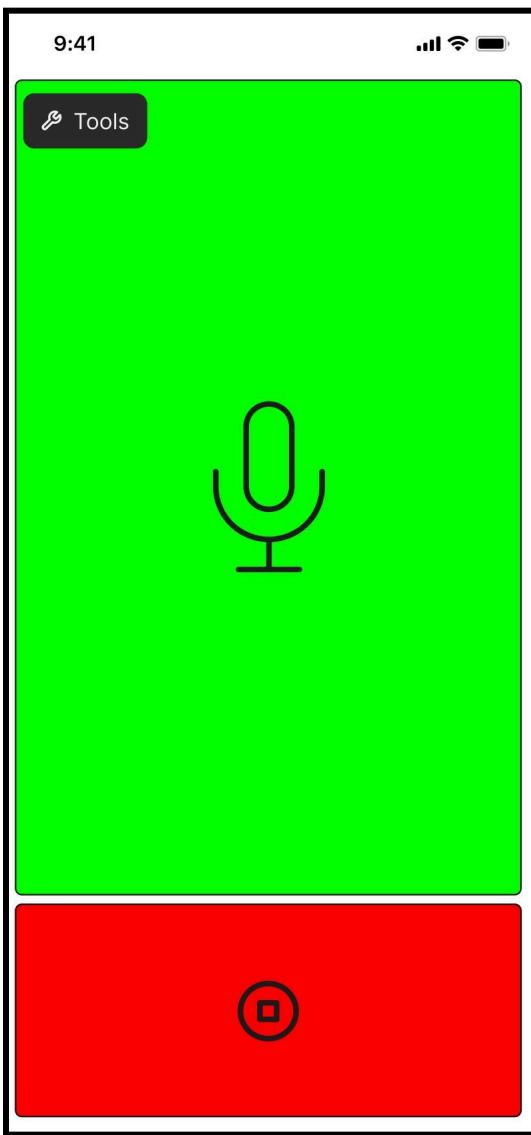
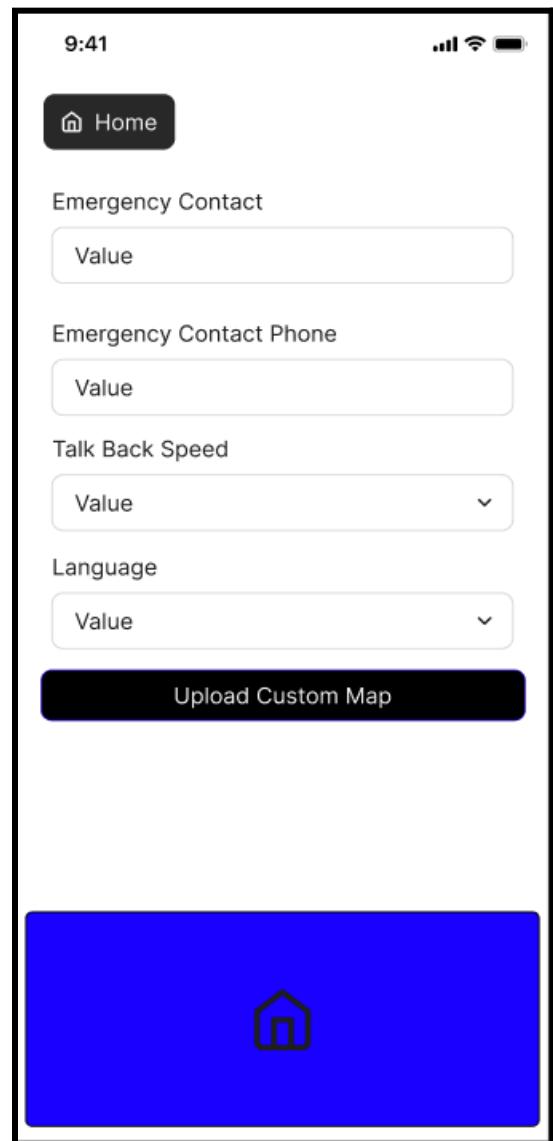


## Mock ups

Home Page



Tools/Settings



# User Interface Descriptions

Theia's interface is designed with a "speech-first" approach to serve the needs of blind and visually impaired users. The design prioritizes clear audio communication and simple interactions over complex visual elements.

## Graphical User Interface (GUI)

While the primary method of interaction is voice, the GUI is designed for accessibility for users with low vision and for initial setup by friends, family, or accessibility staff.

- **High Contrast & Large Text:** The interface uses a simple, high-contrast color scheme with large, easily readable fonts to maximize visibility.
- **Simple Layout:** The home screen is minimal, featuring a few large, clearly defined icons for essential functions like "Tools" and starting navigation. The layout avoids clutter to make navigation straightforward.
- **Screen Reader Compatibility:** Every visual element, including buttons and icons, is fully compatible with native screen readers like iOS VoiceOver and Android TalkBack. Swiping through the screen will read all available options aloud.
- **Minimal User Input:** The app minimizes the need for complex gestures or typing. Most actions are initiated via voice commands, with the screen providing supplemental visual confirmation if needed.

## Voice User Interface (VUI)

The VUI is Theia's core, enabling hands-free operation. The system is built to understand natural language commands and provide clear, concise audio feedback.

- **Activation:** The app actively listens for a keyword (e.g., "Hey Theia") or can be activated by tapping the screen, after which it prompts the user for a command.
- **Speech Commands:** Users can initiate all primary functions with direct voice commands.
  - **Navigation:** "Take me to [destination]" or "Navigate to [destination]". The app will attempt to find the closest match for the destination and ask for confirmation: "Did you mean [suggested destination]?".
  - **Finding Points of Interest:** "Find nearest [restroom/exit/elevator]". The app responds with spoken directions, such as "Nearest restroom is 30 steps ahead on your right".
  - **Confirmation/Cancellation:** Simple "Yes" or "No" responses are used to confirm routes or cancel actions, like responding to the fall detection alert.
- **Audio Feedback:** Theia provides continuous audio feedback to keep the user informed.
  - **Turn-by-Turn Directions:** Provides real-time instructions like "Turn left in 10 feet" or "You are approaching a staircase".

- **Route Adjustments:** If a user goes off-route, the app will gently notify them and ask, "Would you like to repeat or adjust your route?".
- **Interactive Dialogue:** The app will pause its guidance when the user is speaking to allow for interruptions or new commands.

# Basic User Manual

Welcome to Theia, your personal indoor navigation assistant. This guide will help you get started.

## 1. Initial Setup

For the first-time setup, you may need assistance from a sighted friend, family member, or accessibility staff member.

1. **Grant Permissions:** Open Theia and allow access to your location, microphone, and motion sensors (accelerometer and gyroscope) when prompted. These are essential for navigation and safety features.
2. **Set Emergency Contact:** In the "Tools" or "Settings" menu, add an emergency contact. In the event of a detected fall, Theia will automatically call this person if you do not respond.
3. **Load Maps (Optional):** Theia works with maps from Google and Apple. If your building is not listed, a helper can scan or upload a floor plan directly into the app.

## 2. Core Functions

**Starting Navigation** To get directions, simply activate the app and state your destination.

- **Example:** Say, "Take me to Smith Center, Room 205".
- Theia will confirm the destination and begin providing audible, turn-by-turn directions.

**Finding a Nearby Location** If you need to find a generic location like a restroom or exit, Theia can guide you.

- **Example:** Say, "Find the nearest restroom".
- Theia will use your current location to guide you to the closest option.

**Emergency Fall Assistance** This feature works automatically in the background to keep you safe.

1. Using your phone's sensors, Theia can detect if you have a sudden fall.
2. If a fall is detected, the app will ask loudly, "It looks like you may have fallen. Are you ok? Say 'Yes' to cancel emergency assistance".
3. If you say "Yes," the alert will be canceled. If you don't respond, Theia will automatically call your designated emergency contact and share your indoor location.

## 3. Tips for Best Use

- Ensure your phone is adequately charged before navigating.

- For best results, hold your phone in your hand or keep it in a secure pocket where its sensors can accurately detect your movements.
- Speak clearly into the phone's microphone when giving commands.