On The Line

Building a Mobile Application for Wildland Firefighters

Selena Soto GEOG 596A

Background



ARCHAEOLOGICAL TECHNICIAN



FOREST SERVICE



FIRE SCHOOL

Professional Experience



Wildland firefighters typically use drip torches to burn off a buffer along a forest service road or dozer line, reducing vegetation for when the main fire hits it.

Butte, Tehama, Glenn Complex California 2020





California 2020



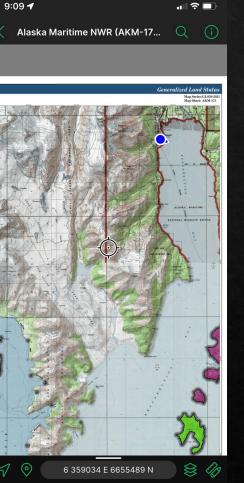
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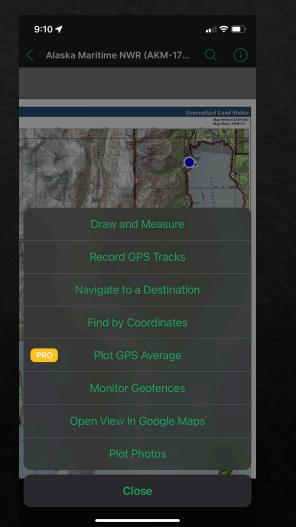
Red Salmon Complex California 2020 HOTSHUIS

FEATHER RIVER

Navigating Large Incidents

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"On The Line"



Resources for Overhead

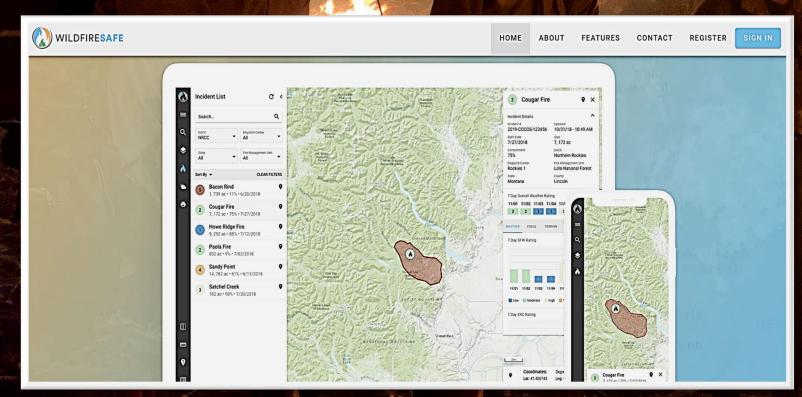


Fire Camp





"Wildfire Safe"



Getting Started



American Red Cross Emergency App



FEMA App



Natural Disaster Monitor



The Weather Channel App



AllTrails Premium



Cairn

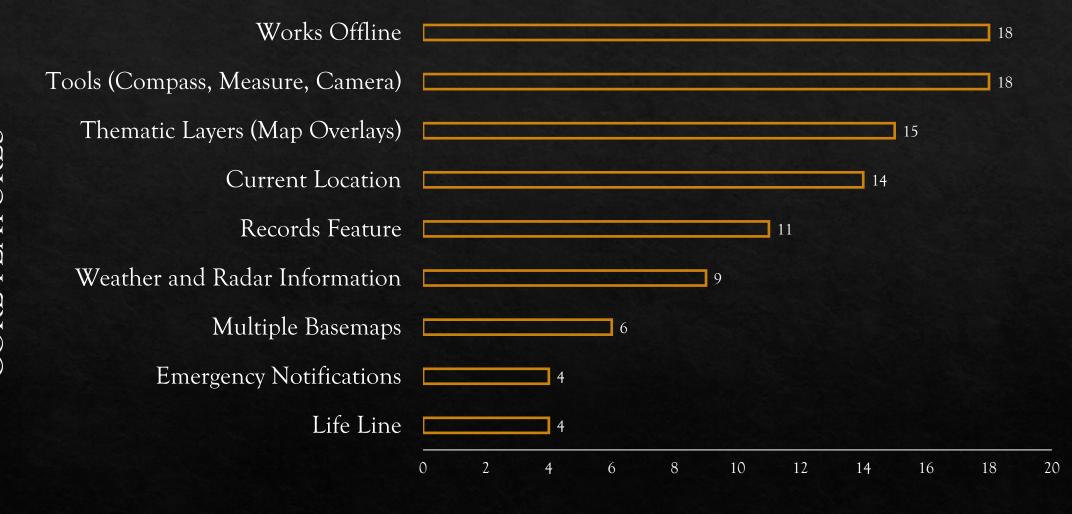


Gaia GPS: Offroad Hiking Maps



PeakFinder

Reviewing Similar Applications



TOTAL

Main Core Features

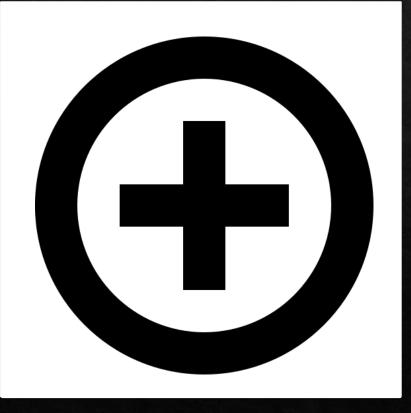
Works Offline

Tools

Thematic Layers & Overlays

Georeference User's Location

Records Features



"On The Line" Core Features

Features to Attempt:

Thematic Layers & Overlays

Georeferencing User's Location

Records Features

Tools (Measure, Camera)

If Time Allows:

Works Offline

Multiple Basemaps



Platforms

ArcGIS AppStudio

- Can create a mobile application that works offline
- ♦ Can use templates to get started
- Contains examples, tutorials, and documentation to navigate the platform
- Can distribute the developed app on desktop, iOS, or Android



ArcGIS AppStudio

What's the catch?

Heavy coding to customize application

Multiple programs and files to deal with for a novice programmer

More bugs than I would like to try to figure out

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Platforms

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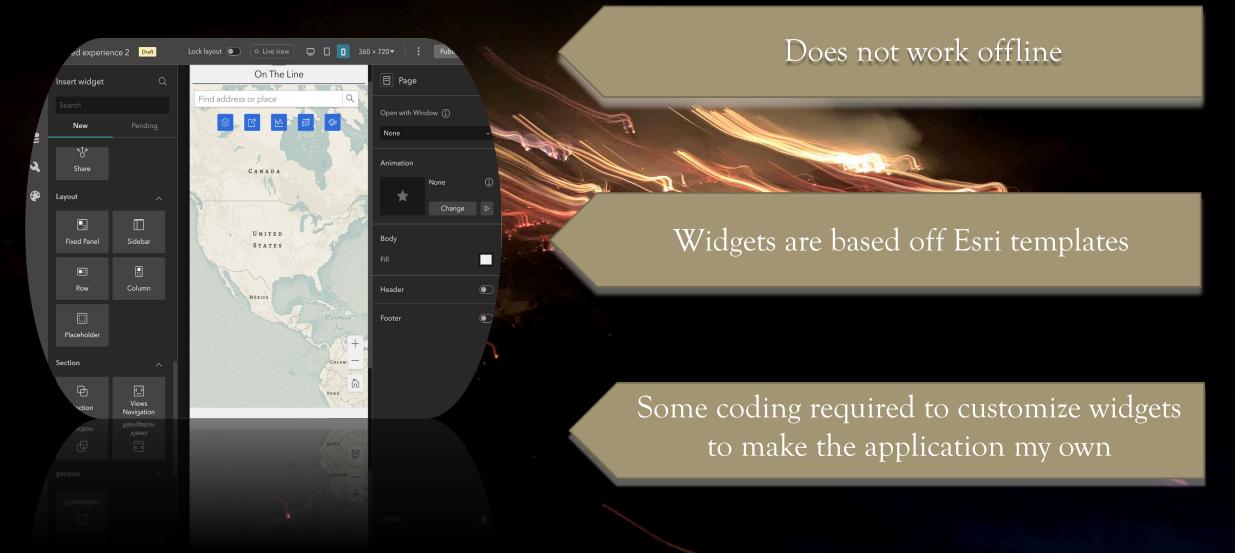
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ArcGIS Experience Builder

- No coding experience needed
- Drag and drop widgets that include layout widgets, tool widgets, map and data centric widgets, etc.
- ♦ Easy to add map data
- Easy to preview/test run application on the desktop

ArcGIS Experience Builder

What's the catch?



Platforms

ArcGIS AppStudio

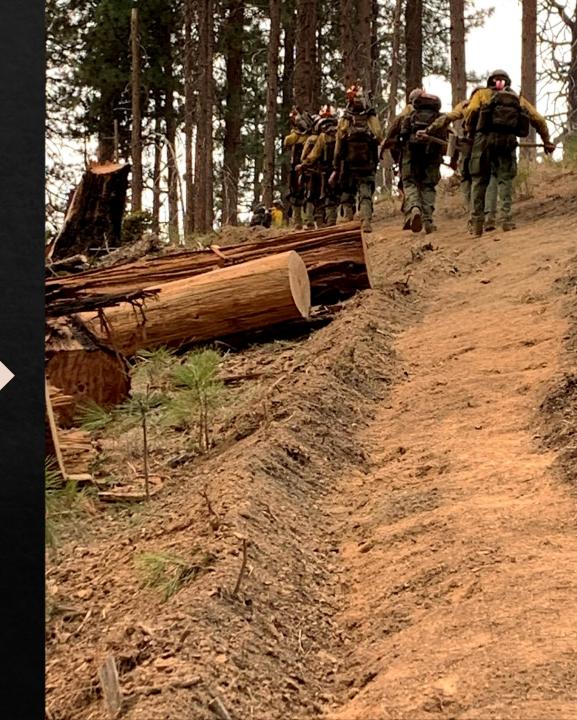
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Time Frame

Fall 2022 Fall 2023 GEOG 863 GEOG 868, 865 GEOG 596B Spring/Summer 2023



Thank You

