User Manual: Navigation assistant with sonification

1. **Select a Scenario:** Use the scenario buttons to choose between different environments

   a. Scenario 1: Simulates a subway station environment

   b. Scenario 2: Simulates a grocery shopping environment

2. **Blur Video Toggle:** Enables or disables video blurring to focus purely on auditory cues

3. **Volume Sliders Toggle:** Switches between two sets of volume sliders to control different aspects of the auditory experience specific to the selected scenario

4. **Replay TTS Button:** Allows users to replay the last text-to-speech narration to ensure no information is missed

5. **Preset Volume Buttons:** Provides quick access to set the volume for user convenience

6. **Volume Sliders:** Customizable sliders for detailed volume control over different sound elements in the simulation

Sonification Scheme

- **TTS interruptions:** When TTS plays, the volume of ambient sounds and some alerts are reduced to minimize interference

- **Proximity-Based Frequency Increase:** The frequency of alert sounds increases as the proximity to an object decreases, enhancing spatial awareness

- **Directional Audio Cues:** Sounds play from specific speakers (left or right) to indicate the direction of the objects relative to the user; Please wear headphones for better experience

- **High Pass Filtered Sonification:** Used to indicate the destination located behind the user

- **Alert Sounds Variation:** Different alert sounds are used to represent various object types, providing a distinct auditory cue