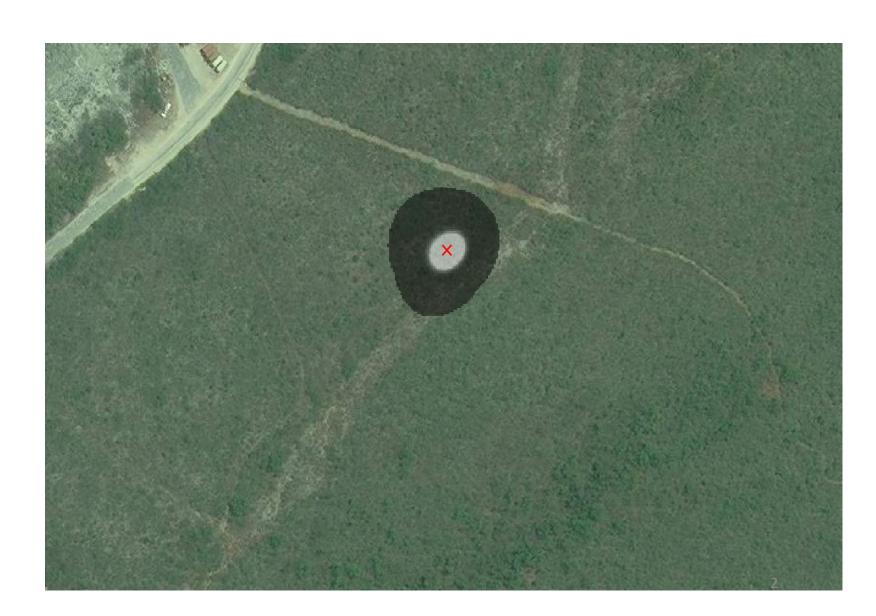


### The Ideal

- Emulate Google Maps
- Given a target animal/tag, where is it?



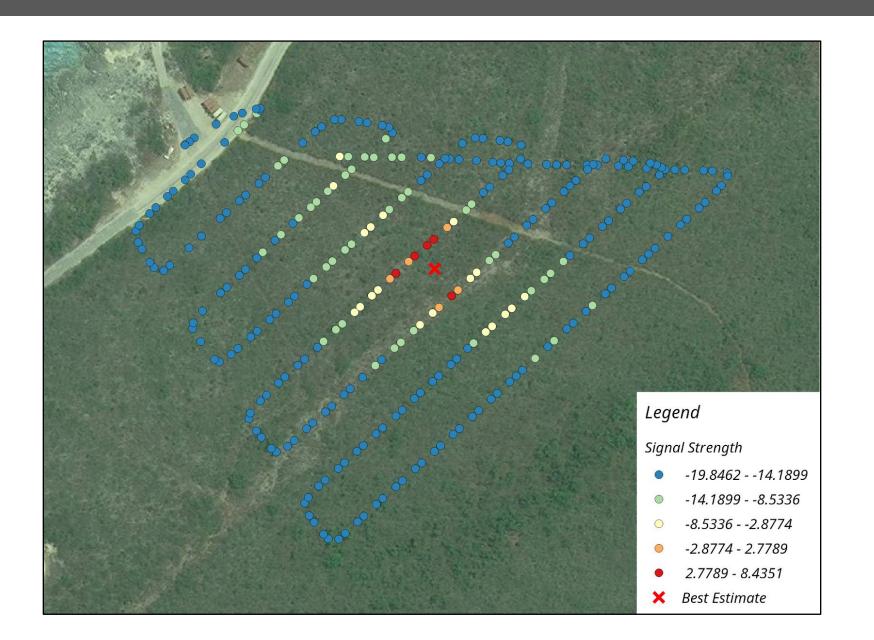
# The Reality



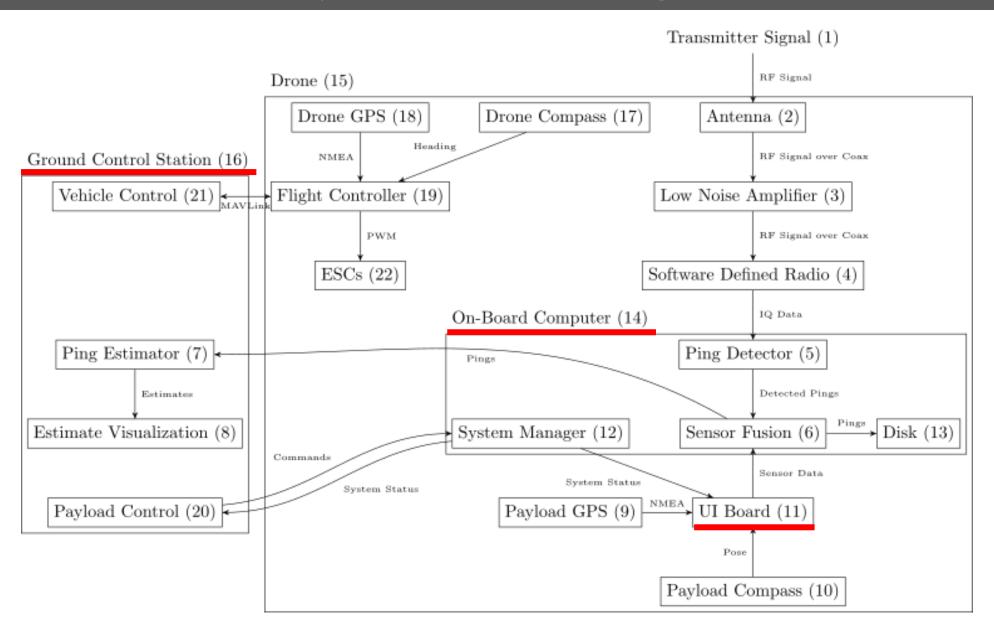
### The Solution – Drones



### The Solution – Drones



## System Design



### Deliverables and Milestones

#### Deliverables

- 1. Update an existing UI board simulator
- 2. Implement communication from the OBC to the UI board

#### Milestones

- Week 4: functioning simulator
- Week 5 6: functioning communication (within the simulator)
- Week 7+: deploying the code and debugging on the physical drone

E4E team's goal: in-flight testing by the end of the summer

# Current Progress - Simulator

```
Wed May 5 11:32:21 2021: UI board received GPS data, forwarding to OBC
       Version: 1
       Time: 1595828015
       Latitude: 32.856342
       Longitude: -117.233833
       Altitude: 92.100000
       Heading: -132
       Voltage: 1464
       Fix type: 1
Wed May 5 11:32:22 2021: Received heartbeat, updating LEDs
       Version: 0
        Time: 1620239542091
       System state: 2
       SDR state: 2
        External sensor state: 2
       Storage state: 2
       Switch state: 0
Wed May 5 11:32:22 2021: OBC received data packet from UI board
       Version: 1
        Time: 1595828015
       Latitude: 32.856342
       Longitude: -117.233833
        Altitude: 92.100000
       Heading: -132
                                                                                                   GCS
       Voltage: 1464
        Fix type: 1
```

### Current Progress - Communication

#### OBC needs to

- 1. Receive data sensor data from the UI board
- 2. Parse the data (and send it to be processed)
- 3. Send heartbeats to the GCS

- Another team member is working on receiving the data
- I wrote logic to package and parse the data
- Next step: merge the two and test (group meeting is tonight)

### Remaining Work

Merging and testing the OBC communication (within the simulator)

- Test/implement firmware for sensors
  - Compass, GPS, LEDs
- Test all components on the physical drone

### Summary

Efficiently track animals using drones

- We have a working simulator
- Communication implementation is under way

Remaining work: debugging software (and hardware?)