
Crisis Probing UAV

Team Scorpion

During our research, we realized...

**China has a relatively
weak natural crisis
probing and responding
mechanism**

even though we have 181 satellites (3rd in the world).

Goal

To find an affordable and convenient solution for natural disaster probing, disaster relieving and message broadcasting.

<http://www.ucsusa.org/>

Drone Image Capturing and Automatic Analysis

DJI Mobile SDK

Clarifai API



Submit suspicious image to backend center

Human Intervention

Secondary Confirmation

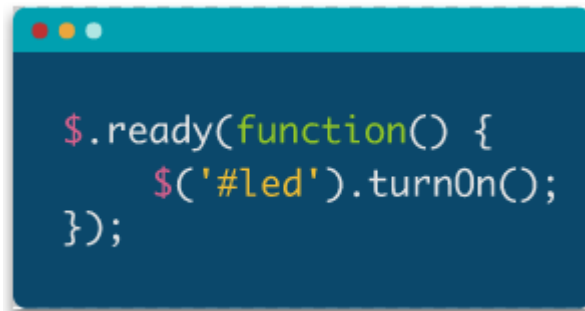


Take appropriate actions

Ignore false positives

Notify authorities

Hardware Layer



Software Layer



Features

we accomplished during our 36-hour HACKxFDU

- Capture and download media contents to mobile phone;
 - Call Clarifai API to analyze photo contents;
 - Parse JSON data from Clarifai API. If tags analyzed fit the dictionary, an automatic notification will be sent;
 - Automatically retrieve light, temperature and humidity data, and send command to Ruff IoT Kit onboard.
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Features

we intend to add after the
hackathon

- Use OpenCV and Google TensorFlow to train the computer to recognize crisis;
 - Overlay Chinese freeway roadmap to the UAV image to find discrepancies;
 - More training, more autonomous. Connect with local crisis management authorities.
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Our sole intended
buyer is **Government
Contract.**




Scenario: Wildfire

95% 9:38 AM

Clarifai v2 API for HACKxFDU

flame	0.9998394
hot	0.9991673
heat	0.99885637
fireplace	0.9960215
bonfire	0.9953687
campfire	0.9950409
flammable	0.99422514
blaze	0.99268794
inferno	0.9920551
fuel	0.991387
burn	0.99066776
tongue	0.9888328
warmly	0.98876023



Error while contacting Clarifai API

```

Sep 18 14:04:07: temperature 24
Sep 18 14:04:07: 132
                LIGHT:132
Sep 18 14:04:08: humidity 80
Sep 18 14:04:08: temperature 24
                humidity 80
Sep 18 14:04:08: 153
                LIGHT:153
Sep 18 14:04:09: temperature 24
Sep 18 14:04:09: humidity 80
Sep 18 14:04:10: 155
                LIGHT:155
Sep 18 14:04:10: temperature 24
Sep 18 14:04:10: humidity 80
Sep 18 14:04:10: 154
Sep 18 14:04:11: LIGHT:154
Sep 18 14:04:12: 149
                LIGHT:149

```





Scenario: Debris Flow



The only **High School**
Student team at
HACKxFDU.





Shaolin 

China



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