Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	01 November 2023
Team ID	Team-592995
Project Name	ConstructGuard_YOLO-Based Safety Gear Surveillance
Maximum Marks	4 Marks

Technical Architecture:

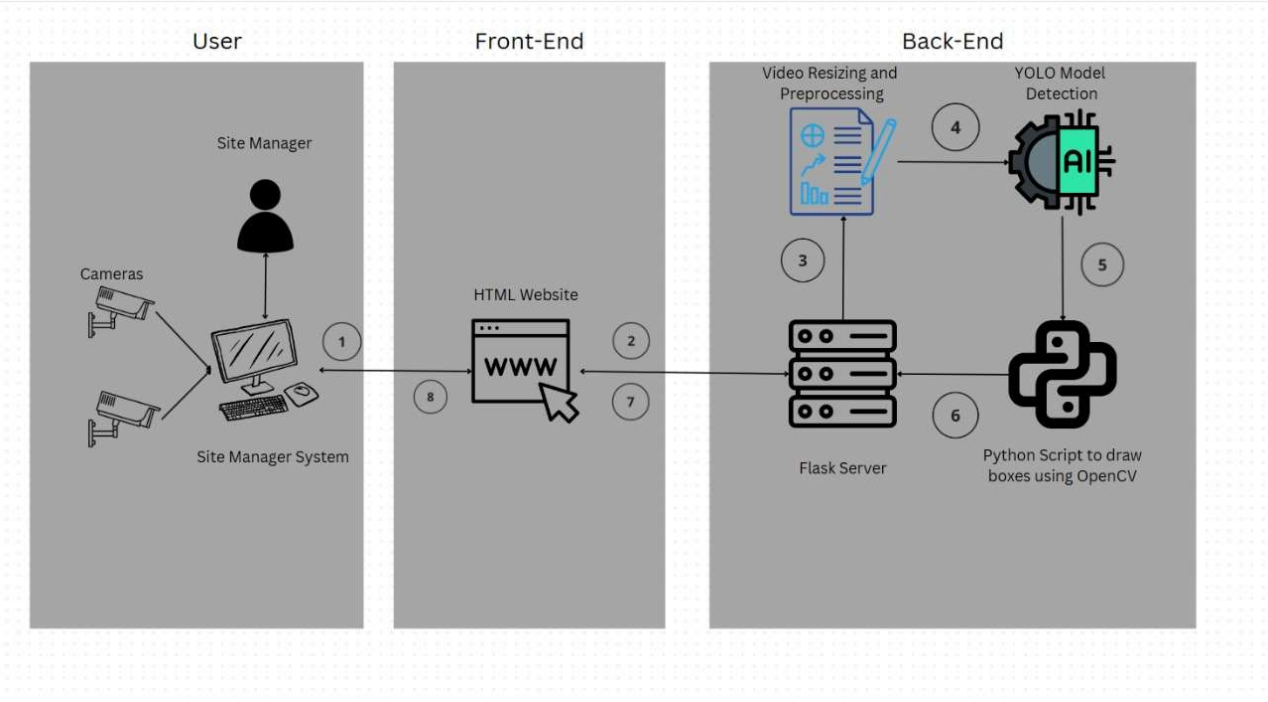

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User enters our website and clicks on the service he requires and then he will be either asked to give permission of the camera or upload the respective file based on what he has chosen. It also shoes the output.	HTML, CSS, JavaScript
2.	Flask Server	It detects the incoming video or file and calls the respective function to preprocess and analyze the input.	Python (Using Flask), JavaScript
3.	YOLO Model	It analyzes the input and give the coordinates of the boxes which are to drawn which is later read by OpenCV	YOLOV8 Machine Learning Model (Nano)
4.	Python Function (YOLO_Video.py)	It read the inputs form the YOLO model and draw the boxes on the input using its inbuilt functions.	Python, OpenCV

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask - Integrating model with webapp OpenCV - Real time video transmission	Flask and OpenCV
2.	Multi-Object Detection	Machine Learning model for real time object detection	YOLOv8
3.	User-Friendly Interface	HTML, CSS, JavaScript	The webapp is easy to use