**Team: \_\_\_\_\_\_**P21462**\_\_\_\_\_ Engineer: \_\_\_**Christian Niebling**\_\_\_\_\_\_\_\_\_**

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

1. What did I plan to do?
   1. An in-depth update of the electrical system
   2. Tests of the current electrical systems to verify metrics and functionality
   3. Decide on a specific battery or battery type that best fits our needs
2. What did I actually do?
   1. Updated the schematic and its behavior
   2. Tested solarpanels, charge controller, battery, MCU. The relay switching needs to be tested as well as the 12 power supply charging the battery through the CC.
   3. Researched proper lead acid usage. Determined how the battery should be handled and made necessary changes in the schematic
   4. Designed display panel for user to interact with the cart
3. What did I learn? How were plan and reality different?
   1. There was less time to test components than I realized.
   2. Test plans should be in place before testing so the tests are time efficient and the results are properly recorded
   3. I learned the lead acid battery can be easily damaged without proper care, and our system is more adaptable than previously thought
   4. I learned power combination is out of the scope of this project. Sources cannot simultaneously combine power at different voltages

**Team level goal for next phase**

In the detailed design phase, we will build upon the work we completed for the preliminary

detailed design phase. We will refine our designs and then analyze them to confirm that our

exact designs are sufficient to achieve the necessary functionality of the cart. Once our design is

finalized, we will be able to finalize our bill of materials and find the suppliers with the best

value for the materials. Also, as we are finalizing the design, we well develop test plans that are

possible to execute with our design. We will update our flowcharts and risk management

document as the conditions of the project change.

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

1. Write brief test plans and immediately start testing critical features to verify the previous team’s analysis and design
2. Create a second draft of the schematic that encapsulates all necessary functions for the next phase
3. Benchmark methods of adding additional analog ports for the MCU
4. Create a solid BOM and select parts that are cost efficient and the best fit for the job
5. Keep the risk document updated.
6. Keep our confluence page up to date
7. Decide a better team name

**What is standing in my way of meeting my next phase goals?**

* Time constraints with other classes and projects being assigned
* Figuring out which tasks hold the highest priority and how to accomplish them in a time efficient manner.