

**Team: Movin On      Engineer: Matthew Gould**

**What were the outcomes of the prior phase?**

**1. What did I plan to do?**

- Continue to collaborate with Kristen and come up with a completed electrical hardware design.
- Assist other teammates in determining necessary wire routing.
- Complete Electrical BOM
- Assemble the documentation needed to program the DSC/MCUs
- Continue motor control algorithm research.
- Develop a formula for relating force sensor output to acceleration and deceleration commands and adjusting for IMU output
- Research Mellow board to determine if dynamic breaking is feasible.

**2. What did I do?**

- Research Dynamic breaking
- Move electrical BOM towards competition
- Continue motor algorithm research

**3. What did I learn? How were plan and reality different?**

I was a lot busier than I thought and I was unable to accomplish a lot of what I had planned to. Next time I should make more realistic goals taking into account the other demands for my time.

**Team level goal for next phase**

- Complete necessary design work over the summer to ready the project for senior design
- 2.

**What do I plan on doing to ensure that my team has a successful review at the end of the next phase?**

1. Test and determine motor parameters for purchased motors (10 hours)
2. Create a simulink model for the BLDC modified FOC algorithm including the parameterized motor that performs adequately (50 hours)
3. Create testbenches in MATLAB that test the algorithm (20 hours).
4. Convert simulink code to C. Write the code for all MCUs ) and get it to compile (500 hours).
5. Collaborate with Kristen on FSR design (20 hours).

