Incident Reporting

Senior Design Project

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A *Panic* Highlight in 2020 (OUT OF VERY MANY):

CZU LIGHTNING COMPLEX FIRES

→ 86,509 Acres (mostly in Wilderness)

→ 37 *Different* Fires

→ **Incorrect Locating of Fires** (due to inaccurate reports)

→ **Incorrect Fire Departments dispatched**

.*How Could This be Prevented?*

Incident Reporting - Approximate Locations of Fire from Images!

Image pointing South-East Coordinates: [47.17 S, 101.85 W]

LOCATION OF FIRE

Image points South-west. Coordinates: [46.17 S, 100.81 W]

Image pointing North-East. Coordinates: [46.21 S, 101.86 W]

Valuable time could be saved.

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Not just beneficial to fire departments, but also community residents!

📌 Residents are not notified about every fire in their area.

💀 Panicking not knowing how far the fire is near them.

⚡ Could be unaware of the severity or location of fire.

VERSION *1.0*

Community-Based App
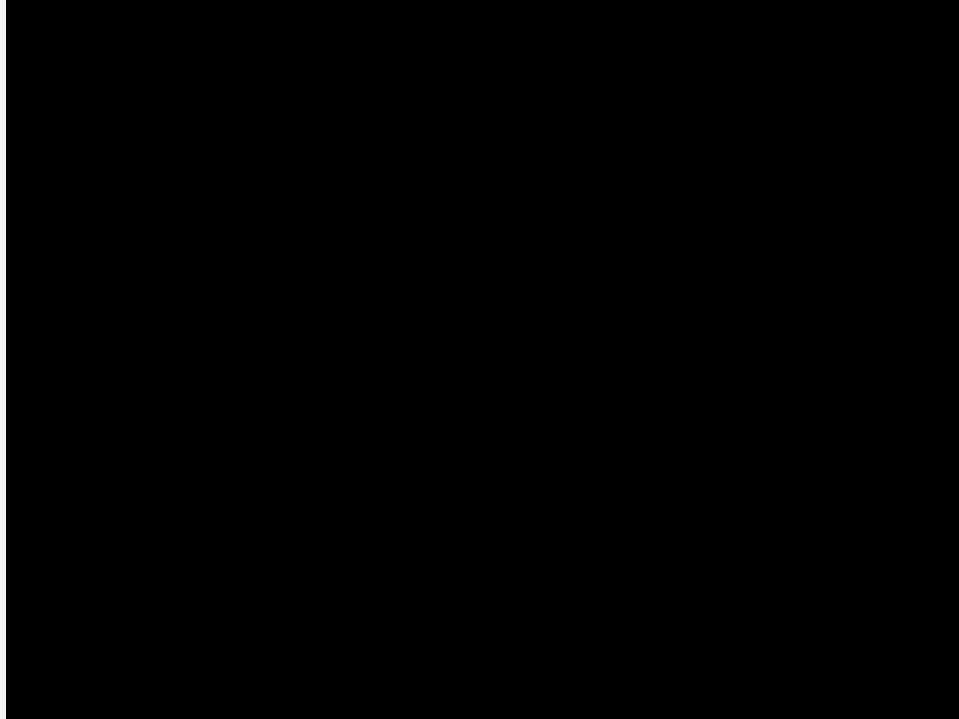
Stay up to date with current fires in the area

WE RELY ON **YOU** FOR INFORMATION.

We created a mobile application to help pinpoint current fires in YOUR local area.

1. **TAKE PICTURES** of the threat
2. **VIEW INCIDENTS** reported by your neighbors
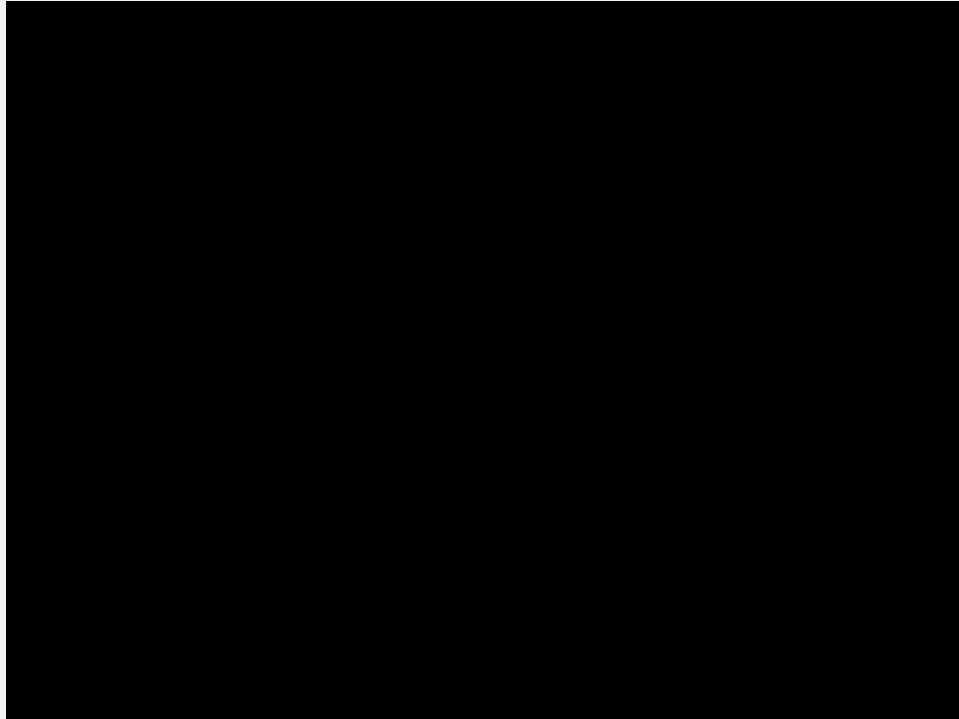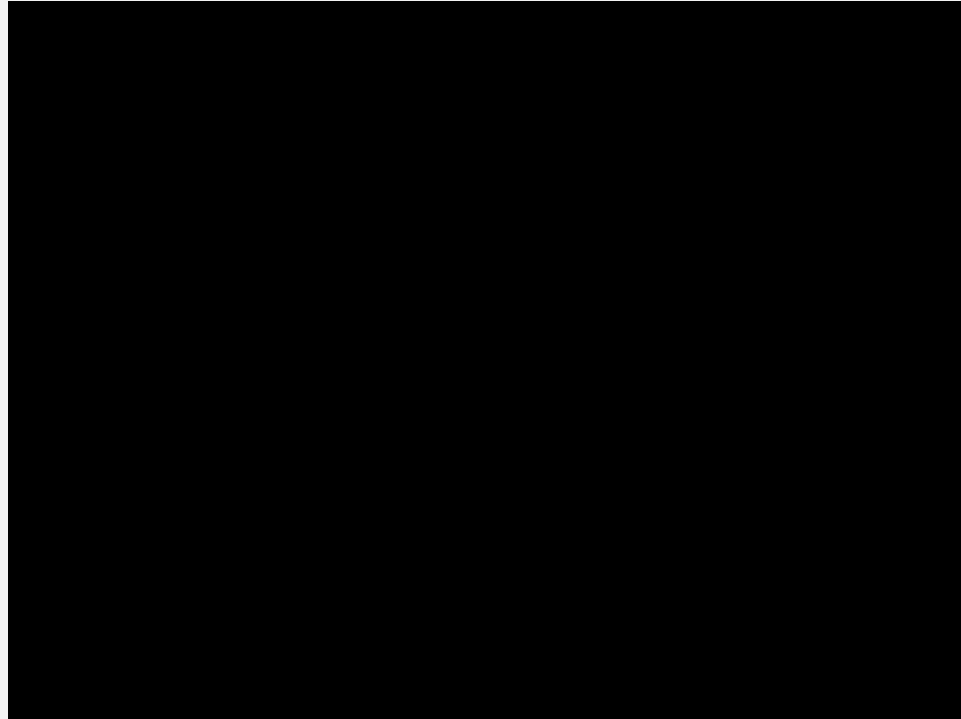3. **VIEW MAP** of potential FIRES in your area
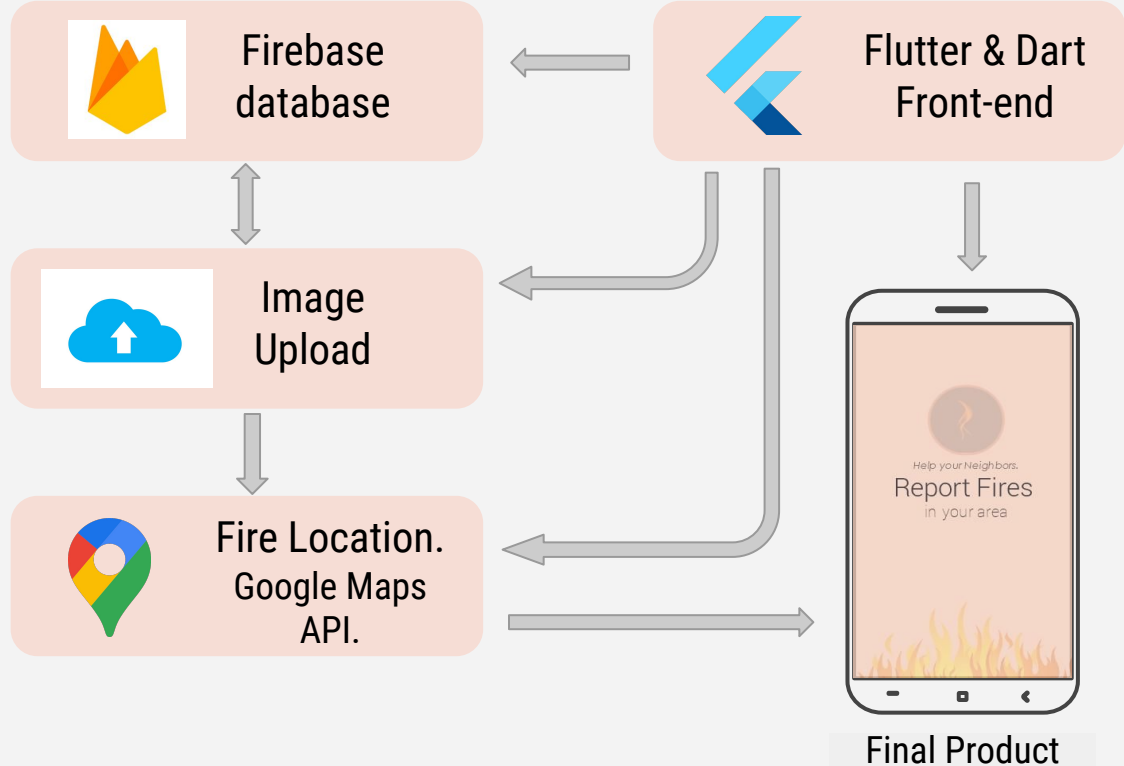
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Get Location and Sign in

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UPLOAD PICTURE OF THE INCIDENT

VIEW MAP
of
REPORTED INCIDENTS & POTENTIAL FIRES
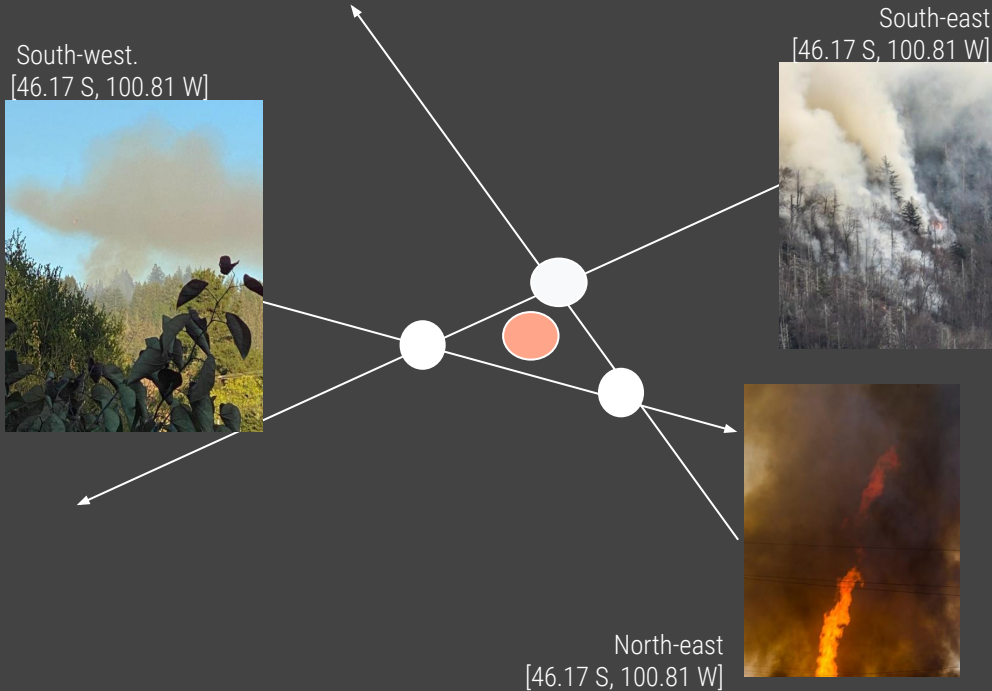
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System Architecture

App is hosted on Google Cloud Platform. Backend consisted of firebase to store our data and Google API for map features. We designed using JustinMind and implemented it using Flutter. Github was used as our collaborative platform.

Firebase database

Flutter & Dart Front-end

Image Upload

Fire Location. Google Maps API.

Final Product

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How we located
INCIDENTS
Find the **likely** point of incident

South-west.
[46.17 S, 100.81 W]

South-east
[46.17 S, 100.81 W]

North-east
[46.17 S, 100.81 W]

01 Capture Data

02 Crowdsource Images

03 Find Intersections

04 Average Intersections

CHALLENGES

(Where do we even begin)

Getting started with Flutter. Ten weeks is a short time to create an app on a new platform.

SIMPLIFYING our product. We wanted to make it easy on the user and easy on our end to obtain important location & image data.
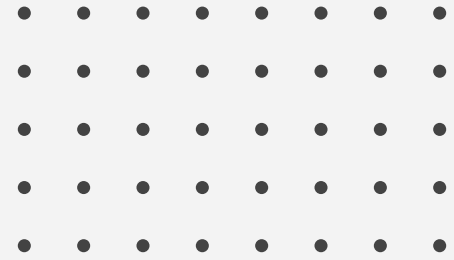
Precision on calculating fire location. Right now, we just have an approximate estimate.

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Future

Release

- ➤ Distinguish Between **Multiple Incidents**
- ➤ Increase **Accuracy**
- ➤ Handle **Notifications**
- ➤ Increase functionality for **First Responders**

Thank you.

RESOURCES

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