**MECH 328 Weekly Progress Report *Dates: Oct 20 - Oct 27***

Group: 10 Project Title: TrailRider 5.0

**Last Week’s Goals**:

1. Determine governing equations for analysis of components to be input to MATLAB
2. Create an excel sheet with a range of outsourced components including costs
3. Begin MATLAB optimization of the selected range of key components
4. Finish DFMEA 1 and begin DFMEA 2

**Last Week’s Activities**:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Activities | Hours Worked | |
| Last Week | Total |
| Andrea | * Started DFMEA 2 * Started template for prototype appendix | 8 | 49 |
| Carson | * Developed Gantt chart for detailed design * Wrote weekly report | 8 | 49 |
| Julia | * Justified choice of chain drive over other drives * Refined Gantt Chart tasks for design stage | 8 | 49 |
| Lukas | * Started the needs and target specifications section of the final report. | 8 | 49 |
| Ratthamnoon | * Started general CAD assembly of the wheelchair * Started engineering calculations | 8 | 49 |
| Stephen | * Completed DFMEA 1 * Started on DFMEA 2 | 8 | 49 |

**Summary of progress**:

* A MATLAB simulation to choose a drive-system may be outside our scope given the remaining project time, so this task was removed from our plan
* The required appendices from the report rubric have been divided among team members
* DMFEA 1 was completed and DMFEA 2 has begun
* Chose the important design decisions that will be made in the detailed design phase
* Preliminary SolidWorks model has been completed, it will be updated as detailed design is continued

**Assessment of Overall Progress:**

* Our team has approximately 10 meetings before the report is due. Our design decisions moving forward will be greatly constrained by time. The majority of our efforts will be put into designing a drive-system, while other components such as frame material, fasteners and seat cushion will be chosen such that they are ‘good enough for a prototype’.
* Three appendices of the report have been written, and the largest remaining appendices have been assigned ‘leaders’ who will ensure that all rubric items are met.
* All decisions leading up to the CSR are considered finalized, which means that Appendix D and Appendix E can be written.

**Goals for Next Week**:

1. Choose a train value with justification and calculations
2. Choose all components for the drive system
3. Choose wheels and a caster
4. Complete Appendix D
5. Make substantial progress on Appendix E
6. Complete the second DFMEA

**Action Items for Next Week**:

|  |  |  |
| --- | --- | --- |
| Name | Action(s) | Due Date(s) |
| Carson | Choose a train value with justification | 10/30 |
| Julia | Choose the type of power transmission with justification | 10/30 |
| Friend | Choose wheels and a caster with justification | 10/28 |
| Stephen | Complete DFMEA 2 | 10/28 |
| Stephen | Lay out the foundation for Appendix H: Failure and Safety | 11/01 |
| Lukas | Complete Appendix D: Needs, Requirements and Evaluation Criteria | 11/01 |
| Lukas | Lay out the foundation for Appendix E: Concept Development and Selection | 11/04 |
| Andrea | Lay out the foundation for Appendix J: Prototype Testing | 11/01 |

Detailed Design Gantt Chart:

