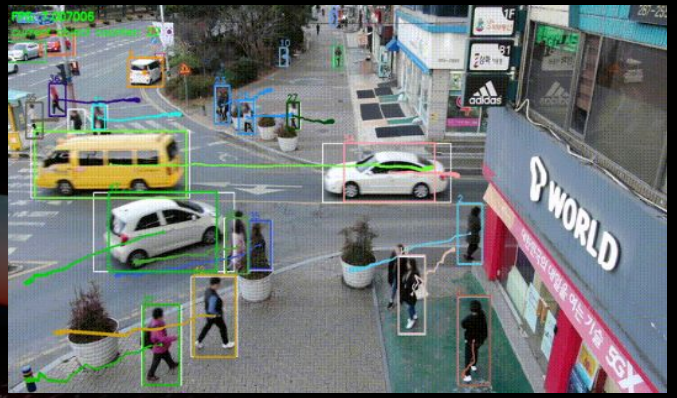
Object Detection

Analysis of Algorithm Final Project

Problem



Most modern surveillance cameras do not have the ability to detect a person/object.
They are only able to record, whereas the surveillance playback/live has to be monitored by an actual human being.

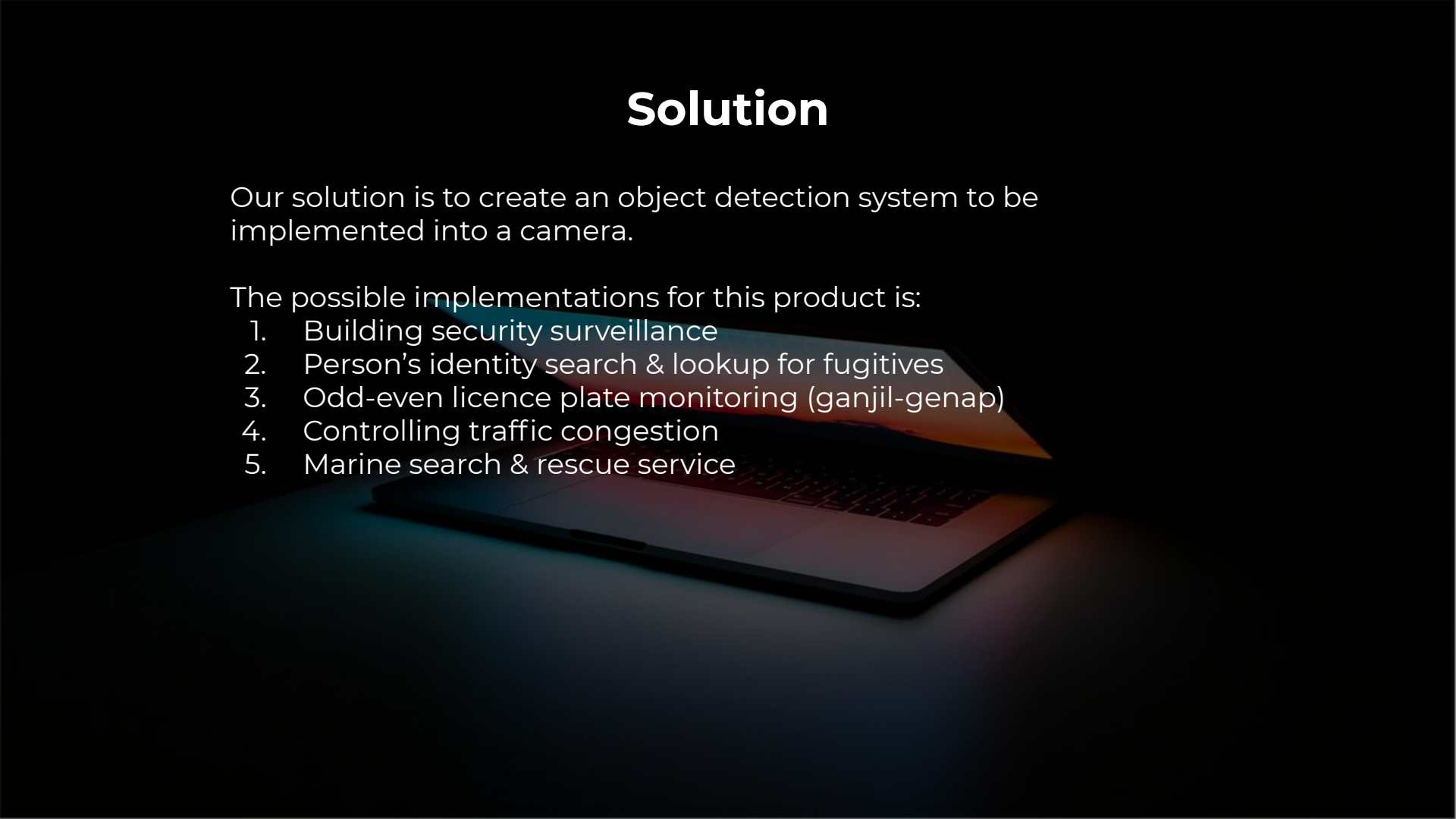
In many cases, CCTVs in modern homes are not even monitored at all by the homeowner, or at least until there is an unprecedented phenomenon, which may be already too late.

Solution

Our solution is to create an object detection system to be implemented into a camera.

The possible implementations for this product is:

1. Building security surveillance
2. Person’s identity search & lookup for fugitives
3. Odd-even licence plate monitoring (ganjil-genap)
4. Controlling traffic congestion
5. Marine search & rescue service



Challenges

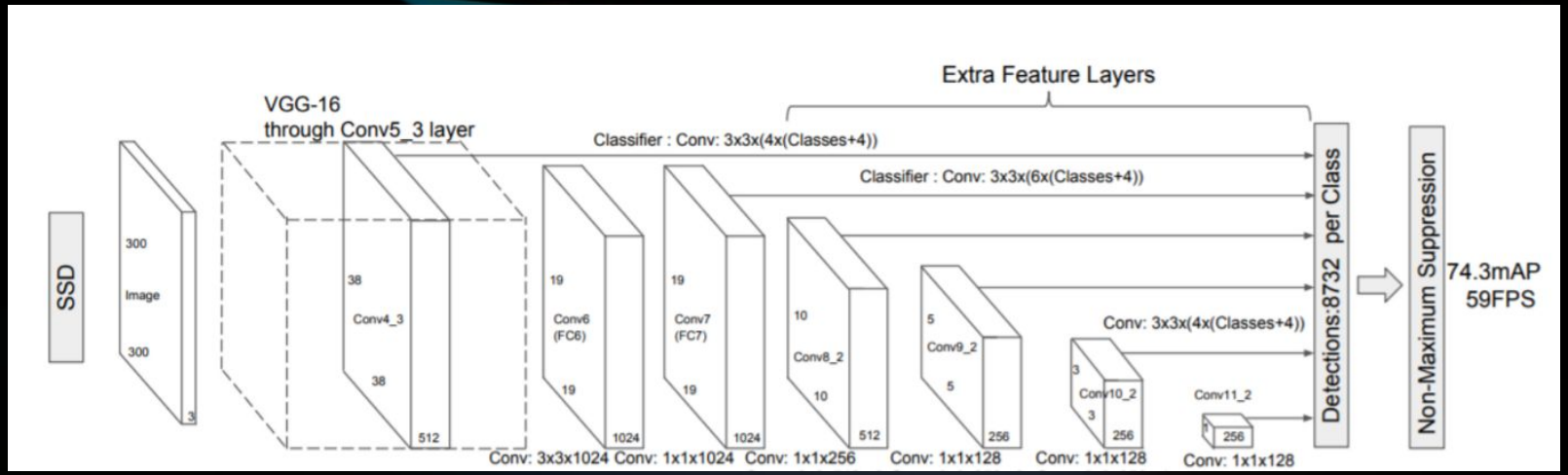
- Time management

- Defining the model of Object Recognition to use
  - MobileNet SSD
  - YOLO
  - Mask R-CNN

Algorithm comparison

	MobileNet SSD	YOLO	Faster R-CNN
FPS	~59 FPS	~45 FPS	~7 FPS
mAP	74.3%	63.4%	73.2%
No. of object	21	80	90

MobileNet SSD Architecture



Thank

you.