# Fire(UA)ll

## Security Exposure Sentinel

Licenciatura em Engenharia Informática - PI

Grupo 4 - Projeto 6

# Milestone 1

# Communication plan

Mentoring

**Teams**
mentoring communication

Documentation

**Drive**
Repository for docs

Git Platform

**Github**
repository

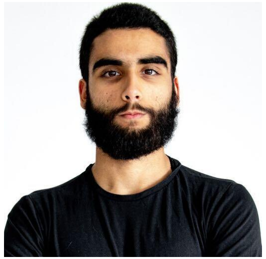
Team Communication

**Slack**
internal discussion

# Team Members

Eduardo Santos
Product Owner

Pedro Bastos
Team Manager



André Morais
Lead Developer

Gonçalo Matos
Architect

Margarida Martins
DevOps

Isadora Loredo
Tester

# Context

The **University of Aveiro** has a **very high** exposure to the outside world, through webpages/machines that export services.

The number of public domains of this institution exceeds **1500**, each of which can potentially **disseminate** information or even allow **exploitation** of flaws in its software.

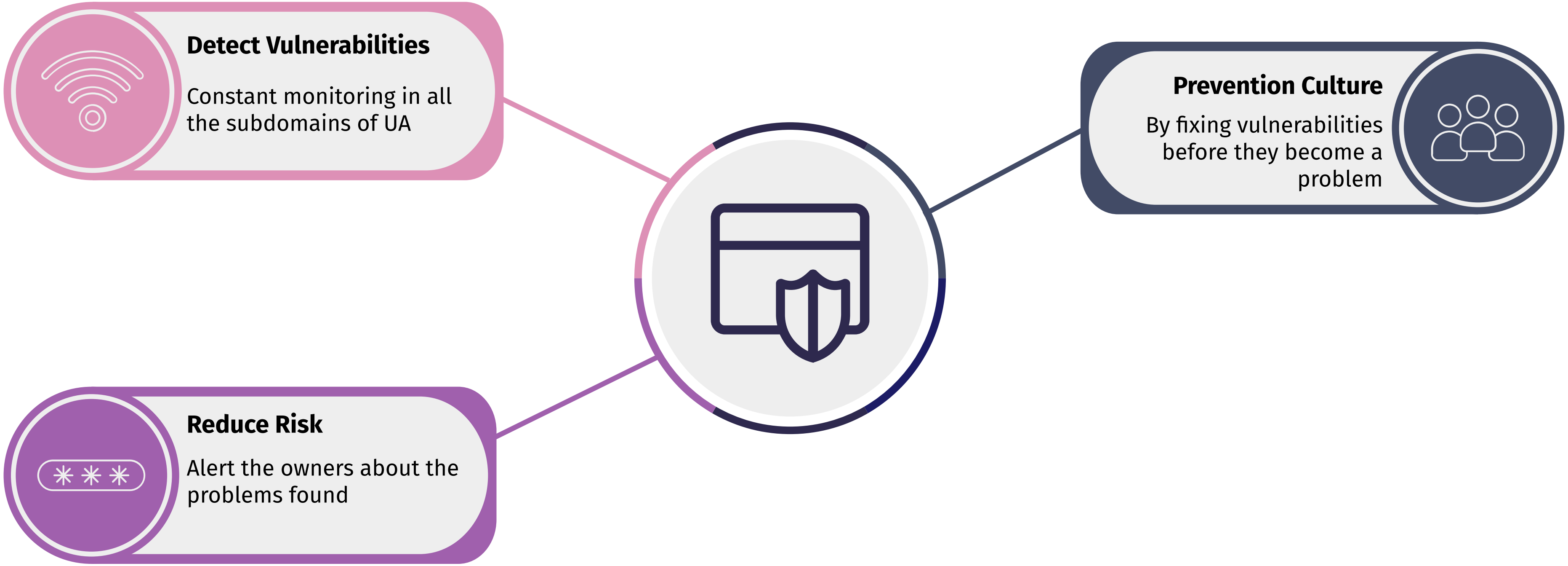
# Problem

The **compromise** of any of these systems, even if the specific system is not much relevant itself, can lead to the **attack** being scaled laterally to others, either with **more sensitive data** or with **higher criticality**.

It is therefore vital to have systems that can monitor a wide range of systems, detecting and alerting to potential **security issues**.

This alert can be carried out for the **UA services**, but it can also include the **owners** of this services.

# Project Goals



**Detect Vulnerabilities**

Constant monitoring in all the subdomains of UA

**Prevention Culture**

By fixing vulnerabilities before they become a problem

**Reduce Risk**

Alert the owners about the problems found

# Project Tasks

### HoneyPots

List anomalies

### Incorrect DHT

Detect badly used DHTs

### Vulnerabilities

Scale vulnerabilities

### Devices

Detect exposed devices

### Repository

Store detected vulnerabilities to prevent repetitions

### File/URL scans

Analyse every file and URL

### Access logs

Create fingerprints

### Services

Register services and analyze them

### Dashboard

Iterative dashboard of all subdomains

### Real Time notifications

Send warnings of potential vulnerabilities

# Expected Results

## Scanning

Automatic scanning for vulnerabilities of the UA’s exposed services.

## Dashboard

A usable dashboard containing:
- Overall information about the vulnerabilities detected.
- Vulnerabilities found for a specific machine.

## Notifications

Automatic notification via e-mail to the responsible of the machine when a new vulnerability is found.

# Related Work

There are applications that allow us to scan URLs, IP addresses, Domains and Files to find potential malwares

VirusTotal

SHODAN

OPSWAT
MetaDefender

Our application must be more focused on scanning for potential vulnerabilities, logs, services, subdomains, etc

# Calendar

| | | | |
|---|---|---|---|
| Inception | Week 1 | | Client’s project scope presentation; team building; website construction; calendar; M1 presentation. |
| | Week 2 | M1 | Understanding and researching the scope and objectives; derivables definition; architecture definition. |
| Elaboration | Week 3 | | Backlog management system setup; core stories defines. |
| | Week 4 | M2 | Validate architecture. |
| | Week 5 | M2 | Setup the tools; prioritize user stories. |
| Construction | Week 6, 7 | | Development of a few core user stories; demonstrate architecture end-to-end. |
| | Week 8, 9 | M3 | New user stories required for a functional MVP deployed, specially covering data aggregation/ visualization. |
| | Week 10 | | Required user story: alarms/events detection on data streams. |
| | Week 11 | | Implement integrations with external services; integrate the cypher-physical layer. |
| | Week 12 | | Stabilize presentation layer and production environment; update documentation (project specific. and software documentation). |
| Transition | Week 13, 14 | M4 | Bug-fixing; stable iteration built for project presentation. |
| | Week 15 | | Product release; demo, video and public version of the website. |

M1: presentation of the life cycle objectives and calendar for the project.
M2: presentation of the lifecycle architecture; the milestone is achieved when the architecture has been validated.
M3: prototype; mid-term presentation with supervisors; peer evaluation.
M4: project presentation; all functionality has been developed