Capstone Project
Basic Motion Detection
Project Explanation

Project Introduction:
The problem so identified in this project is that some kind of detection of motion or movement & a comprehensive solution of detecting objects in real-time is needed in today's times. Along with this, the current solutions to the problem require a lot of manual intervention and are not fit in the current growing age.

Users/stakeholders:
The stakeholders to this problem vary as this research project could be modifies and applied to various use cases. The users include everyone from security personal & Traffic officers to the government or general public as a whole. During our course to discover what are the real problems for the stakeholders, we asked some questions from our fellow schoolmates.

Data:
Data from this project is extracted from open-sourced websites on the internet that includes CCTV footage. Some data is also collected from webcams in real-time. Keeping privacy concerns in mind, this real-time webcam/camera footage is only used for local use and not made public or accessible.

Modelling:
The prototype built uses Tkinter for the User Interface and OpenCV models for Detection purposes. These models are made by Intel and are heavily tested and perfected for multiple use cases. These models are tuned for our use case by altering values of contours and choosing the best fit Haarcascade XML files.

Evaluation:
The protype was used by security personal and is tested on open-sourced CCTV footage. Along with it real-time webcam or camera footage was used to fine tune other parts of the model. The model is also tested by students in daily use.

Deployment & Further Development:
The prototype can further be enhanced for specific use cases & can be applied in various sectors. The protype can be built using a much better User Interface program and can be built to offer a lot more services than what it does at present.