Robust Human Target Detection

Ministry/Organization Name/Student Innovation:
Ministry of Defence

PS Code: SIH1419

Problem Statement Title: Robust Human Target Detection and Acquisition

Team Name: Ofcourse

Institute Name: KJ Somaiya College of Engineering

INFORMATION

- *Security and surveillance* demand accurate and reliable human target detection and tracking methods.

- Human target *detection enhances security* by identifying potential threats and facilitating preventive measures in surveillance.

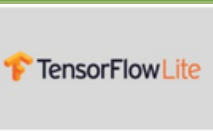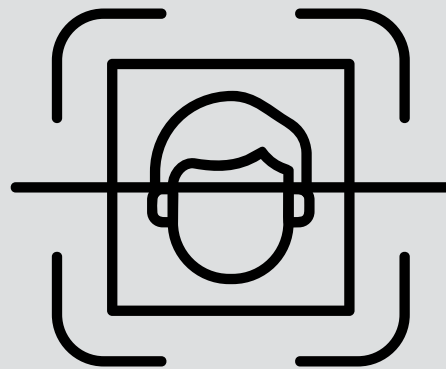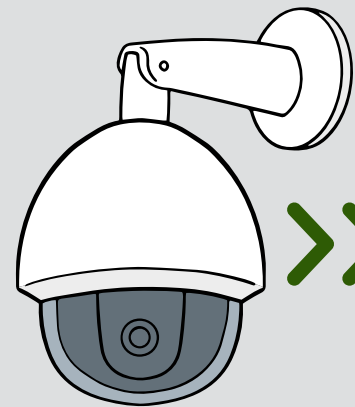- Challenges in human target detection include *occlusion, pose variation*, and varying *lighting conditions.*

- *Deep learning algorithms* have emerged as powerful tools for accurate human target detection through diverse dataset learning.

- Deep learning trains neural networks to recognize human targets based on *labeled image datasets.*

- Acquisition methods for human target detection encompass *cameras, sensors, and drones,* each with distinct strengths and limitations.
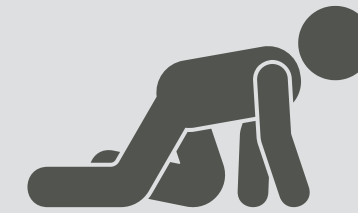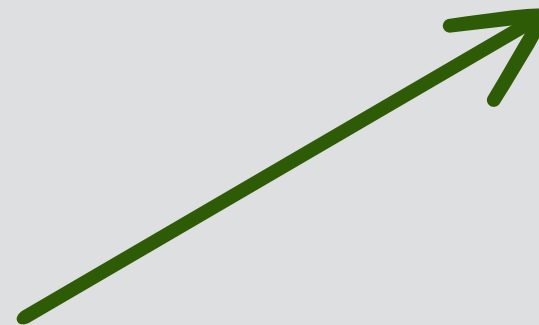
TEXT STACK USED:

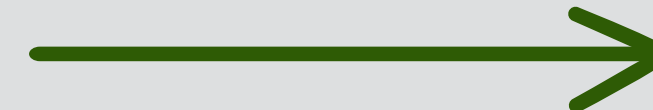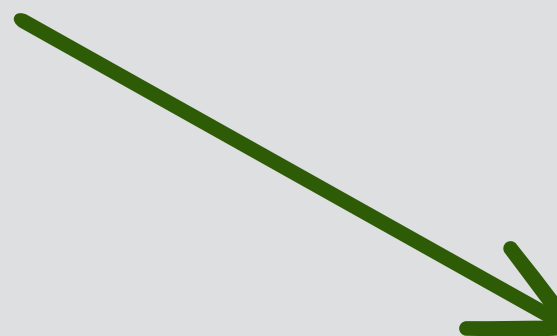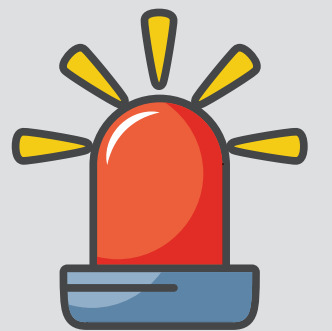| FRONTEND LANGUAGES		BACKEND LANGUAGES		
HTML	JS	Python	Flask	OpenCV
CSS3	Figma	NumPy	TensorFlow Lite	MediaPipe

FLOW DIAGRAM

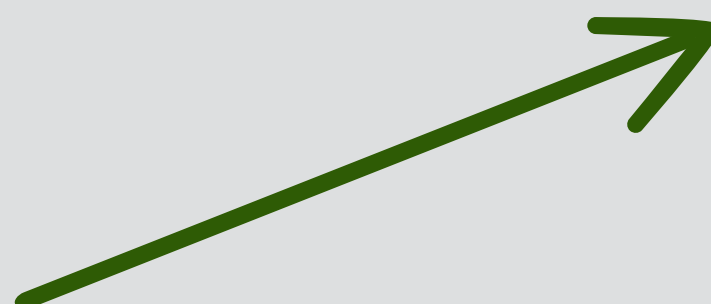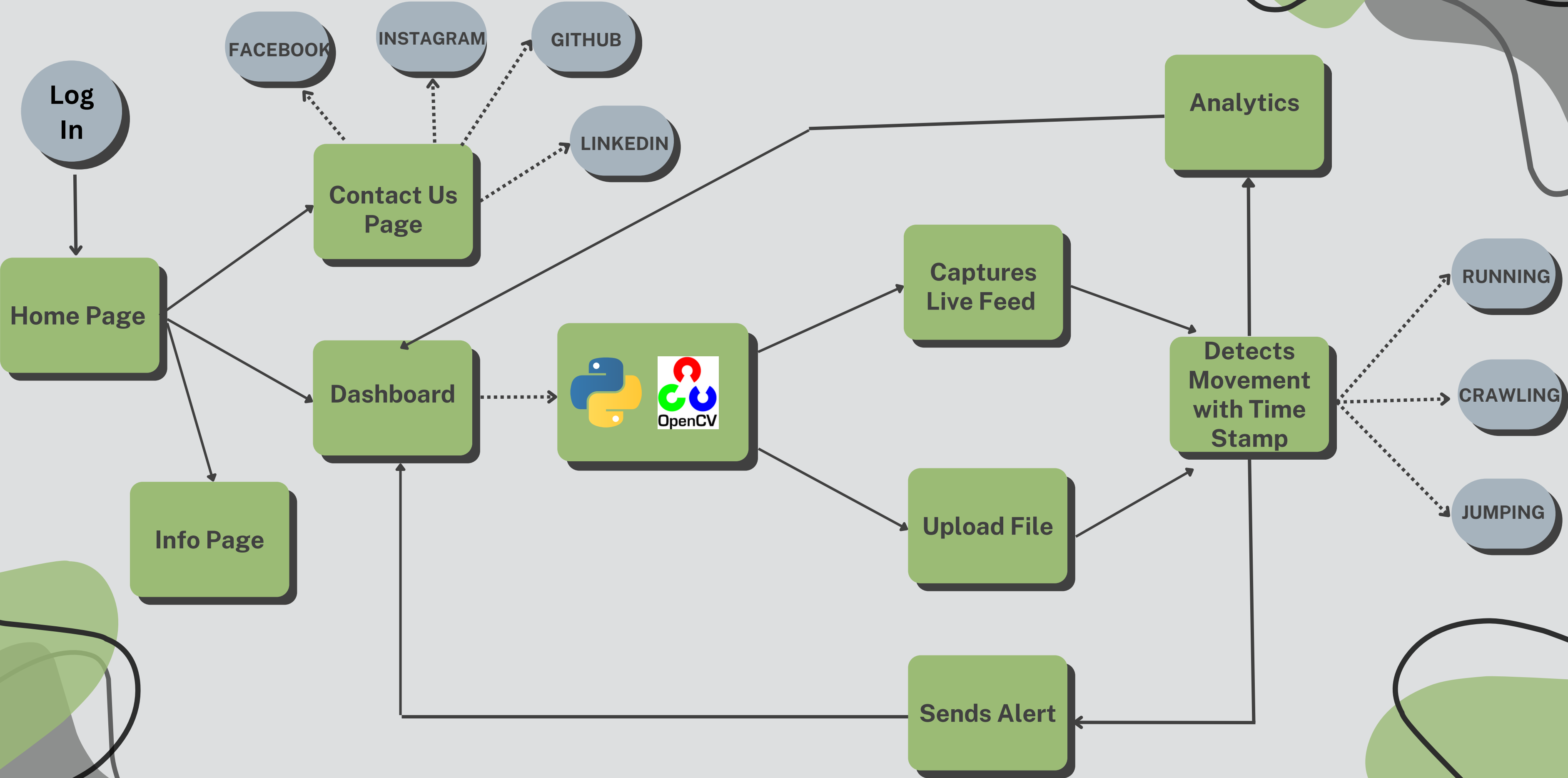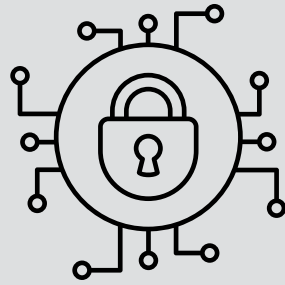

CRAWLING

HUMAN DETECTED

RUNNING

JUMPING

SYSTEM ARCHITECTURE

IMPACT

Enhanced Security:
We can quickly identify potential threats, allowing our defense forces to respond proactively.

Real-time Insights:
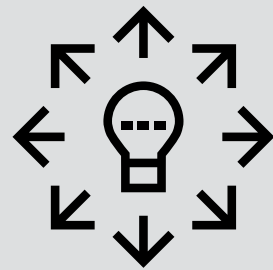Enabling immediate action and decision-making.

User-friendly Interface:
The frontend design ensures that even non-technical personnel can use our system effectively

Cost-efficiency:
Open-source tools like OpenCV, TensorFlow Lite, and Flask API minimize costs while maximizing performance.

Scalability:
Our architecture allows for easy scalability, accommodating future enhancements and additional features.