Preliminary Development Plan

# Development Requirements:

1. Platform controller must be a student’s HCS12 board from previous semester.
2. Platform link has to be a commercial Linux box. Uses Rs232 to communicate with platform controller.
3. PID controller to enable closed loop speed control.
4. Document communication protocol for how the platform controller receives commands. And for how the Linux Box communicates with the platform supervisor / controller.
5. Ability to monitor the sensors from the platform supervisor using Wi-Fi.
6. Use the current triangle robot mechanism and the power connection to the platform is the only allowed wired connection.
7. Platform operations has to work with asynchronous commands.
8. Sensors and power details for the environmental logger will be fill researched next week.
9. Code must be managed by some form of version control software.

# Individual Responsibilities

|  |  |  |
| --- | --- | --- |
|  | **Task** | **Description of Task** |
| **James** | * Preliminary Development Plan | Create a preliminary development plant that highlights development requirements, Individual Responsibilities, Resource Requirements, and Scheduling |
| **Kevin** | * Design Review | Create a Design review, go over all requirements from last semester and compare them to our current robot status. Identify deficiencies |
| **Ovi** | * Information Assessment | Create an information assessment of our previous project, highlight all requirements, missing information and potential technical risks |
| **Undeclared** | * Encoders * PID control * Platform Link * Wi-Fi Link * Environmental Logger * Communication protocol * Source code control procedures |  |

# Resource Requirements

1. Electronic measuring equipment (multi-meters, oscilloscopes, logic analyzers)
2. HCS12 Board from semester 4
3. Platform supervisor running Linux
4. Embedded COTS system running Linux
5. Environmental Logger Sensor
6. Robot supplied by Dave
7. Linux integrated development environment

# Scheduling

|  |  |  |
| --- | --- | --- |
| **Week Ending Date** | **Phase** | **Jobs** |
| Sept 23, 2016 | Planning | * Preliminary Development Plan * Design Review * Information Assessment * Embedded COTS research * Prepare Questions for Peter * Distribute Linux host to group members |
| Sept 30, 2016 | Planning / Development | * Finalize Development Plan * Preliminary Specification for Alpha Proof of Concept, upon customer requirements * Selection Matrix for COTS system; Pick system * Encoders |
| Oct 6, 2016 | Development | * PID Control * Finalize specification for proof of concept |
| Oct 15, 2016 | Development |  |
| Oct 21, 2016 | Development |  |
| … | … | … |