AI PROJECT

Title:

People Counter Using OpenCV

Description:

This project implements a smart vision-based system to count the number of people entering and exiting a monitored space by tracking their movement across a vertical line in a video feed. It uses the **MobileNet-SSD** deep learning model to detect people and **OpenCV** for image processing and object localization.

The counter works by:

- Drawing a virtual line in the video frame.
- Tracking each person's center position across consecutive frames.
- Comparing previous and current positions to determine if they cross the line.
- Incrementing either the entry or exit counter based on the direction of movement.

Technologies Used:

Component	**Technology/Library**
Programming Language	Python
Computer Vision	OpenCV
Object Detection	MobileNet-SSD (Caffe Model)

Applications:

- Smart surveillance systems in retail stores, malls, airports
- Automated entry/exit logs in offices and public spaces
- Crowd monitoring systems during public events or emergencies
- Foot traffic analytics for business intelligence
- Queue management and occupancy limit enforcement

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