On The Line

Building a Mobile Application for Wildland Firefighters

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GEOG 596A
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.
Wildland firefighters burn at night when the relative humidity is higher.
Navigating Large Incidents
“On The Line”
Resources for Overhead

- Fire Camp
- ArcCollector
- Fire ARCH
- READ
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

- Works Offline: 18
- Tools (Compass, Measure, Camera): 18
- Thematic Layers (Map Overlays): 15
- Current Location: 14
- Records Feature: 11
- Weather and Radar Information: 9
- Multiple Basemaps: 6
- Emergency Notifications: 4
- Life Line: 4

TOTAL: 75
Main Core Features

1. Works Offline
2. Tools
3. Thematic Layers & Overlays
4. Georeference User’s Location
5. 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
- Sharing
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
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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**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?

- Does not work offline
- Widgets are based off Esri templates
- Some coding required to customize widgets to make the application my own
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Time Frame

- Fall 2022:
  - GEOG 863

- Spring/Summer 2023:
  - GEOG 868, 865

- Fall 2023:
  - GEOG 596B
Thank You