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Module
M12 Project

Degree
Cicle formatiu de grau superior (CFGS) Desenvolupament d'Aplicacions Web
Perfil professional Bioinformàtica (DAW-BIO) (cicle LOE)

Center of Studies
IES Provençana
https://www.proven.cat

Imagine …

social civic problem

proposed solution

DNA-based Dog Identification
This project aims to use bioinformatics tools to identify a certain dog by its Short Tandem Repeats (STR) pattern, located among the different chromosomes of its DNA. That identification may have several uses, and one of them is helping towns and cities to maintain the streets clean from dogs' droppings.
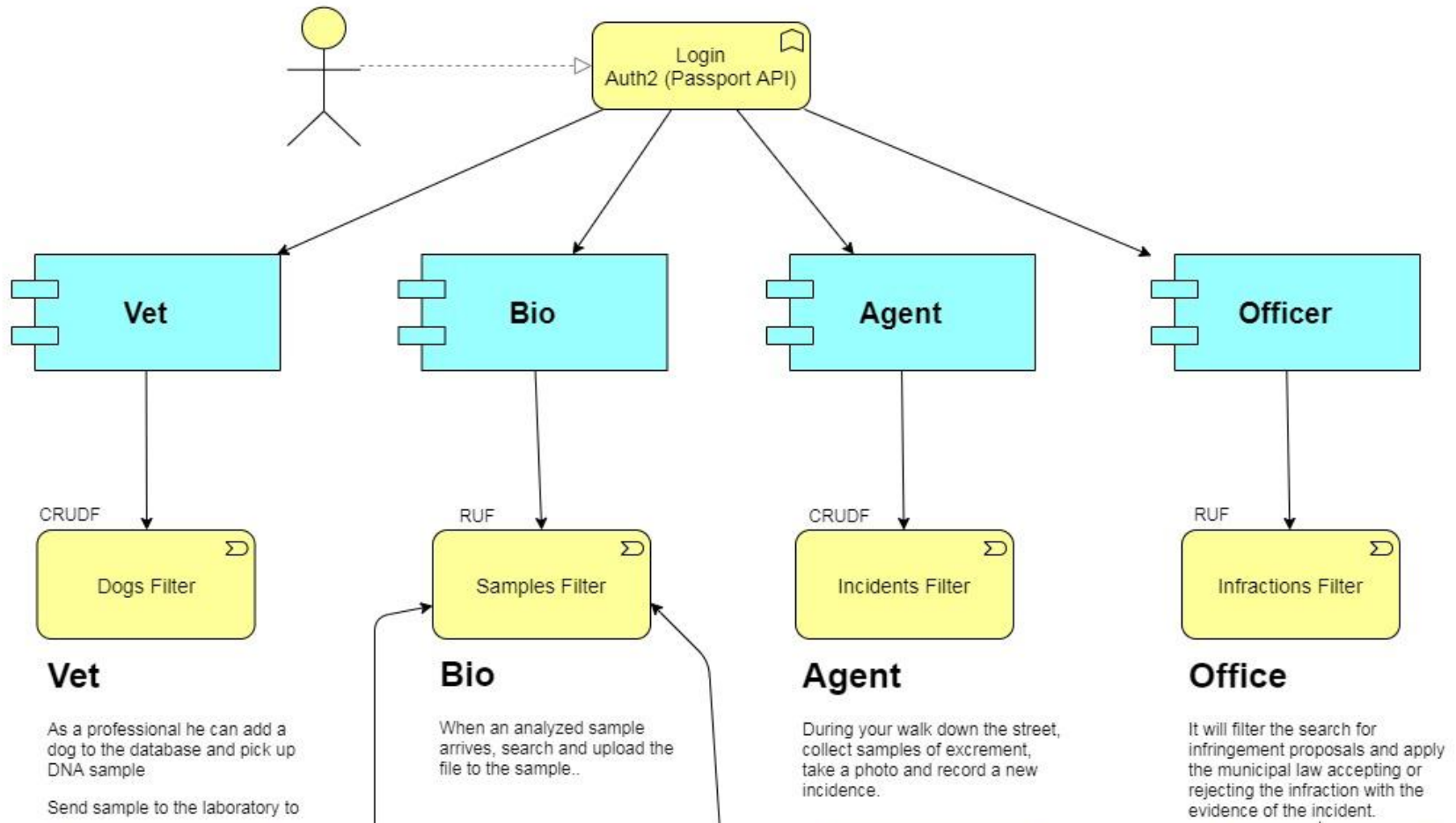
proposed solution

workflow

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Login
Auth2 (Passport API)

Vet

Bio

Agent

Officer

CRUDF
Dogs Filter

RUF
Samples Filter

CRUDF
Incidents Filter

RUF
Infractions Filter

Vet

As a professional he can add a dog to the database and pick up DNA sample

Send sample to the laboratory to

Bio

When an analyzed sample arrives, search and upload the file to the sample..

Agent

During your walk down the street, collect samples of excrement, take a photo and record a new incidence.

Office

It will filter the search for infringement proposals and apply the municipal law accepting or rejecting the infraction with the evidence of the incident.

workflow

Vet

As a professional he can add a dog to the database and pick up DNA sample

Send sample to the laboratory to

AddDog
AddSample

Bio

When an analyzed sample arrives, search and upload the file to the sample..

Upload File fasta

Agent

During your walk down the street, collect samples of excrement, take a photo and record a new incidence.

AddIncident
AddSample

Office

It will filter the search for infringement proposals and apply the municipal law accepting or rejecting the infraction with the evidence of the incident.

Show info
Dog-Incident-Match

PARSE file fasta

Validate Infraction

reject

Pattern STR Json

yes

Sample w/Dog Id

no

matching samples

yes

AdInfraction

aproved

Generate Document infraction

Archived infraction

no

Archived sample to future match

Generate Document matching

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technologies

- MySQL (Phpmyadmin)

- Backend API Rest full (Laravel)
    - Generación datos (seeders/factory)
    - PassPort Auth2
    - Routes Restfull API

- Script Python
    - Generación files fasta exrex
    - Script Python Matching regex

- Frontend (Angular)
    - Consumo Rest full API
    - Angular Material
    - Boostrap
    - Ngx – Barcode
    - Validaciones
    - Estructura componentes

accessibility & usability

problems Oscar

demo

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Oscar's personal review

Alex's personal review

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