THEIA Seeing App

Indoor Navigation

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AS-IS

- Stevie is trying to go to his next classroom. He knows he needs to walk ahead 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 his current location and the destination
- The app calculated the route from the current location to the destination
- THEIA tells Stevie to “walk ahead 10 steps, then turn left”

AS-IS

- Stevie is following the route
- THEIA app is giving routes just as expected
- However, there is a new desk in the way of his usual path as people are moving stuff around leaving this desk there
- He doesn’t realize and walks into it

TO-BE

- The THEIA app utilizes Stevies phone camera
- The app notices an obstacle in the path that is in Stevies way
- The app tells Stevie to “Be cautious of an obstacle. Take 5 steps right and then forward again”

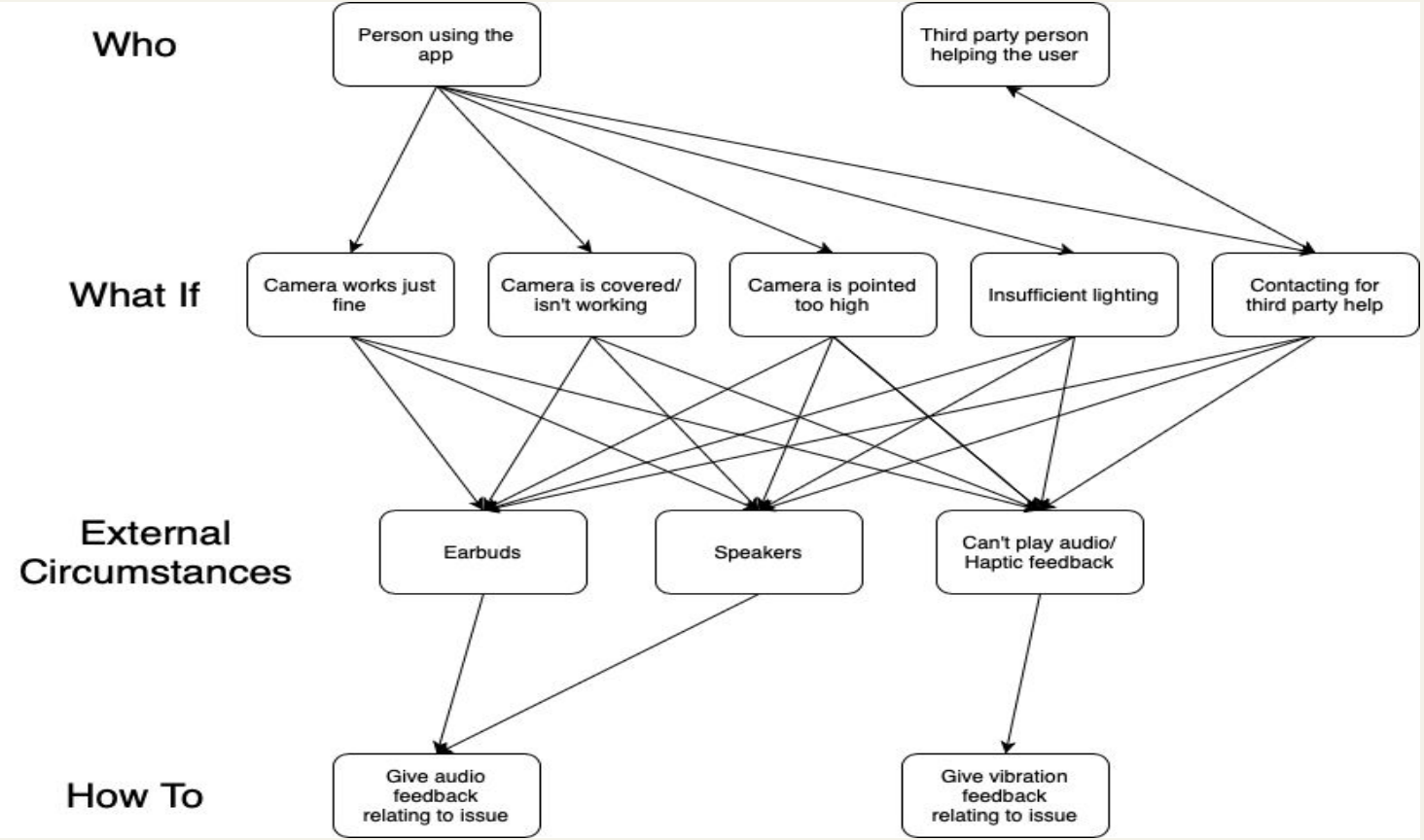
AS-IS

- Stevie is not able to see her phone
- This means that Stevie is not able to utilize the app easily
- Non-user friendly apps make it super difficult for Stevie to properly access it’s functionalities

TO-BE

- The THEIA app works with phone accessibility implementations
- Not only this but THEIA has great verbal control
- Allowing for Stevie to access this app with comfortable ease and even hands free

New Obstacles in the Way



Function Points

External Inputs (EI):

- User Registration and Authentication
- Voice Commands for Navigation
- Setting Preferences (e.g., route preferences)
- Reporting Issues or Feedback
- Searching for Points of Interest

External Outputs (EO):

- Spoken Navigation Instructions
- Alerts and Warnings (e.g., obstacle warnings)
- Directions to Destinations
- Information about Nearby Facilities

External Inquiries (EQ):

- Requests for Location Information
- Queries for Nearby Amenities
- Searching for Specific Destinations
- Requesting Real-time Navigation Updates

Internal Logical Files (ILF):

- User Profiles and Preferences
- Indoor Maps and Building Layout Data
- Historical Navigation Data (for user preferences)
- Stored Locations or Waypoints

External Interface Files (EIF):

- Integration with GPS Data
- Real-time Mapping Services
- External Services for Location Data

Creeping Rate

Potential areas:

- **Additional Features and Functionalities:** Stakeholders or users may request additional features or functionalities beyond the initially defined requirements. For example, they might ask for integration with more external services or enhanced customization options for users.
- **Changing Requirements:** As the project progresses, stakeholders might realize that certain requirements need to be modified or expanded. This can lead to changes in the project's scope. For instance, the need for additional accessibility features could arise.
- **Unplanned Integration:** New technologies or external systems may become available during the project, and stakeholders may want to integrate these technologies to enhance the navigation system. This can significantly impact the project's scope.
- **Scope Expansion Due to User Feedback:** Users' feedback can lead to new requests or adjustments to the system. For example, users may request additional voice commands or changes to the user interface to improve usability.
- **Regulatory Changes:** Changes in accessibility standards or data privacy regulations could necessitate modifications to the system to ensure compliance. Adapting to these changes can expand the project's scope.
- **Performance Optimization:** Stakeholders may request performance improvements, such as faster response times or reduced resource usage, which can lead to additional development work.

Managing Scope Creep

- **Change Request System:** Implement a formal process for submitting and evaluating change requests. All changes to the project's scope should be documented and reviewed.
- **Change Approval Process:** Define who has the authority to approve or reject scope changes and set criteria for making such decisions.
- **Impact Analysis:** Conduct a thorough analysis of how a proposed change will affect the project in terms of time, cost, and resources.
- **Communication:** Maintain open communication with stakeholders to ensure they understand the impact of scope changes and their consequences.
- **Documentation:** Keep the project's documentation up-to-date, including the requirements document, project plan, and scope statement.
- **Contingency Planning:** Allocate a contingency reserve in the project schedule and budget to account for potential scope changes.

Why THEIA is the Best

- By far cheapest option
- Most accessible
- Covers most categories efficiently
- Easily customizable
- Can call for help

	Cane	Dog	Stevie	Theia	Stevie + Cane	Stevie + Dog	Stevie+ Cane + Theia	Stevie + Dog + Theia
See	No	Yes	No	Yes	No	Yes	Yes	Yes
Feel	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Hear	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Talk	No	To some extent (Bark)	Yes	Yes	Yes	Yes	Yes	Yes
Think	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Smell	No	Yes	Yes	No	Yes	Yes	Yes	Yes