Project Proposal

Application for the prevention of fires and information about affected areas

Group nº 1
Rodrigo Albino nº 49027
Diana Jesus nº 57330
José Siopa nº 60716

Motivation

In 2017, in Portugal occurred two major fires that result in a large number of human casualties where one of the main reasons for that was the lack of information/warning. (Failure by SIRESP)

Thanks to the climate change the number of fires have increased dramatically over the years, and those numbers are very likely to increase even more.

Nowadays roughly 95% of the portuguese population have a mobile device and a lot of them lives in a dangerous zone regarding fires that have a need for early warnings and prevention advices.

Concept and Background

The concept was thought based on several approaches, national and international, to combat wildfires or just have a database with the occurrences and information provided by locals and professionals.

For that we have three main precursors of the idea:

- https://www.wired.com/story/watch-duty-wildfire-tracking-app/
- https://www.theguardian.com/us-news/2022/feb/02/watch-duty-app-warning-wildfires-california-silicon-valley
- https://www.safecommunitiesportugal.com/icnf-launches-app-to-help-in-requesting-the-burning-of-debris-and-scribland-waste/

It is worth mentioning that a good site, without mobile application exists for this kind of situation:

- https://www.ipma.pt/pt/riscoincendio

Main features

- Consult the level of fire risk in an area, and click on it to see what actions take to reduce that risk;
- Professionals can mark land that does not comply with the defined cleaning guidelines and leave information for users to solve the problem;
- Real-time notification of hazard level or active fire status;
- User can create a list of places he wants to receive live notifications;
- Users can report burned areas that are not yet assumed to be burnt, having a posteriori validation by professionals;
- Non-professional users report situations of non-compliance with cleaning guidelines and verification by other users.

Technology

- Google Map
- Firebase Database
- Open Weather API to calculate the fire risk using the weather information
- Maybe a connection with smartwatches to allow notification via watch