**MECH 328 Weekly Progress Report *Dates: Oct 28 - Nov 03***

Group: 10 Project Title: TrailRider 5.0

**Last Week’s Goals**:

1. Choose a gear 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

**Last Week’s Activities**:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Activities | Hours Worked | |
| Last Week | Total |
| Andrea | * Worked on the life cycle analysis appendix | 8 | 57 |
| Carson | * Determined preliminary train value range * Specified chair width per engineering calculations | 8 | 57 |
| Julia | * Researched various bike components to explore synergies and compatibility issues. | 8 | 57 |
| Lukas | * Completed a draft of 50% of the report body. * Wrote this weekly report. | 8 | 57 |
| Ratthamnoon | * Completed preliminary engineering design calculations to address prime areas of concern | 8 | 57 |
| Stephen | * Finished DFMEA 2 * Made significant progress towards DFMEA 3 | 8 | 57 |

**Summary of progress**:

* A preliminary gear ratio range has been determined to provide a general value such as to enable the specification of other drivetrain components.
* The second DFMEA is complete, and the third is nearing completion with only minor further revisions required per final design information.
* Life cycle analysis is 50% complete.
* Significant progress was made on the report in lieu of Appendices D and E.

**Assessment of Overall Progress:**

* Our team has approximately 7 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’.
* Appendices of the report are in various stages of completion and have been assigned ‘leaders’ who have begun their respective sections to ensure rubric deliverables are met.
* Drivetrain component selection is proving to be more time consuming than we initially anticipated. As such, we plan to primarily focus on the aspects relevant to propulsion and potentially abandon the specification of parts that at not unique to our design such as disc breaks.
* A MATLAB optimization has been value-engineered out of our plan based on time constraints as our time is better spent on ensuring we have a working set of components. Detailed optimization can be completed at later stages that are out of the scope of this project.

**Goals for Next Week**:

1. Finalize the specification of all drivetrain components.
2. Develop a working draft for all appendices to better evaluate progress.
3. Complete the third DFMEA
4. Complete all minor appendices

**Action Items for Next Week**:

|  |  |  |
| --- | --- | --- |
| Name | Action(s) | Due Date(s) |
| Carson | Finalize part specifications; intent towards producing a detailed list of components and associated costs. | 11/06 |
| Julia | Complete assigned minor appendices. | 11/01 |
| Friend | Refine calculations per final part specifications.  Assemble the CAD model of the drivetrain system; intent to deliver engineering drawings and report images. | 11/06 |
| Stephen | Complete the failure modes appendix and assists with finalizing part specifications. | 11/06 |
| Lukas | Continue assigned in progress sections of the report body. | 11/01 |
| Lukas | Complete Appendices D and E | 11/04 |
| Andrea | Complete the life cycle analysis appendix and other minor appendices as per Goal item 4 for next week. | 11/06 |

Detailed Design Gantt Chart:

