redDash

Documentation

Overview

When we are struck by any natural disaster our first impulse is to provide first aid and help of any kind as soon as possible. But, today, with the huge growth in Machine Learning industry and a rich Open Source community we can do a lot more to predict, manage and assess disasters.

redDash is an interactive help dashboard which provides an overview of an ongoing disaster situation. Along with the mobile application redType, we provide a complete system for the victim as well as the rescuer so that they can effectively communicate with each other, even without internet connectivity.

Requirements

redDash uses the following frameworks and languages:-

- **Python 3.5**
- **Flask**
- **HTML**
- **CSS**
- **JS**

The additional python dependencies used are:-

- **azure-cognitiveservices-vision**
- **beautifulsoup**
- **Click**
- **twilio**
- **Tweepy**
- **plotly**

Operating System

The web application redDash has been tested in Ubuntu 16.04.

Note that twilio service is functional only between 9 AM to 9 PM in India.

User guide

- **redType : Get help without internet**
    - **An android application that sends an SOS message to redDash helpline.**
    - **Uses predefined text, as well as includes the mobile number and location.**
    - **Simple to use, just type and press Send.**
- **redDash : Bird's eye view to the natural disaster**
    - **A simple to use dashboard web application.**
    - **Has three principal services:**
        - **Map : Gets the high-risk flood zones' locations from NASA satellites (updated every 24 hrs), and display it on a plotly map. Shows the latest images available from drone feeds, twitter feeds and manual inputs.**

- **Upload : Gets images from manual uploads, twitter feed as well as drone captures, and uses Microsoft Azure Custom Vision API to analyse the image and predict the danger level using Machine learning and Image processing.**
- **Chat : People can broadcast their SOS messages using redType mobile app and the messages received will be shown here. The admin can then reply them with instant information.**

  The locations extracted will be shown on the map as well.