

Navigation Assistance for Visually Impaired People (N.A.V.I.)

User Manual

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Introduction

About N.A.V.I.

N.A.V.I., an acronym for Navigation Assistance for Visually Impaired people, is software product developed by a team of 4th year students from Middle East Technical University NCC as part of their graduation project. It is a mobile application specifically designed to aid visually impaired individuals in navigation.

With its advanced functionality, N.A.V.I. offers object detection capabilities, presenting users with valuable information about their surroundings. Through audio feedback, the application provides users with estimated distances and positions of detected objects, empowering them to navigate their environment with greater ease and confidence.

Purpose of User Manual

Note that this user manual is accessible, meaning that Assistive Technologies (AT) can recognize and navigate the document, allowing visually impaired users to access the content effectively.

The purpose of this user manual is to provide the target users of N.A.V.I. with comprehensive guidance on the proper use of the mobile application. It aims to enable users to navigate the application smoothly and effortlessly, enhancing their overall user experience..

Target Users

The following assumptions can be considered in order to better understand the target users of N.A.V.I. :

- 1) N.A.V.I. is specifically designed for visually impaired individuals, particularly those who are blind.
- 2) No age range is assumed, making it accessible to users of various age groups.
- 3) It is assumed that users have no hearing impairments that hinder their ability to perceive audio cues and instructions
- 4) No technical knowledge requirement is assumed, ensuring accessibility for users with varying levels of technical expertise.

System Requirements

To utilize the mobile application, ensure that your mobile device meets the following system requirements:

- 1) Mobile Operating System: Compatible with both IOS and Android platforms.
- 2) Audio Output: The mobile device must have functioning speakers to enable auditory feedback and instructions provided by the application.
- 3) Internet Access: The application requires an active internet connection to function properly. Ensure that your mobile device has access to a stable internet connection for a seamless user experience.

Note: It is recommended to use the latest version of the respective operating systems for optimal compatibility and performance.

Tips and Best Practices

The below tips and best practices will help you optimize your experience while using the application and ensure reliable and accurate results.

- 1) Hold the mobile device vertically: Ensure that you hold the mobile device in a vertical position, perpendicular to the ground. This helps maintain stability and improves the accuracy of the application.
- 2) Keep the camera clean and unobstructed: Regularly check and clean the camera lens of your mobile device to ensure optimal visibility. Avoid covering or obstructing the camera while using the application.
- 3) Ensure proper lighting conditions: It is recommended to use the application in well-lit environments. Adequate lighting enhances the clarity of captured images and improves the overall performance of the application. Please note that the application does not have night vision capabilities.
- 4) Have a backup equipment: It is advisable to carry a second piece of equipment, such as a white cane, as a backup in case the application is not usable for any reason. This ensures that you have an alternative means of assistance if needed.
- 5) Maintain a stable internet connection: To fully utilize the application's features, ensure that you have a stable internet connection. A reliable internet connection ensures

smooth communication with the application's servers and provides timely updates and information.

Appendix

Contact Information

For inquiries, feedback, or any issues encountered, please contact the designated developers using the provided contact information below.

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