Vision and Scope Document

for

THEIA Project

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1. Business Requirements

1. Create an app that provides assistance to visually impaired individuals with safely navigating indoor environments.
2. Give users of the app more independence apart from caretaker to allow for more self-determination.

1.1. Background

The background of the Theia app began with an aim to develop software that assists visually impaired persons in navigating a building/structure safely and soundly using GPS software and auditory software systems to guide the user. The problem persists because buildings are changing structures, given that rooms can be obstructed, closed, or under construction. This system uses sensors and structural knowledge of the building to create audio cues when to make particular turns or directions that the system can detect. It can also provide real-time updates on closures of rooms or events that may cause route changes. The role of this system is to help the user(impaired/non-impaired) make it to their destination in any building with a structure that the system recognizes.

1.2. Business Opportunity

The potential for business opportunities that are brought by Theia are massive, the app addresses a significant yet underrepresented market need by providing an innovative indoor navigation solution for visually impaired individuals. The growing demand for accessible technology is not only met by this app, but also the enhancement of independence and safety provided in this app to its users. Theia leverages cutting-edge technology for emergency detection and voice navigation that is compatible with both iOS and Android platforms. This assistive tech stands out in the accessibility app market. It both offers a business opportunity and a valuable contribution socially, promoting inclusivity and self advocacy for individuals with visual impairments. While holding great potential for scalability and future enhancements, Theia is positioned for huge growth and a continued impact in both the technology and social sectors.

1.3. Business Objectives

Theia is positioned in a way that the impacts it will make to the assistive tech market will be significant, with both ambitious and measurable objectives. These objectives may be in the form of:

1. Market Penetration and Revenue Goals
2. Cost Savings through Technology
3. User Adoption Rates
4. Market Expansion and Scaling
5. Return on Investment(ROI)
6. Release Milestones

1.4. Success Metrics

Success for our project will consist of various factors that will be considered by target rates and scores. These targets will certainly be ambitious but grounded in feasibility.

No.	Metrics	Target
1.	Navigation Accuracy	Minimum of 95% accuracy in navigation directions.
2.	Location Tracking Reliability	Ensure location tracking is accurate within a 3-meter radius at least 98% of the time.
3.	Voice Command Response Time	2-3 seconds
4.	Feedback Rate	Minimum of 90% positive feedback from users regarding experience.
5.	Fall detection Accuracy	90% accuracy
6.	Emergency Call Reliability	100% reliability
7.	Ease of Use	Minimum of 4.5/5 stars in ease of use rating by users.
8.	Independent Operation Rate	Minimum of 90% of users operating app independently after brief introduction

1.5. Vision Statement

The THEIA application aims to provide location tracking and navigation to individuals who are visually impaired and would generally need a caretaker, service dog, or other form of physical assistant in maneuvering. Through the Theia the necessity for those assistants listed would be reduced greatly and give the visually impaired user a sense of independence they previously did not have.

1.6. Business Risks

Risk	Severity	Mitigation

Marketplace Competition	Moderate	Differentiate Theia app through the use of features that are unique to the app such as fall detection and voice activated commands incorporated.
Timing Issues	High	Follow Agile development approach to guarantee resource availability, and feasible milestones that keep project on track.
User Acceptance	High	Communicate with the visually impaired community and conduct extensive user testing.
Implementation Issues	High	Invest in skilled developers, and attempt to secure advanced features by connecting with tech providers.
Negative Impacts on Business	Moderate	Perform extensive research of markets that allow for financial projections that are realistic.
Regulation/Compliance Risks	High	Guarantee compliance with all regulations and laws are met to a tee. This includes data protection as well.

1.7. Business Assumptions and Dependencies

Assumptions:

- The project assumes the continued advancement and availability of smartphone technology, including GPS, motion sensors, and voice recognition, which are critical for the app's functionality.

Dependencies:

- Smartphone Technology
- User Feedback
- Network/Data Services
- Regulatory/Compliance Standards

2. Scope and Limitations

2.1. Major Features

1. **Voice-Activated Navigation System:** Users can communicate with the app and receive directions through voice commands, making it highly accessible for visually impaired individuals. This allows users to navigate efficiently and effectively.

2. **Real-Time Location Tracking**: Utilizes GPS and mapping technologies to provide accurate, real-time location tracking, enabling users to reach locations or navigate spaces without the need of a caretaker.

3. **General Settings Customization:** Offers a range of customizable settings to cater to individual preferences and needs. This includes adjusting whether one wants to use the metric or imperial system and other user interface aspects.

4. **Optimized Control and Independence:** Designed to enhance the user's control over their environment and promote independence, the app will include features that are easy to access and use, even for those with limited tech experience.

5. **Emergency Fall Detection Functionality:** Includes a rapid-response emergency feature, which can be activated through voice commands or automatically through fall detection sensors. This feature will alert emergency contacts or services when needed.

2.2. Scope of Initial Release

The initial release of Theia will have a strong focus on the essential features that bring out the most value for visually impaired users. The core functionalities include voice-activated navigation, real-time location tracking, customizable general settings such as system of measurement toggling, basic fall detection, and emergency call capabilities. The design of these features are meant to enhance user independence and safety when navigating outdoor/indoor spaces, ensuring reliability and ease of use. The app will provide a user-friendly interface and will remain in compliance with accessibility/regulatory standards, catering to a broad spectrum of visual impairments. This strategic focus on key functionalities in the initial release aims to provide the most significant impact to the target user group at a sustainable development cost.

2.3. Scope of Subsequent Releases

Incremental Releases Projected Features

1. Advanced Fall Detection
2. Multilingual Support
3. Outdoor Navigation Integration
4. Integration with Smart Building Systems
5. Personalized Navigation Profiles
6. Social Features
7. Enhanced Emergency Services
8. Third-Party Device Integration
9. User Feedback System

2.4. Limitations and Exclusions

Some limitations of the release platform due to certain time and scope constraints, with which the users of stakeholders might anticipate, but are not planned to be included in upcoming releases:

- Limited device compatibility
- Not integrated with public transit systems
- No social networking capabilities
- Limited language options
- Limited personalization features

3. Business Context

3.1. Stakeholder Profiles

Stakeholder	Major Value	Attitudes	Major Interests	Constraints
Users	*Reliable navigation service independent of guide dogs*	*Embrace a solution that liberates them from guide dog dependency*	*Prioritize reliability and cost reduction in the product*	*Limited functionality for outdoor use*
User Friend and Family	*Convenient checking up and contacting the user*	*Seek assurance in the product's capabilities*	*Easy communication and information sharing with emergency services*	*None identified*
Software Developer	*Drive product development to completion*	*Prioritize the successful realization of the product*	*Innovate and develop new features for the product*	*Adherence to budget and time limitations*
Building Administrators	*Enhanced safety and accessibility within the building*	*See the product as a valuable tool for improving building navigation*	*Integration of the system with existing building infrastructure, regular updates on structural changes*	*Limited resources for system integration, potential resistance to change from building occupants*

3.2. Project Priorities

Dimension	Driver (state objective)	Constraint (state limits)	Degree of Freedom (state allowable range)
Schedule	*release 1.0 to be available by 10/1, release 1.1 by 12/1*	*Time constraints on primary development*	*None*
Features	*features discussed in Section 2.1 are available in initial v. 1 of app*	*Time and hardware constraints*	*70-80% of high priority features must be included in release 1.0*
Quality	*Primary use-cases are included and expected to operate without failure*	*N/A*	*90-95% of user acceptance tests must pass for release 1.0, 95-98% for release 1.1*
Staff	*None*	*maximum team size is 1 PM, 1 BA, 6 developers + 3 testers*	*team members can receive different job assignments but team size cannot change*
Cost	*No development cost*	*N/A*	*budget overrun up to 15% acceptable without sponsor review*

3.3. Deployment Considerations

Users will require the ability to connect to the internet, as well as smartphones with Android or iOS operating systems to access Theia effectively. Infrastructure changes may be necessary to support the software's requirements, encompassing aspects such as capacity, network access, data storage, and migration. These changes should be well documented to create a smooth implementation process. Additionally, in preparation for deployment, it is essential to record information relevant to training initiatives and business process modifications. User manuals and guides must be developed to aid in training, and any adjustments to existing business processes should be communicated clearly to stakeholders.

Considering potential data migration needs, steps should be outlined to ensure the integrity and continuity of data during the migration process. Security measures must be implemented to safeguard user data during and post-deployment.