# SMARTCOFFEE

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Our Problem

★ There's always a lot of people in front of the machines, especially during the breaks.

★ Operators always carry out the same ride and check the machines even if it's not necessary, thus causing a great waste of time.

★ The company has little information about the users and it is complicated to make meaningful analysis.

Use Cases

★ Users can always ask the situation at the machines and consequently decide which one is "the fastest".

★ Operators require automatically generated scheduling that incorporates information such as failure detection and inventory-depletion prevention, this way eliminating time wastage.

★ Through the information collected by the machines regarding purchases and user satisfaction, the company can perform more accurate market analyses.

System Overview
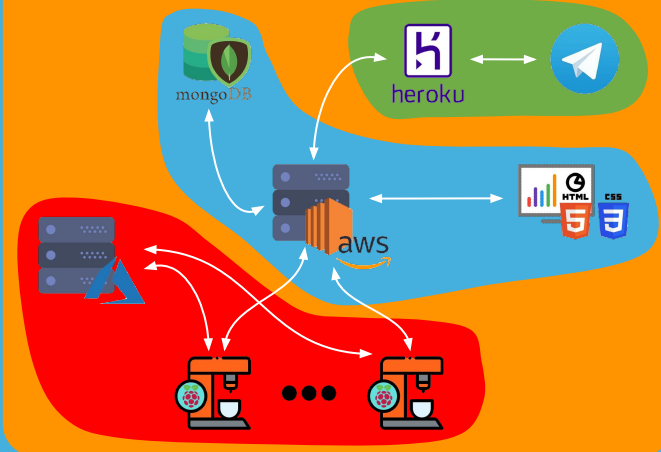
System Architecture

Our system is composed by a Raspberry Pi equipped with a 5 Megapixel camera able to detect people in queue. This detection is made through Microsoft Azure Cognitive Services and afterwards sent to an EC2 instance hosted on Amazon Web Services, capable to collect and display all the data on a Web dashboard. The data are stored on a MongoDB server and made easily accessible via a Telegram Bot.

Used Technologies

Client
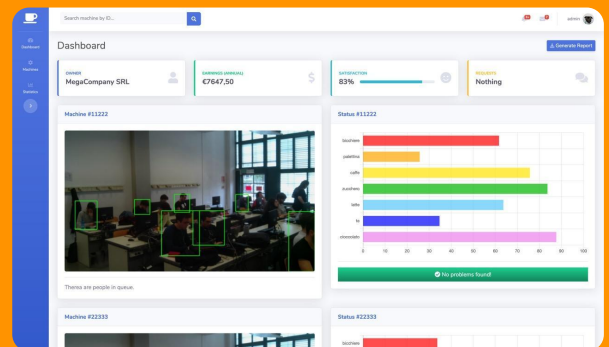Raspberry Pi Zero W
OpenCV
Azure Cognitive Services

Telegram
Heroku
python-telegram-bot

Server
AWS EC2
Flask
MongoDB
Bootstrap
HTML5 + CSS3
Chart.js
JQuery

Prototype Demo

Future Work

★ People recognition in our server

★ Machine connected with mobile network

★ Schedule/Prevision machine maintenance by zone

★ Improve user interaction with telegram bot