SYNOPSIS

Title: Intelligent Security and Information management system using Video analysis (Based on Faster R-CNN)

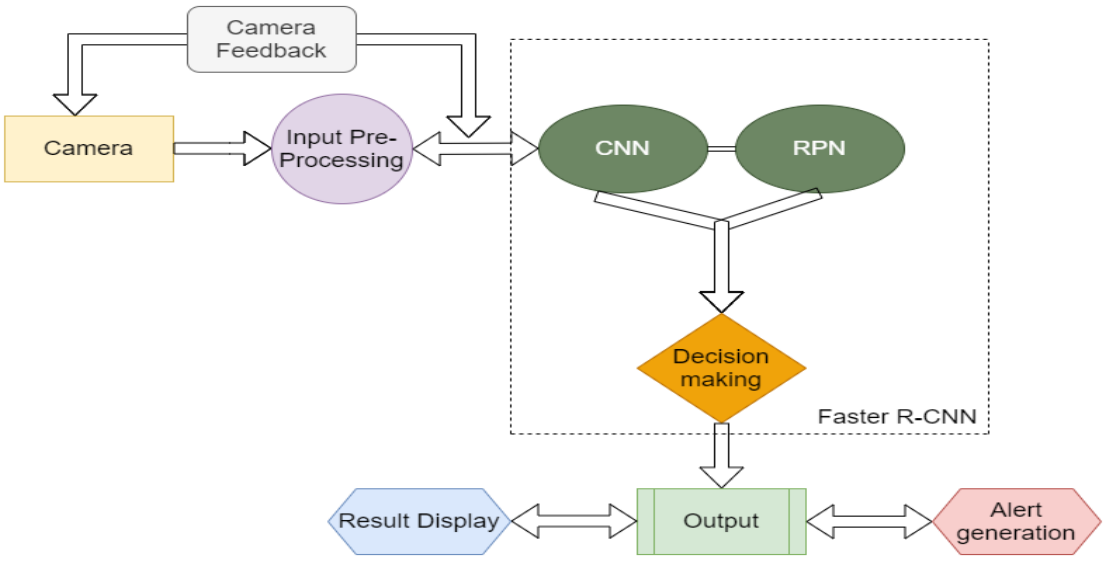
Introduction: In this project we monitor the activities of personnel . It monitors scenarios and activities helping us gather data and detecting activities performed precisely.

The system constantly monitors the camera feed for irregular affairs, and alerts us of the scenario. Thus the system is an efficient solution for surveillance and management.

Objectives: Our objective is to detect a person in the image feed and classify them in the categories of known or unknown person and report them to the user and update the database.

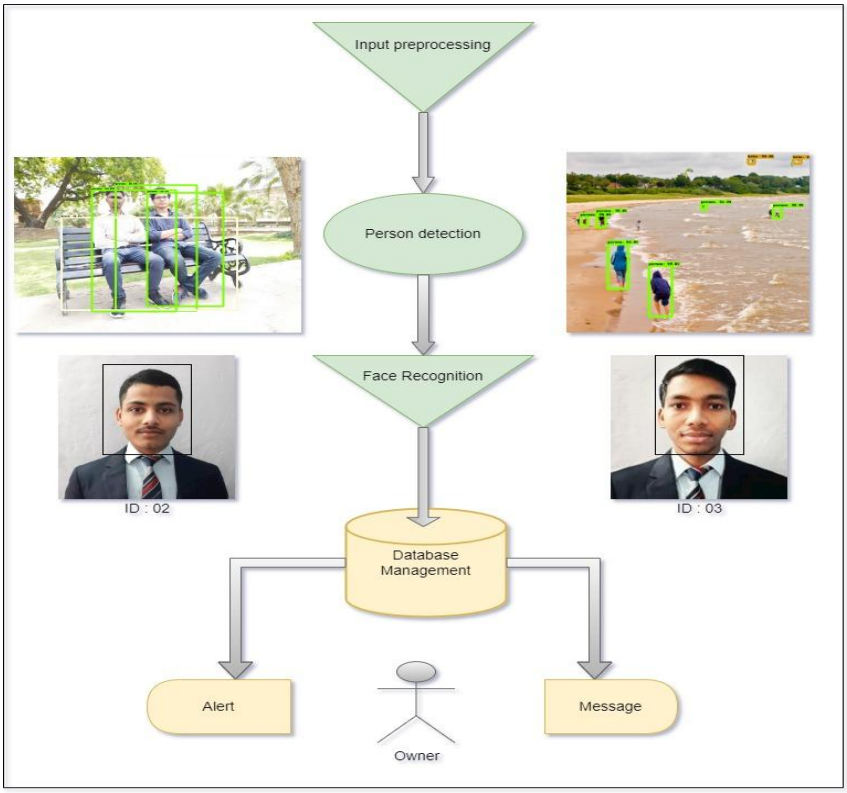
Operational definition:

- Image extraction from a video feed
- Image pre-processing
- Selective identification from whole image
- Maintaining database according to the prediction
- Sending alert for newly recognised person



Methodology: The methodology flow begins with the frame segmentation of a cctv output for a image by making use of a frame rate of around 20 frame per minute, followed by pre-processing of the image, then feature extraction from the facial images,subjective selection and classification of the images to be recognized.

Next, a database is managed according to the image identity along with the confirmation of the user. The flow chart below depicts the whole methodology as discussed above.



Future Scope:

References:

[1] R. Girshick, Fast R-CNN, arXiv:1504.08083v2, 27 Sep 2015.

[2] S. Ren, K. He, R. Girshick, and J. Sun, Faster R-CNN: Towards Real-Time Object Detection with Region Proposal Networks, arXiv:1506.01497v3, 6 Jan 2016.

[3] T. Karmarkar(2018, Aug 19), Region Proposal Network (RPN) — Backbone of Faster R-CNN, [Online].
Available:https://medium.com/egen/region-proposal-network-rpn-backbone-of-faster-r-cnn-4a744a38d7f9