# Progress Review 9

**Team Aware** 

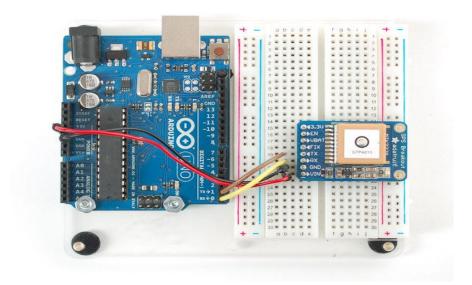
March 1, 2017

#### 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



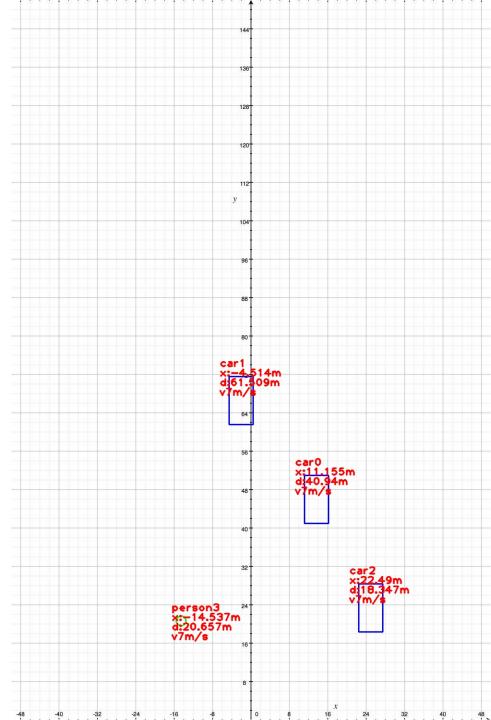
- Acquired data through serial port (C++)
- Parsed data (C++)
- Display real-time speed (knots  $\rightarrow$  mph)
- Ready to be integrated into the final system

#### GPS

	<b>ziha</b> d	Zihao-ThinkPad-W550s: ~/Desktop/readGPS	80x24	readGPS.cpp
	Current speed: 0.01150	98 mph		
	Active GPS signal			I dow / t ty ACM
	Current speed: 0.01150	98 mph		'/dev/ttyACM6
	Active GPS signal			. F_SETFL,0);
	Current speed: 0.03452	23 mph		
<b>JPS</b>	Active GPS signal			11549 hu
	Current speed: 0.0345	23 mph		ead(fd1, but
	Active GPS signal			== 1){
	Current speed: 0.011508 mph			
	Active GPS signal			(buff[indexE
Carlos and	Current speed: 0.0460	31 mph		if(strncmp
- Carl	Active GPS signal			// Fol
S_win	Current speed: 0.0115	98 mph		parse
	Active GPS signal			// pri
	Current speed: 0.0345	23 mph		printi
	Active GPS signal			
	Current speed: 0.0000	00 mph		
	Active GPS signal			indexBuff
	Current speed: 0.0000	00 mph		
	Active GPS signal			lse
	Current speed: 0.0000	00 mph		indexBuff
	Active GPS signal			
	Current speed: 0.0230	16 mph		
Sections.				<pre>/printf("erro</pre>
			195 }	

## 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\_seg=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.