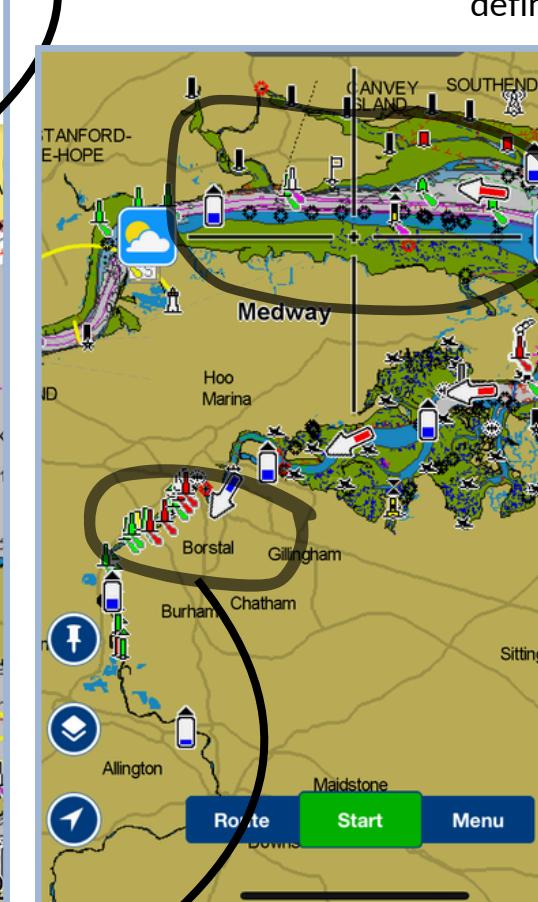
## Match to Real World

excessive sailing-specific jargon and inconsistent alphabet  
(locations of the area's language are not spelled correctly / used English alphabet)



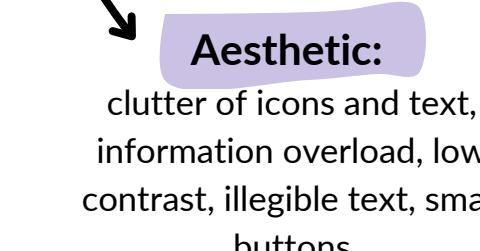
## Documentation:

icons, symbols, and jargon are not defined or explained



## Flexibility / Efficiency

no shortcuts to speed up interactions of expert users (e.g. saved routes or previously traveled routes)



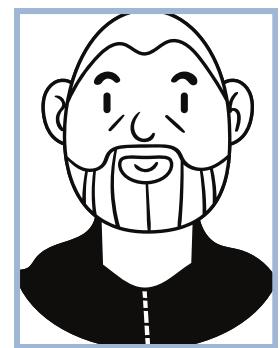
## 3. Sketches and SWOT Evaluation

Based on the requirements, I sketched mobile app pages during a design sprint. I evaluated these sketches using a SWOT analysis to assess differences in parallel prototypes (e.g. the Hazard Notifications) and also reveal limitations or possible pain points that require further thought.

## 2. User Interviews

To corroborate the critique findings and gather user experiences, user interviews were an integral next-step prior to redesigning. I interviewed current users of Navionics with varying backgrounds and sailing expertise levels to understand experiences, pain points, motivations, and desired solutions.

Two personas emerged, referred to as **Aaron** (an older, more experienced sailor) and **Eileen** (a novice looking to learn more about the sport).

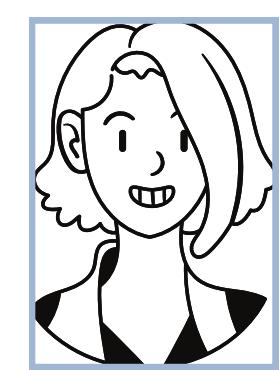


### AARON - 53

**About:** Retiree and captain with 5 years of experience.

**Motivations:** Intuitive navigation to establish safe routes and reduce technical work

**Pain Points:** Trouble navigating the clunky interface and translating local languages



### EILEEN - 25

**About:** Taken courses and wants more practice

**Motivations:** Finding educational resources to get advice during navigation to avoid mistakes

**Pain Points:** The app is not beginner friendly and uses complex jargon

## Findings & Outlining User Requirements

### Quotes

"You have to put your cursor in the right spot. I use an iPad making it even harder."

"I have to do a lot of translating. The locations are always spelled wrong, since they use English-sized versions."

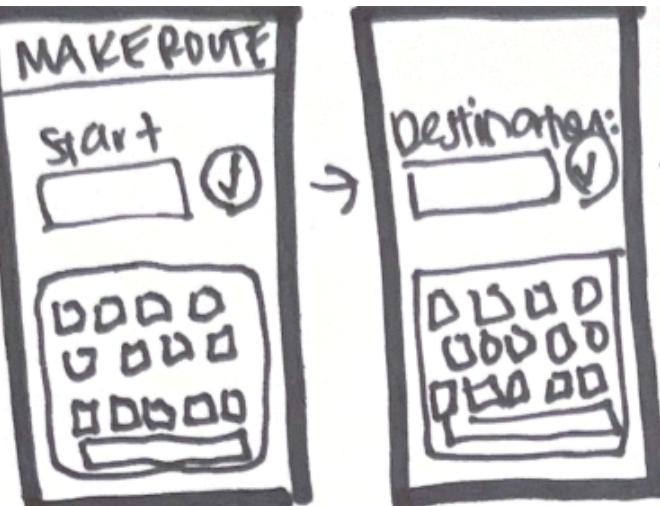
"There's nothing to tell you how to make routes. There isn't any information on what icons mean. I had to Google to find out that there were submerged rocks ahead."

### Requirements

- Beginner friendly & educational
- Consistent language & spelling
- Accessible buttons & navigation
- Shortcuts for frequent actions
- Minimalistic interface with only relevant information

### Potential Features

- Guided route creation
- Pop-up screens for more information to reduce clutter on primary interface
- Notifications of coming hazards
- Confirmation of routes to fix errors or change the route



### Route Creation

#### STRENGTH

simple, intuitive, guided by interface

#### WEAKNESS

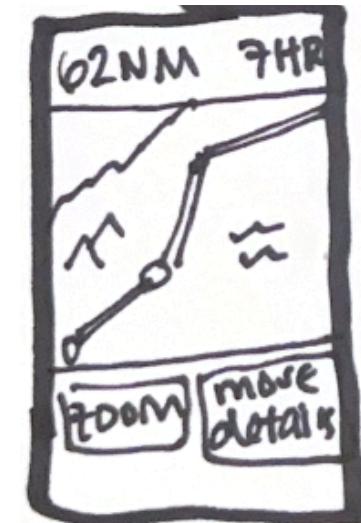
multi-step process may feel tedious

#### OPPORTUNITY

more chances to correct mistakes

#### THREAT

screen change may cause missed mistakes



### Navigation

#### STRENGTH

less clutter, relevant info only

#### WEAKNESS

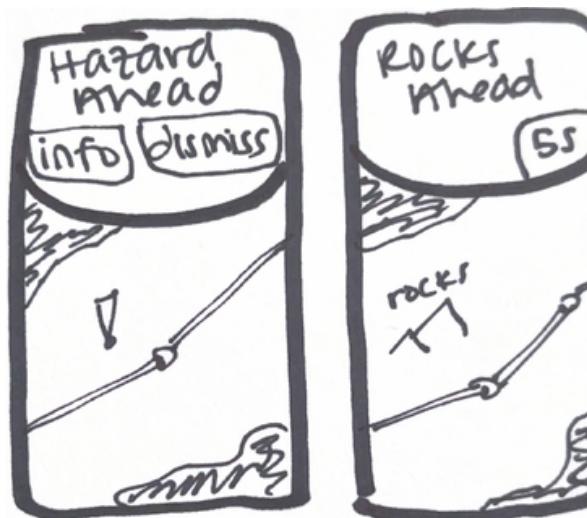
zoom inconsistent with typical pinch-to-zoom

#### OPPORTUNITY

less distraction from information overload

#### THREAT

confusion when searching for more info



### Hazard Notifications

#### STRENGTH

attention to hazard & relevant info given

#### WEAKNESS

may be distracting

#### OPPORTUNITY

educational but dismissable if needed

#### THREAT

missing the pop-up can be risky

## 4. Wireframes

Key takeaways from the SWOT included: room for consistency with other SatNav interfaces and removal of potential distractions.

I made the following changes:

1. A home page to display common features and reduce search effort
2. Documentation
3. Guided route creation with a final check
4. No distracting pop-ups and consistency with arrow button to Google/Apple Maps to access more information

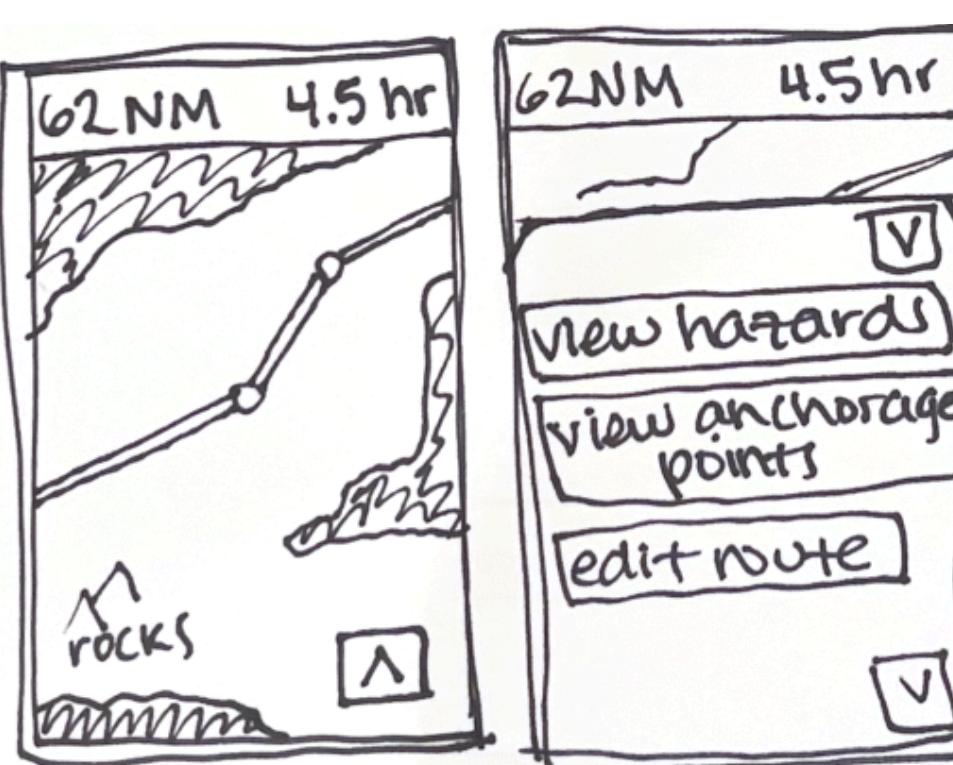
## 2. Documentation



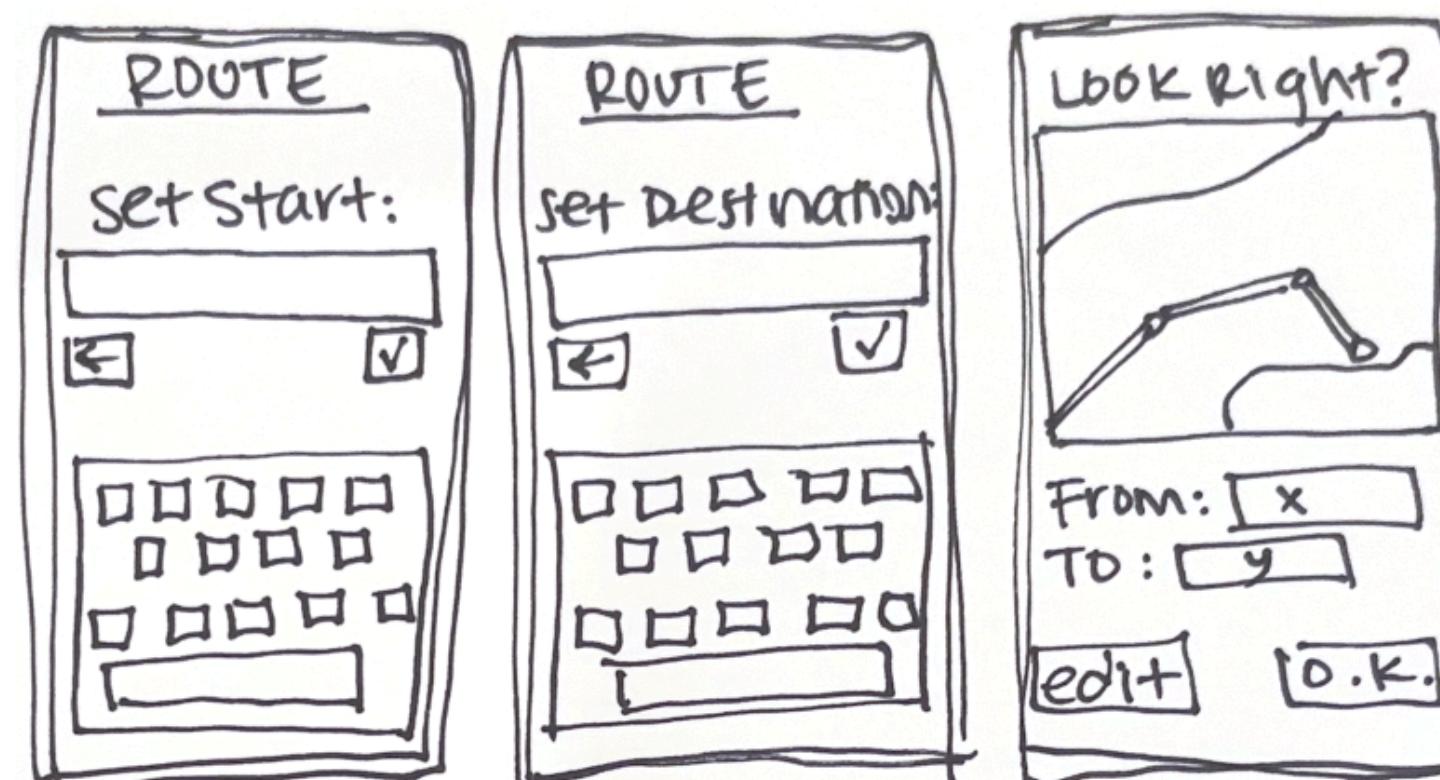
## 1. Home Page



## 4. Navigation Screen



## 3. Route Creation & Check



## 5. User Feedback on Wireframes

Prior to creating further iterations, I returned to the original focus group participants for feedback on the wireframes to incorporate user feedback into the final prototype. Using a Microsoft Forms survey, I evaluated the wireframes and general features.

### Questions

- What features do you like the most?
- What feature would you not use?
- What other features would you like?

### Key Feedback

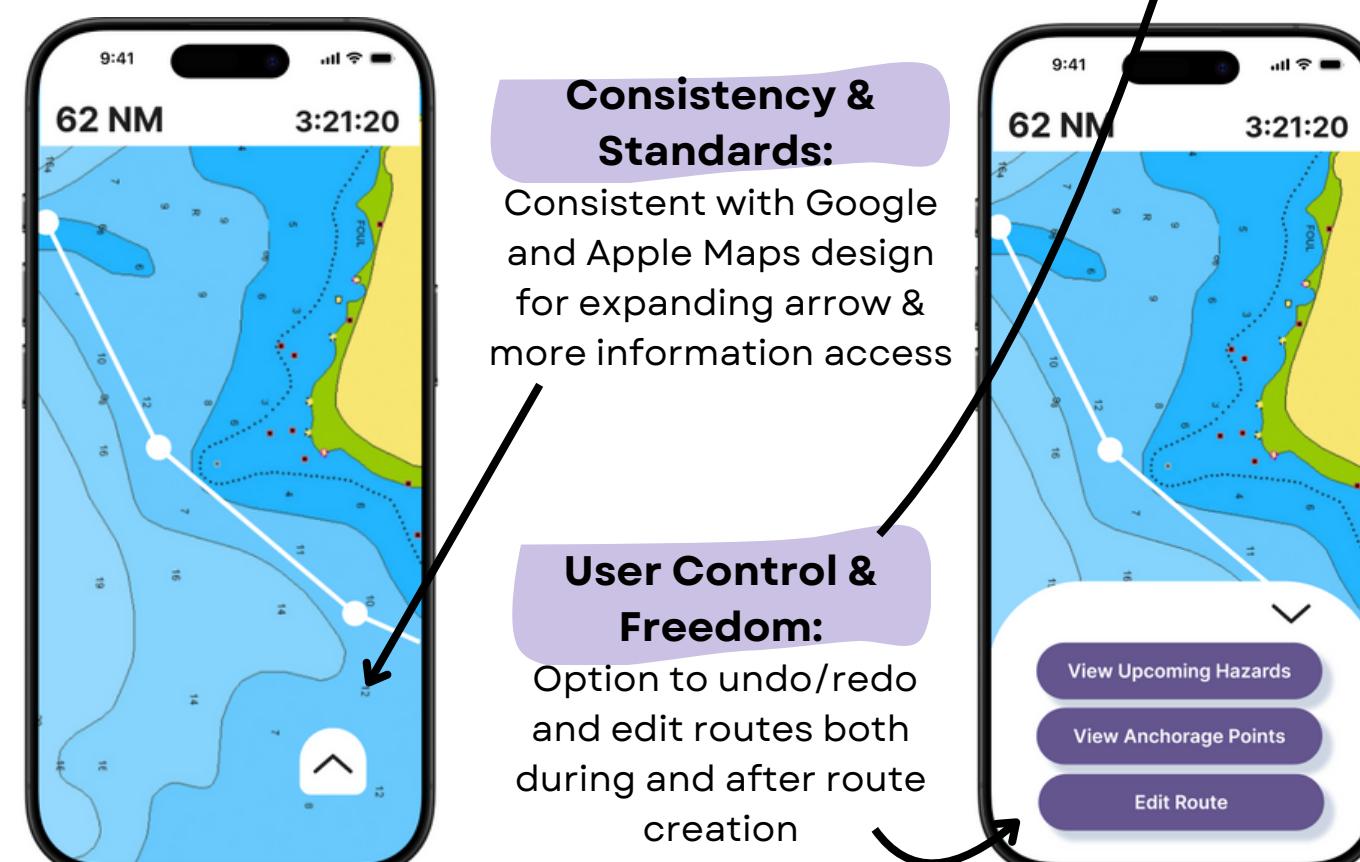
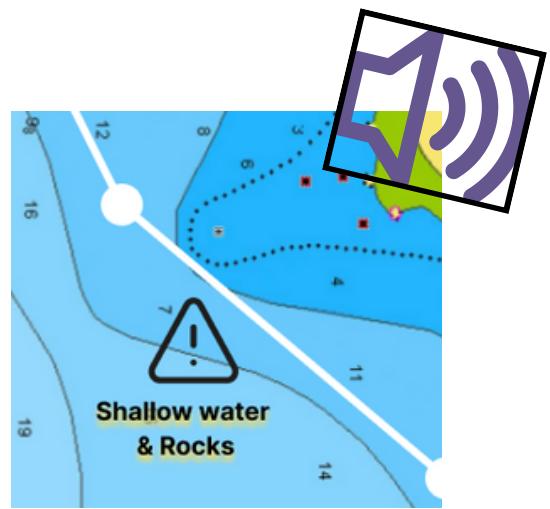
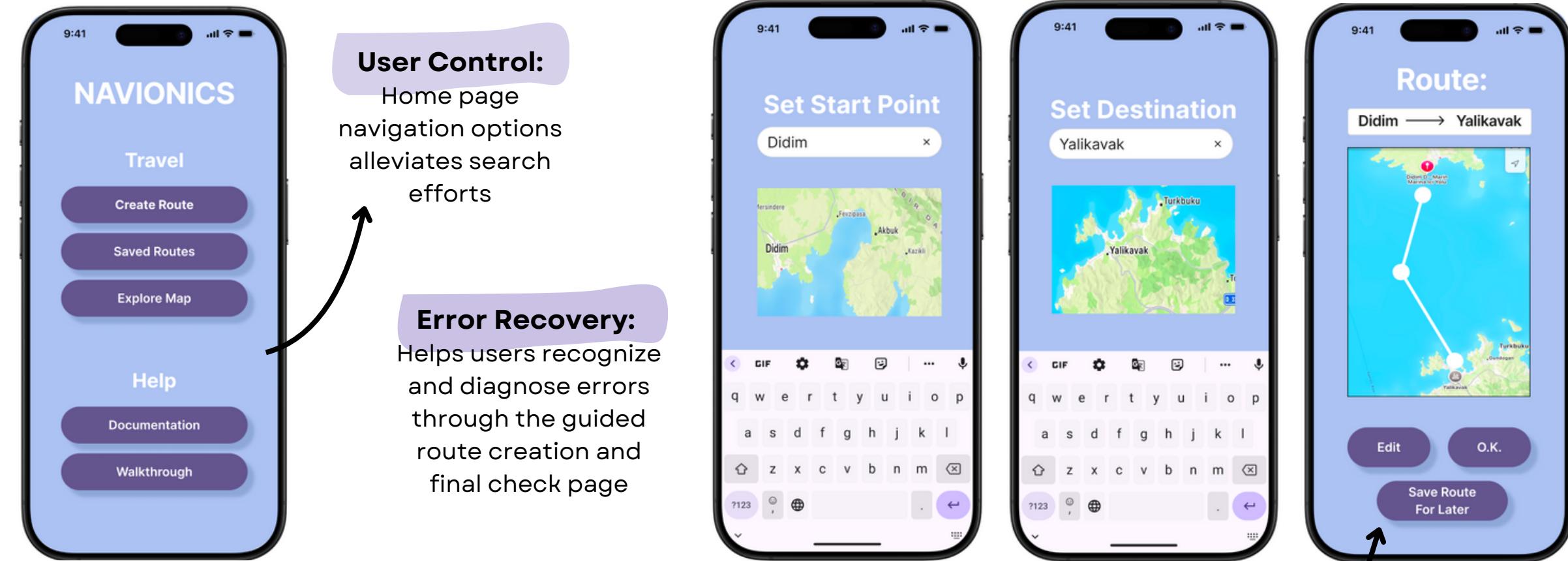
- “It would be nice to receive **route recommendations** and save them for later”
- “When I’m on autopilot I won’t pay attention so getting **audio messages** would be good. Maybe when hazards pop up on the navigation screen.”
- “I would definitely refer to the dictionary and walkthrough, especially since I don’t know a lot of the terms yet”

### Changes

- Recommendation feature for exploration
- More visual feedback when creating routes
- Audio notification (instead of visual) for upcoming hazards
- ‘Save for Later’ button during route creation

## 6. Final Re-Design Prototype

With significant design changes, Navionics can be more beginner friendly and accessible. Simple adaptations, including consistency with other SatNav apps, minimizing information overload, and increasing educational features resulted in overwhelmingly positive feedback from current users.



## Reflections and Learnings

This redesign aligns with usability heuristics by reducing cognitive load and increasing accessibility to the sport of sailing. The biggest challenge was balancing seamless and quick interactions for expert users with informative, simple interactions for beginners, requiring diplomacy in design.

This project emphasized the importance of inclusive design for tech with users of different expertise levels. If I were to redo this project, I would conduct user testing on the application, rather than relying on verbal feedback to assess for pain points. Additionally, I would include EdTech features (e.g. quizzes or studying features) to support users with the sailing learning curve.