## Release Train Meeting Notes

Here True accuracy 5 M going toward 1 M, goals to build miles of roadway going forward.

20 HT4 rigs installed, navigation sensor testing

Cyclops uses cell phone to enable third party drivers to generate crowd source data.

Localization rig goals include identification of objects such as poles, signs, obstacles, barriers -

What is the success rates for identifying features?

Goals are 85% and folded into success criteria.

HAD – our product is HD Live map, that’s the only product.

## Epic Story Planning

Odometer Sensor development

Acceptance Criteria:

Test plan for gathering/analyzing data

Identify/gather hardware

Determine compute requirements for real time integration

Phase I

Optical, lidar, ground radar

1. Test plan for gathering/analyzing data
   1. Design for preliminary small evaluation data set
      1. Simple rig construction to collect small data set
      2. generate test plan for prelim data analysis
      3. conduct prelim experiment and evaluate results
   2. Design for larger (on vehicle) evaluation data set with ground truth
      1. Mechanical system design
      2. Electrical system design
      3. Outline test plan for data collection and data analysis
2. Identify and gather hardware
   1. Identify design parameters
      1. Precision
      2. Accuracy
      3. Operating conditions
      4. Generate draft test plan target design parameters
   2. Hardware selection (selection should include multiple candidates for evaluation)
      1. Sensor candidate selection (e.g., Frame rate, Resolution)
      2. Mechanical OTS
      3. Electrical OTS
      4. In house component design requirements
      5. Draft hardware selection of sensor prototype design plan
   3. Hardware BOM and procurement
3. Determine compute requirements
   1. Algorithm selection
      1. Identify candidate algorithms
      2. Algorithm selection trade study
   2. Evaluate processing speed requirements
   3. Outline Implementation strategy
   4. Generate algorithm section of sensor prototype design plan

OBD System

1. Test plan for gathering/analyzing data
   1. Plan to gather velocity data from obd port
   2. Evaluate methods for obtaining obd data
   3. Define test plan for data analysis
   4. Identify best platform available data check sprint
   5. Identify platform independent available data
   6. Collection plan for gathering matchup data
   7. Outline test plan for data collection and data analysis
2. Hardware component selection
   1. Obd interface selection
   2. Data collection/storage hardware
3. Determine compute requirements
   1. Analysis pseudo code
   2. Identify candidate algorithms

Odometery Sensor Development

Phase II

1. Preliminary data (contrast hardware here)
   1. Basic data set (test plan laid out in phase I)
      1. Simple rig constructed to collect small number of images
      2. Constant height above ground
      3. Use candidate camera
   2. Algorithm validation
      1. Process images to compute delta x,y
      2. Accuracy estimate, find key parameters: angle, range in frame, image noise, low light limits, high/low contrast scene
2. Validation prototype
   1. Prototype data collection system
      1. Mechanical design
      2. Electrical design
      3. Deployment plan
   2. Algorithm validation/characterization (test plan laid out in phase I)
   3. Raw data quality assessment
   4. Data product quality assessment

OBD

Phase II

1. Collect candidate data set
2. Compare with highly accurate GPS matchup set
   1. Use GPS position data to evaluate position accuracy
   2. Use change in GPS velocity to evaluate forcing data (accelerator, brake) if available