Summary

Team Name – Quantum Innovators

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Netra AI

Overview:
Netra AI is an advanced AI-powered assistive technology designed to help visually impaired individuals navigate their surroundings safely and independently. The system integrates real-time object detection, text recognition, and voice feedback to enhance accessibility.

Key Functionalities:

- **Object Detection:** Uses AI and computer vision to recognize objects and provide real-time feedback.

- **Text-to-Speech (TTS):** Converts detected text into speech for users.

- **Face Recognition:** Identifies known individuals for personalized assistance.

- **SOS Emergency System (New Addition):** Users can trigger an emergency alert by long-pressing a button, sending an SMS with their location.

- **Voice Assistance:** Helps users interact with the device through voice commands.

Technical Stack:

- **Hardware:** Raspberry Pi, USB Camera, Tactile Buttons.

- **Software:** Python (OpenCV, TensorFlow, Flask), Twilio API for emergency alerts.

Impact:
Netra AI empowers visually impaired individuals by making navigation and daily tasks easier, fostering independence, and ensuring safety with the SOS alert system.

Voicea

Overview:
Voicea is a web-based platform dedicated to providing accessible education and a community space for visually impaired individuals. It facilitates learning through audio-based courses, interactive simulations, and a voice-controlled interface.

Key Functionalities:

- **Education:** Audio courses, interactive simulations, and accessible study materials.

- **Community Forum:** Discussion boards for users to share experiences.

- **Voice Assistant:** Enables voice-based navigation throughout the platform.

- **Customization:** Users can personalize their settings for accessibility.

Technical Stack:

- **Front-end:** React.js

- **Back-end:** Node.js, Express.js, MongoDB

- **Features:** Text-to-Speech (TTS) for content accessibility, Speech-to-Text (STT) for user interaction.

Impact:
Voicea bridges the gap in accessible education for visually impaired

individuals by creating an inclusive and interactive learning environment.