



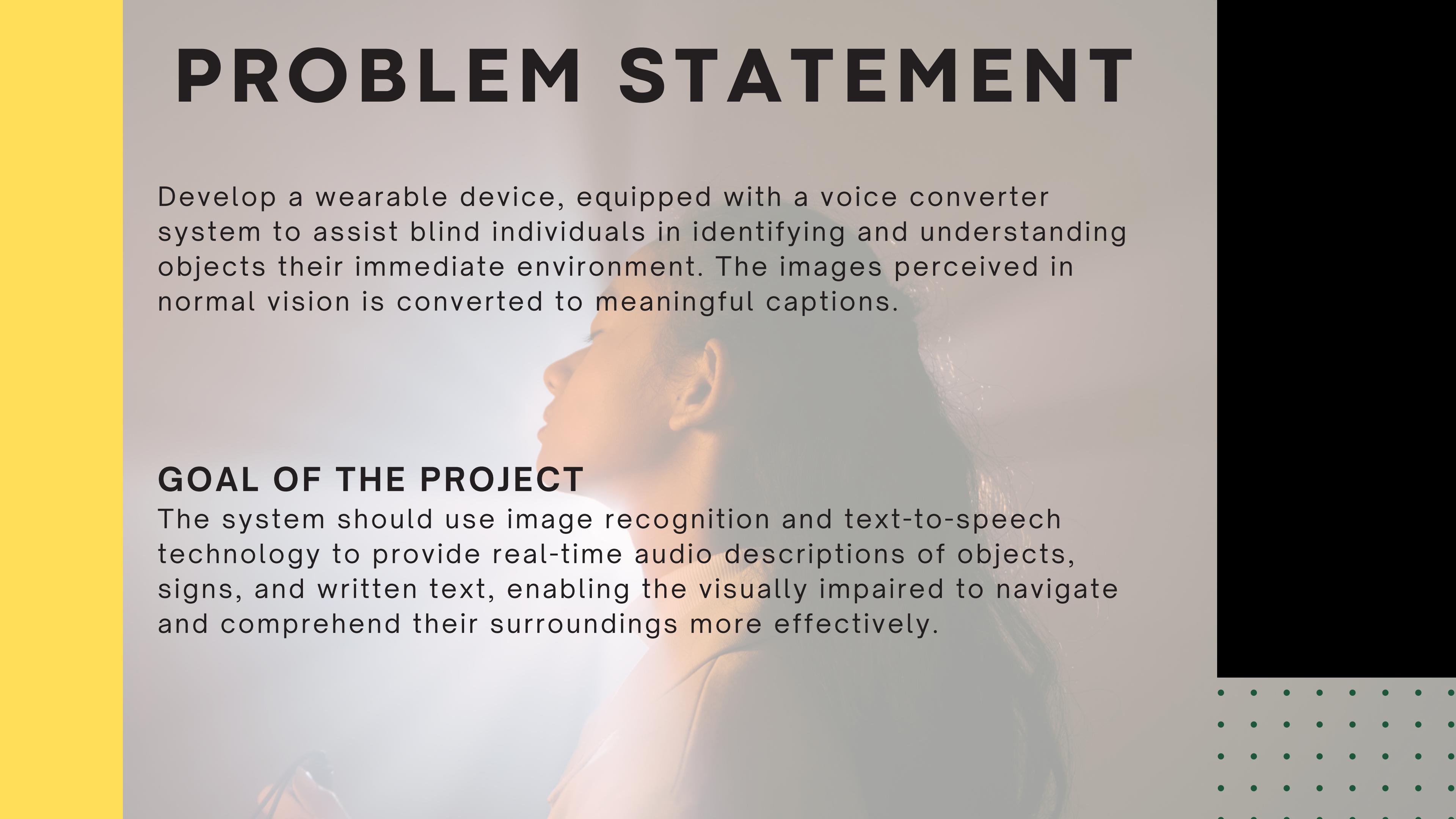
LUMINI

envision - IEEE HACKATHON

R BIANCAA
K V SWETHA
B THEJESSWINI
FELIX S JOSHUA

STUDENT INNOVATION

PROBLEM STATEMENT

A semi-transparent background image of a woman with long dark hair, wearing a VR headset and a light-colored top. She is looking down at her hands, which are clasped together. The background is blurred, suggesting a focus on the device.

Develop a wearable device, equipped with a voice converter system to assist blind individuals in identifying and understanding objects their immediate environment. The images perceived in normal vision is converted to meaningful captions.

GOAL OF THE PROJECT

The system should use image recognition and text-to-speech technology to provide real-time audio descriptions of objects, signs, and written text, enabling the visually impaired to navigate and comprehend their surroundings more effectively.

- • • • •
- • • • •
- • • • •
- • • • •
- • • • •
- • • • •

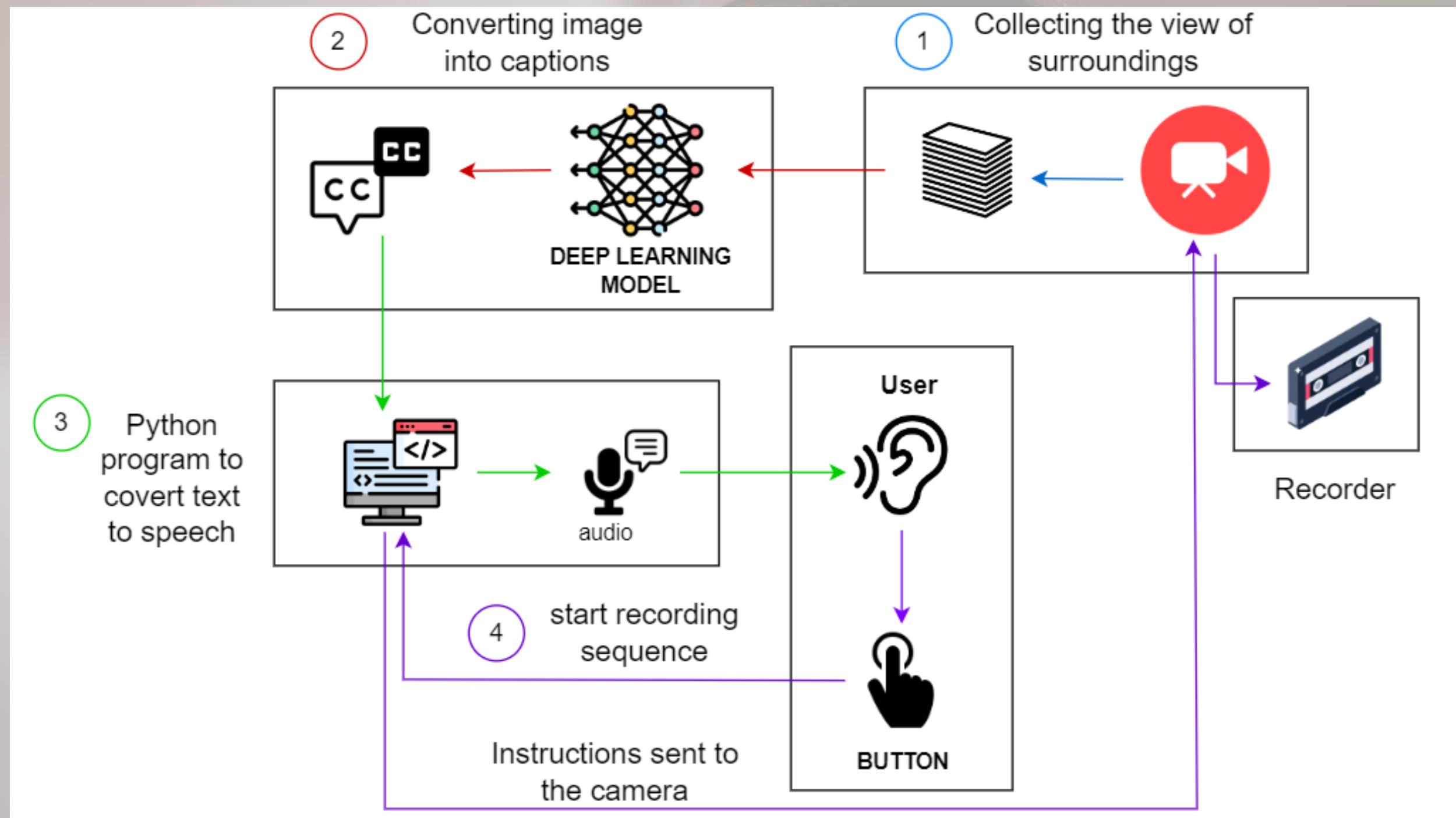
Tech Stack:

- 1.using CNN Model with keras, tensor flow for image recognition
- 2.vgg 16 model for feature extraction
- 3Pyttxt module for converting text to audio
- 4.Cv2 for image capturing, video capture object generation

Advancements planned:

- 1.converting tensor flow model into tflite model
- 2.using picamera for image capturing
- 3.Giving the final product as a compact glass

ARCHITECTURE DIAGRAM



TARGET AUDIENCE

VISUALLY
IMPAIRED PEOPLE



Object Recognition:

Identify and describe objects, enabling users to independently locate and interact with surrounding.



Navigational Support:

Assists users in navigating unfamiliar environments, recognizing obstacles, .



Increased Safety:

Avoids potential hazards contributing to their overall safety.



Enhanced Independence:
Gain a higher level of independence about their surroundings.

MARKET AVAILABILITY



OrCam MyEye:
(3500\$-4500\$)
Read text, recognize
faces, and identify
products and money
notes



Envision Glasses:
(2000\$-3000\$)
Read text, describe
scenes, and provide
navigation assistance.



OrCam MyEye:
(3500\$-4500\$)
Read text, recognize
faces, and identify
products and money
notes



HOW IS LUMINI UNIQUE?

We aim to enhance the functionality of your glasses by adding an innovative feature that allows users to record and save crucial events during emergencies which could serve as evidence and capture cherished memories for future recollection.

This feature will provide users with a versatile tool for both safety and personal documentation, offering peace of mind and the ability to preserve significant life moments.