

CPTS 484

Phase 2: THEIA

Team: GO SQUIRRELS

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Scenario 1

AS-IS:

- Stevie is trying to go to his next classroom. He knows he needs to walk a few steps, and then turn left around the corner.
- However, he is not sure when to turn.
- He took a guess, but turned too early, hit the wall and hurt his head.

TO-BE:

- The THEIA app asks Stevie to give the destination he would like to navigate to.
- The app calculates the route from the current location to the destination.
- THEIA tells Stevie to “walk ahead 10 steps, then turn left.

Scenario 2

AS-IS:

- Mary was on her way to her classroom and tripped over a charging wire, causing her to sprain her ankle.
- She was unable to go further, and needed to call for immediate assistance.
- There was no one around to help and she did not have the means to call for assistance.

TO-BE:

- The THEIA app detects Mary falling, audio alert is played, waiting for confirmation.
- If there is no response, an emergency notification is sent to her caregiver, allowing Mary to receive aid as soon as possible.

Scenario 3

AS-IS:

- Bob has back-to-back classes in the same building, and he needs to navigate from one class to the other within 10 minutes through crowded corridors.
- Bob keeps losing his way or bumping into obstacles, so he is often late to class.

TO-BE:

- With the THEIA app, it informs Bob of any detected obstacles and other blockages.
- THEIA additionally is able to store Bob's schedule to remind him ahead of time of where he should be and where to go based on the travel time.

Further Analysis - Scenario 3

- ***What if? - What could go wrong if the user is not using THEIA?***
 - ◆ **Bob does not know how to get to class.** Without a proper GPA or navigation app, he is unable to attend his class, or gets lost in the process.
 - ◆ **Bob forgets he has a class.** Without THEIA reminding Bob his schedule, he is unable to reach his classes on time, or at all.
 - ◆ **Bob is unable to reach class in time.** Without THEIA telling Bob the most optimal or shortest route to his class, Bob runs into unforeseeable blockages.
 - ◆ **Bob injures himself while getting to class.** Without a proper emergency alert system, Bob is unable to receive assistance from emergency contacts, paramedics, or other first responders.
- ***What if? - What could go wrong while the user is using THEIA?***
 - ◆ **Bob gets hurt while getting to class.** Since THEIA is unable to detect moving objects or temporary blockages, there is a possibility of bumping into objects.
 - ◆ **Bob could get lost.** If the route is not configured correctly or not configured at all, Bob will run into issues with getting to class.

Further Analysis - Scenario 3

→ **Who? - Who uses the THEIA app?**

- ◆ Bob
- ◆ Bob's caregiver or guardians (configuring app and acting as emergency contacts)
- ◆ Staff members (from access and disability center)
- ◆ Police officers, firefighters, paramedics, and other first responders

→ **What kinds of? - Types of modes, options, or preferences for the user?**

◆ In terms of audio features:

- Volume of audio
- Type of voice (accent) and language options for audio
- Speed of audio (such as the interval of instructions given)
- Audio description options available (for environment awareness)
- Easily accessible options for repeated instructions as needed

◆ In terms of haptic features:

- Vibration intensity
- Type of haptic patterns
- Turn off haptics

Further Analysis - Scenario 3

- **When? - At what times will the app be unavailable or unable to be used?**
 - ◆ Lost GPS or navigation signal, unable to see or locate where the user is
 - ◆ Confused GPS or navigation signal, which would provide the incorrect directions to the user
 - ◆ No or lost internet access, stopping the user from accessing any online features
 - ◆ A busy/unreachable emergency contact line, stopping the user from getting aid when needed.
- **How-to? - Use the app at times of emergency, unavailability, etc.**
 - ◆ Ensure the app is available and online at all (or most) times
 - ◆ When the app is offline, it still must be usable. For example, using stored back-ups prompts or information. Such information may not be up-to-date to fit the user's exact situation or environment, but should still provide general guidance.
 - ◆ Ensure the app continuously attempts to reach an emergency contact if there are any unexpected failures.

Prototype Demonstration

Thank You!