deti universidade de aveiro
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Tracking

Milestone 3

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Tracking

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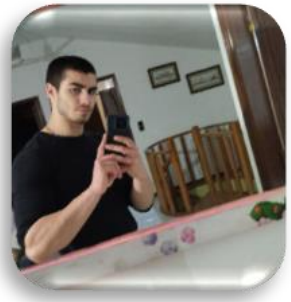

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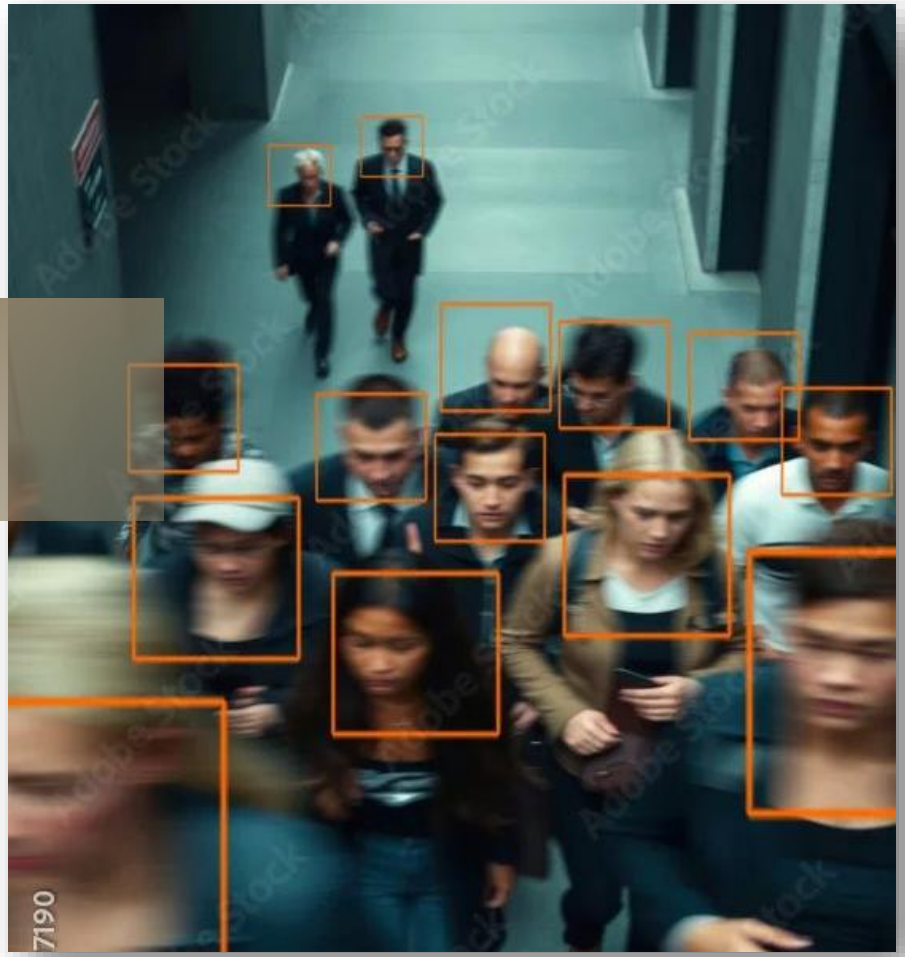

ABOUT TRACKING

Software designed to assist police agents in investigations. Using AI, the system can analyze multiple cameras in real time, detecting individuals based on specific characteristics, such as carrying a weapon, and logging their movements. The goal is to significantly reduce the time required to locate suspects, enabling a faster and more effective response in critical situations.

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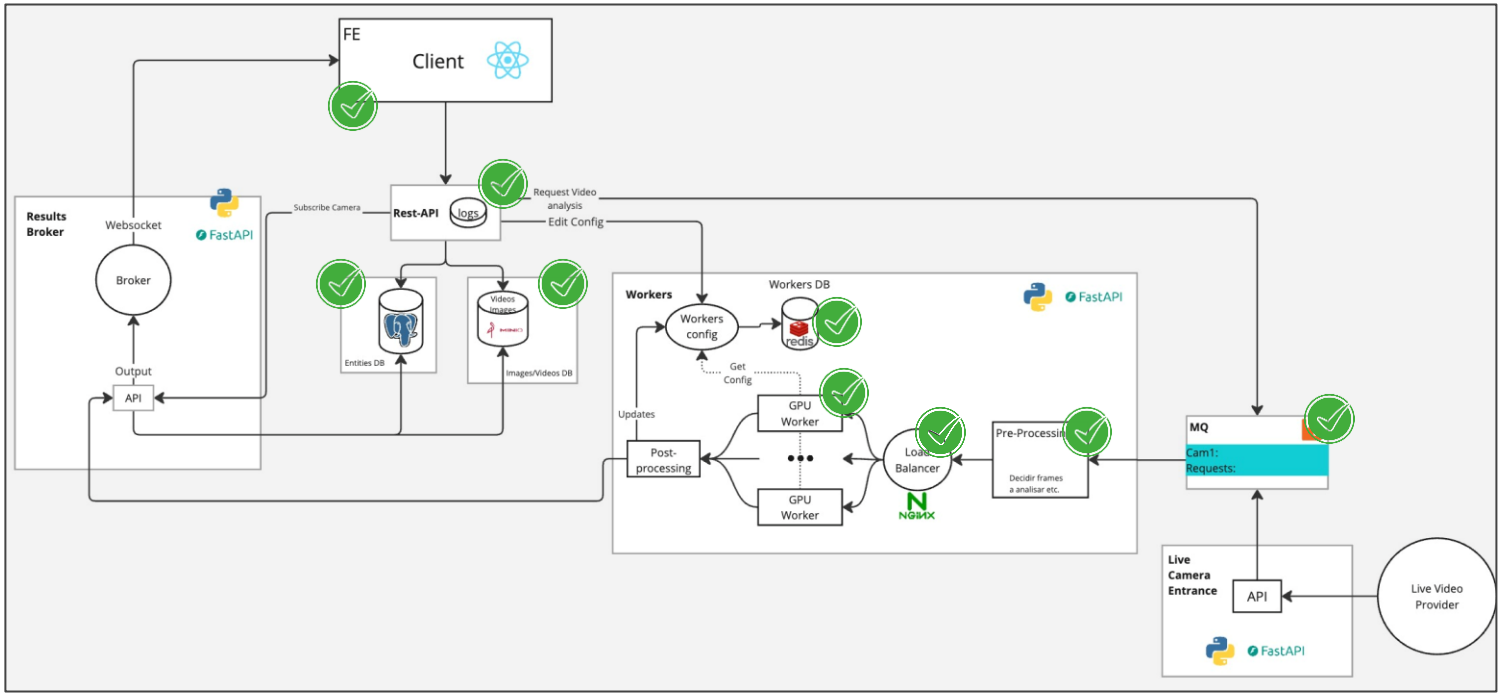
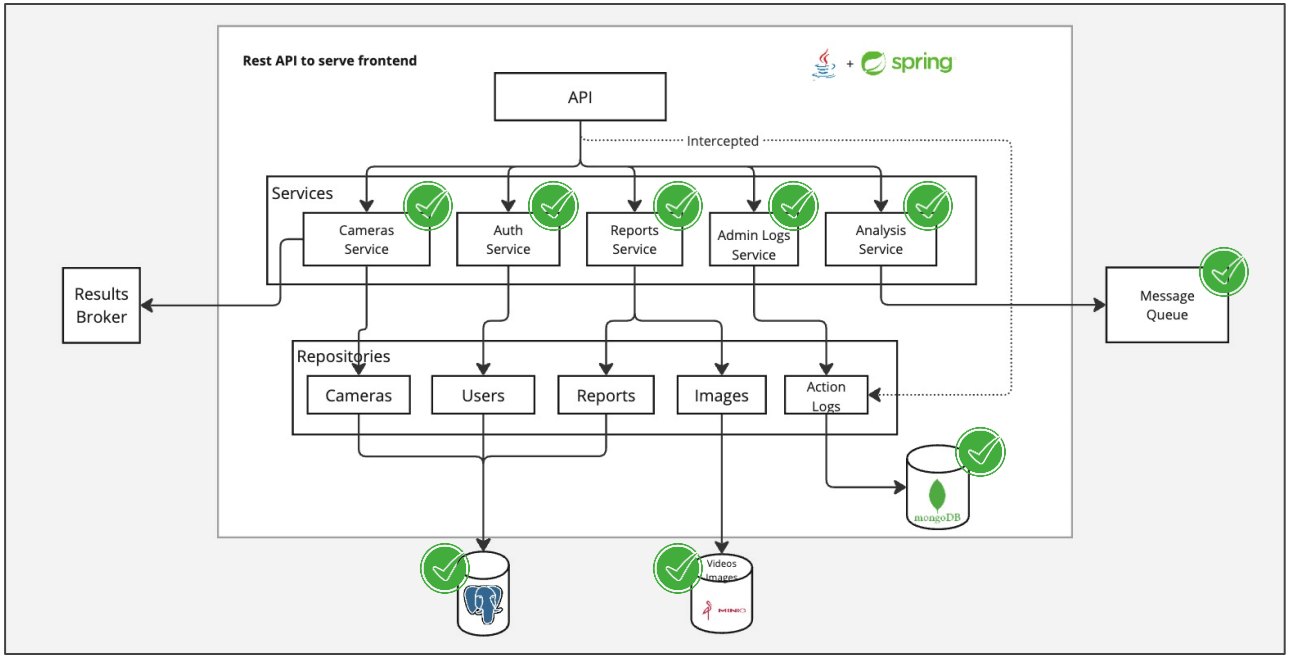
SYSTEM ARCHITECTURE

01

ARCHITECTURE



ARCHITECTURE



CURRENT WORK

02

CURRENT WORK

IN VIDEO TRACKING

Currently, our system can track a selected suspects movement through a whole video from the same camera.

SUSPECT SELECTION

It is possible for a user to select a person inside a video, segment him, and track him from that moment forward.

WEAPON DETECTION

Our system is currently able to detect all weapons inside a video. We increased the training dataset and managed to achieve less false positives than before.

DEMONSTRATION

03

NEXT STEPS

04

NEXT STEPS

WEAPON-SUSPECT SEGMENTATION

Segment and identify the suspect holding a detected weapon for posterior tracking.

RE-IDENTIFICATION

Implement re-identification to allow the algorithm to keep track of the suspect once he leaves a camera and renters on another.

POST-PROCESSOR

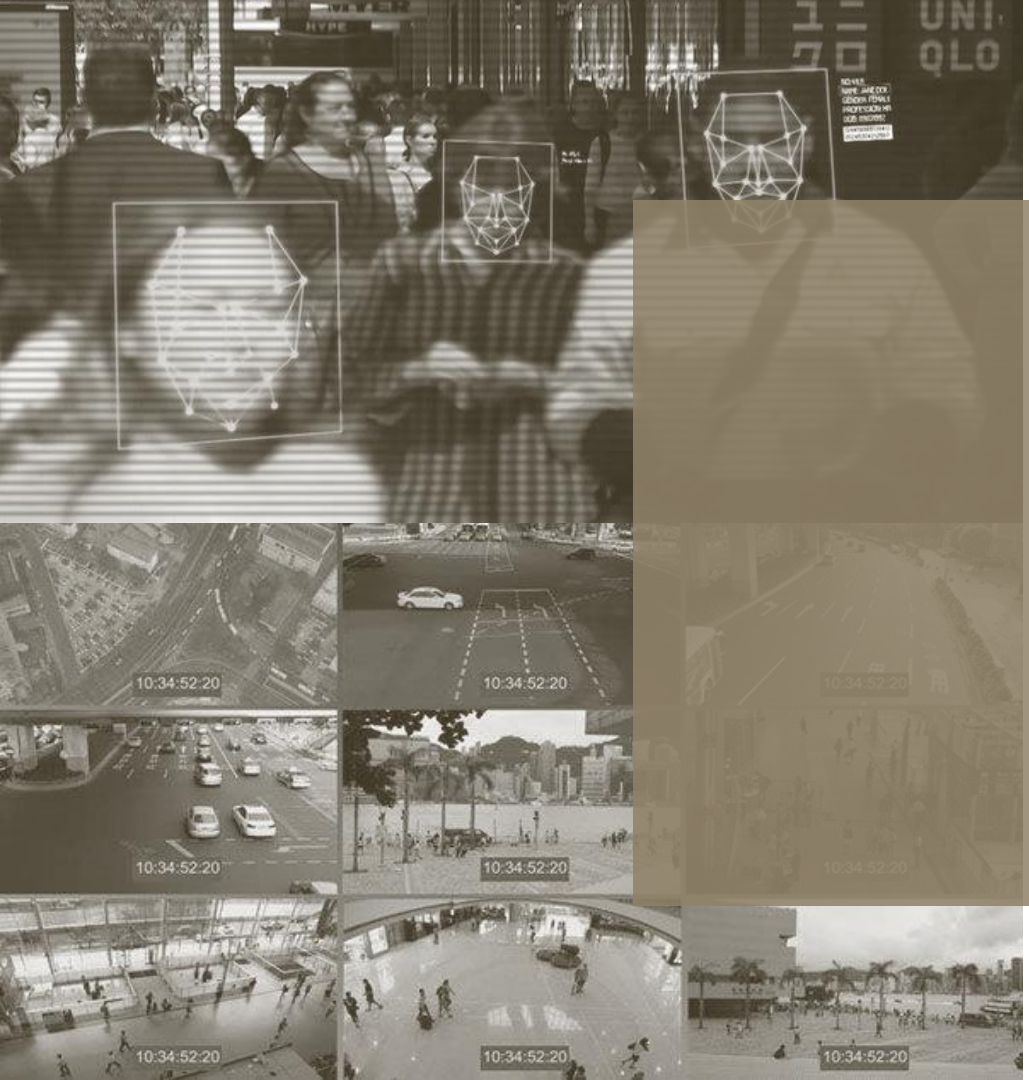
Design a post-processing module to analyse and enhance the results of the processing step, such as refining detections or handling false positives.

CALENDAR

05

CALENDAR

9	4/8/2025	4/15/2025	Development Reidentification	Implement an algorithm for reidentification	Reidentification of people in images collected by different cameras.
				Database - Storing and processing data	
				Backend - Show the camera where the person is	
				Test - Person reidentification	
				Update the report and documentation	
10	4/15/2025	4/22/2025	Development Tracking	Backend - Get the places where the person was	Map the person's movement on a map, keeping the person's marking in the different images collected
				Frontend - Map with the places where the person was	
11	4/22/2025	4/29/2025		Database - Processing data	
				Test - Person tracking Update the report and documentation	
12	4/29/2025	5/6/2025	Development Extra Features	Implementation of the extra features - Frontend	
				Implementation of the extra features - Backend	
				Test - Extra Features	
				Update the report and documentation	



THANK YOU!

Does anyone have any questions?