**Vision and Scope Document**

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# **Business Requirements**

### **1.1 Background**

In the past, people with reduced visual capability were largely dependent on family and friends to make up for their limited ability to perform certain tasks. Depending on the severity of their disability, they could be totally reliant on others. Today, through improved technologies and also greater awareness of these challenges, it is more possible for these individuals to retain their independence, and we are regularly inventing new ways for them to compensate for their disability.

### **1.2 Business Opportunity**

One significant challenge for those with reduced visual ability or blindness is navigating unfamiliar buildings. This is particularly difficult in large buildings with multiple floors such as office buildings or schools. There is not always someone available to help the person navigate, and they may not wish to be reliant upon others for this, especially upon a stranger.

Products exist for navigation in some such locations such as certain airports, but a mobile application for getting directions in a variety of buildings does not exist, much less one that can be used without looking at the screen. As greater emphasis is being placed on accessibility these days, there exists an opportunity to create an application that can help those with reduced visual capability to navigate unfamiliar buildings successfully and independently.

### **1.3 Business Objectives**

We will aim to make our full first release 1 year after beginning work on the project, with an alpha at 5 months and a beta at 8 months. Next release will be either 6 months or 1 year after initial release, depending on the number of features and fixes we choose to include, with 6 months being preferable. Within a year of initial release we aim to make back our investment, making at least 20% over cost.

### **1.4 Success Metrics**

Important metrics for success will be: number of features implemented, coverage of unit and functional tests, date of first release, number of initial users, trend of new users, and number of consistent users after 6 months.

### **1.5 Vision Statement**

We aim to help as many visually impaired people as possible to feel confident and independent as they approach new situations. We will build a solid organization to support this goal and our future growth.

### **1.6 Business Risks**

Competition is always a risk, and it is particularly difficult to secure patents and copyrights on software, increasing the risk of a similar product pushing ours out of the way. To reduce this risk, we will have employees sign NDAs and will make our release as soon after beta as possible. We will have a lawyer look into patents, copyrights, etc. and will advertise as much as possible immediately before and after release to ensure that our brand is strongly associated with this concept.

Visual advertisements such as billboards, website ads, newspaper ads, etc. will be less effective for this product than usual for obvious reasons. Therefore, while we will still make use of these strategies, we will emphasize video and audio advertisements such as YouTube, Spotify, and radio ads.

### **1.7 Business Assumptions and Dependencies**

As we develop this product, we must assume that no other companies have undertaken a similar project with plans to release before us, as this would be a severe blow and is essentially impossible to mitigate.

We also assume that we have sufficient funding to hire employees and carry the project to completion.

The application will depend on GPS services as well as some type of hosting for our servers. Additionally, the app will be listed on platforms such as Google Play and the Apple App Store.

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# **Scope and Limitations**

### **2.1 Major Features**

1. Dial 911
2. Record personal information
3. Caretaker Hub
4. Directions to a given destination
5. Suggest common destinations
6. Detecting obstacles
7. Fall detection system
8. Support for multiple languages

### **2.2 Scope of Initial Release**

**Dial 911:** App will have a button (large, and with a sound for confirmation) to allow the user to dial 911 in case of emergency. It will be placed on the home screen of the app for easy access.

**Record personal information:** Users will be able to enter information such as name, address, work address, phone number, etc. They will also be able to record emergency contact information in case they are incapacitated and a close family member or friend needs to be contacted.

**Configuration Screen:** User or caretaker will be able to edit app settings here, either manually or verbally.

**Caretaker Hub:** A caretaker will be able to enter destinations here, as well as times and days when the user is supposed to be at a particular location. The caretaker will be able to view and modify a list of saved routes. The app will remind the user to navigate to these destinations at the appropriate time.

### **2.3 Scope of Subsequent Releases**

Other major features will be included in future releases as follows:

**Suggest common destinations:** The system will take note of destinations commonly used at a given time or on a certain day, and suggest them if the user requests it.

**Detecting obstacles:** The app will interface with one or more types of detection systems to help the user navigate around obstacles.

**Fall detection system:** If the app detects a fall (rapid decrease in altitude and a shock to the gyroscope without being picked up again), it will automatically contact either 911 or the emergency contact listed in the app.

**Multiple languages:** Support will be added for reading instructions and menu items in multiple languages, as well as understanding user input in these languages.

### **2.4 Limitations and Exclusions**

Users may expect to be able to add their own maps, but there is currently no plan to support this feature.

**3. Business Context**

**3.1 Stakeholders Profiles**

| ***Stakeholder*** | ***Major Value*** | ***Attitudes*** | ***Major Interests*** | ***Constraints*** |
| --- | --- | --- | --- | --- |
| **Executives** | increase income and improve business operations | consider goods as a source of revenue or market share | greater features compared to rivals, developer costs | Maximum  budget |
| **Editors** | fewer errors  in work and  Documentation | Make sure that product is viable and practical | High dependability; error correction; and simplicity of usage. | Time constraints. |
| **Users** | Service for navigation | does not need to depend on guide dogs | Reliability, cost reduction | Cannot be used outdoors |
| **User’s friends/family** | Ease of checking up/contacting the user. | Assurance | Ease of contacting and informing emergency services. | none |
| **Software developer** | Product development | Completion of the product | Develops new features | Budget and time constraints |

**3.2. Project Priorities**

| **Dimension** | **Driver**  **(state objective)** | **Constraint**  **(state limits)** | **Degree of Freedom**  **(state allowable range)** |
| --- | --- | --- | --- |
| **Schedule** | Release version 1.0 by 12/12  release 1.1 by 12/18 | There is a severe time constraint on the primary development team | none |
| **Features** | All features discussed (section 2.1) will be available through 1.0 version | There is a time and hardware constraint on the primary development team | A minimum of 70-80% of high priority features must be included  release 1.0 |
| **Quality** | Basic use-cases must be included in software without fail | 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, 2 developers + 2 technical documenters | Members of a team can be assigned to different jobs, but the team size cannot change. |
| **Cost** | No cost for development | N/A | N/A |

**3.3 Deployment Constraints**

The application needs to be connected to the internet and must have an Android or IOS-based smartphone with access to the respective marketplace. Users need to keep their applications updated so that they can use all the latest features and get the most effective navigation service.