

# Progress Review 9

Team Aware

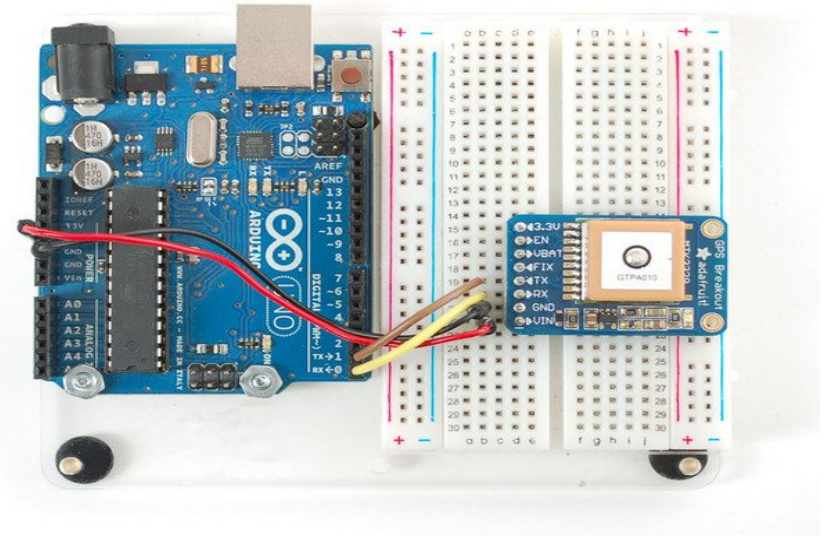
March 1, 2017

# Progress

- GPS
- Visualization
- Stereo Vision
- Object Tracking
- Radar

# GPS

- Adafruit Ultimate GPS
  - -165 dBm sensitivity
  - Up to 10 Hz updates
  - Available information:
    - Time
    - Location (longitude, latitude)
    - Speed
    - Track Angle
    - Altitude



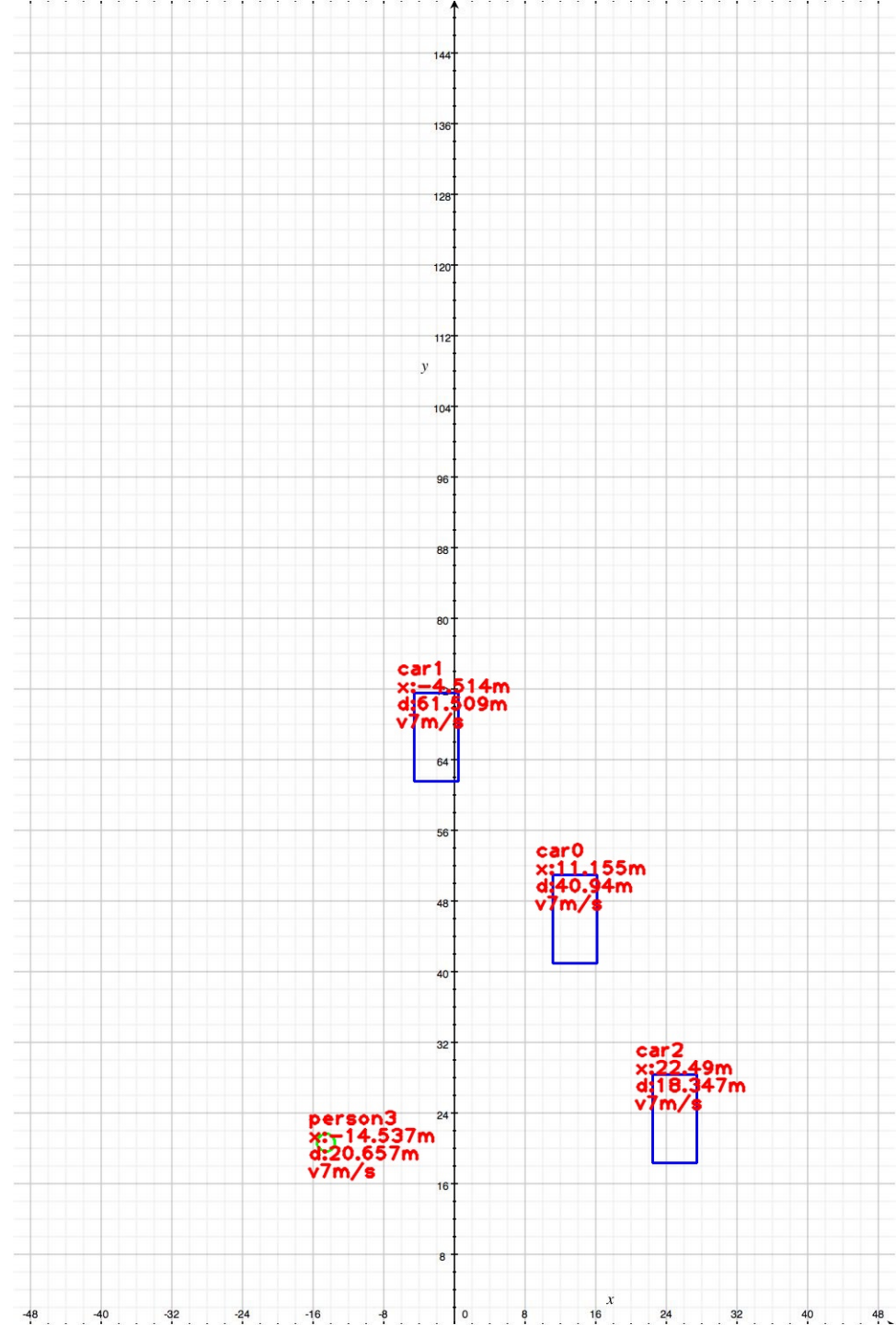
# GPS

- Acquired data through serial port (C++)
- Parsed data (C++)
- Display real-time speed (knots → mph)
- Ready to be integrated into the final system



# Visualization

- Written in C++
- Ready to be integrated
- Currently using sample values
- Data Fields
  - Classification
  - ID
  - X Pos
  - Depth
  - Velocity



# Radar

- Data can be saved to a text file for an instant.
- We need continuous data and need it to get parsed.
- WireShark not working anymore.

```
harry@harry-Lenovo-Y50:~$ ping 192.168.2.21
PING 192.168.2.21 (192.168.2.21) 56(84) bytes of data:
64 bytes from 192.168.2.21: icmp_seq=1 ttl=64 time=2.73 ms
64 bytes from 192.168.2.21: icmp_seq=2 ttl=64 time=2.60 ms
64 bytes from 192.168.2.21: icmp_seq=3 ttl=64 time=2.74 ms
64 bytes from 192.168.2.21: icmp_seq=4 ttl=64 time=2.91 ms
64 bytes from 192.168.2.21: icmp_seq=5 ttl=64 time=2.90 ms
64 bytes from 192.168.2.21: icmp_seq=6 ttl=64 time=3.88 ms
64 bytes from 192.168.2.21: icmp_seq=7 ttl=64 time=2.95 ms
64 bytes from 192.168.2.21: icmp_seq=8 ttl=64 time=3.12 ms
64 bytes from 192.168.2.21: icmp_seq=9 ttl=64 time=2.67 ms
64 bytes from 192.168.2.21: icmp_seq=10 ttl=64 time=2.75 ms
64 bytes from 192.168.2.21: icmp_seq=11 ttl=64 time=2.94 ms
64 bytes from 192.168.2.21: icmp_seq=12 ttl=64 time=2.79 ms
64 bytes from 192.168.2.21: icmp_seq=13 ttl=64 time=2.84 ms
64 bytes from 192.168.2.21: icmp_seq=14 ttl=64 time=2.84 ms
64 bytes from 192.168.2.21: icmp_seq=15 ttl=64 time=2.88 ms
64 bytes from 192.168.2.21: icmp_seq=16 ttl=64 time=2.77 ms
64 bytes from 192.168.2.21: icmp_seq=17 ttl=64 time=2.92 ms
64 bytes from 192.168.2.21: icmp_seq=18 ttl=64 time=2.82 ms
64 bytes from 192.168.2.21: icmp_seq=19 ttl=64 time=2.97 ms
64 bytes from 192.168.2.21: icmp_seq=20 ttl=64 time=2.88 ms
64 bytes from 192.168.2.21: icmp_seq=21 ttl=64 time=2.71 ms
64 bytes from 192.168.2.21: icmp_seq=22 ttl=64 time=2.93 ms
64 bytes from 192.168.2.21: icmp_seq=23 ttl=64 time=2.93 ms
64 bytes from 192.168.2.21: icmp_seq=24 ttl=64 time=2.69 ms
64 bytes from 192.168.2.21: icmp_seq=25 ttl=64 time=2.83 ms
64 bytes from 192.168.2.21: icmp_seq=26 ttl=64 time=2.64 ms
64 bytes from 192.168.2.21: icmp_seq=27 ttl=64 time=2.96 ms
64 bytes from 192.168.2.21: icmp_seq=28 ttl=64 time=2.87 ms
64 bytes from 192.168.2.21: icmp_seq=29 ttl=64 time=2.92 ms
64 bytes from 192.168.2.21: icmp_seq=30 ttl=64 time=2.78 ms
64 bytes from 192.168.2.21: icmp_seq=31 ttl=64 time=2.91 ms
64 bytes from 192.168.2.21: icmp_seq=32 ttl=64 time=2.83 ms
64 bytes from 192.168.2.21: icmp_seq=33 ttl=64 time=2.78 ms
64 bytes from 192.168.2.21: icmp_seq=34 ttl=64 time=2.87 ms
64 bytes from 192.168.2.21: icmp_seq=35 ttl=64 time=2.81 ms
64 bytes from 192.168.2.21: icmp_seq=36 ttl=64 time=2.93 ms
^C
--- 192.168.2.21 ping statistics ---
36 packets transmitted, 36 received, 0% packet loss, time 35058ms
rtt min/avg/max/mdev = 2.604/2.873/3.888/0.202 ms
```

# Future Work (PR 10)

- Filtered Data from all sensors
  - Object tracking for Multiple Objects
  - Verify accuracy of GPS
  - Get data from OBD Port
  - Start integration
- 
- Desktop should arrive this week.
  - Assemble and set it up in Lab.