**Cornell Cup**

**Final Report Topics**

1. **Challenge Definition Restated**

Restate what challenge you are trying to solve? Why is this a worthwhile challenge? What will a good solution be able to do? If any new needs have been identified or redefined since the application please be sure to explain them.

1. **Project Solution Updated**

What is your solution entry approach to the defined challenge? Describe some of the main functionality of your solution entry. Provide an overview of its subsystems and key components to achieving this functionality. Throughout these descriptions highlight how your solution meets the challenge’s needs. Also highlight any changes from your original proposal and provide an overview of the reasoning why.

1. **Performance Evaluation**

Include in an appendix a list of all of the performance measures used throughout the design and final evaluation of your solution entry. Highlight in your report the performance measures that directly demonstrate how well you solution entry meets the defined challenge need as well as any performance measures for subsystems or components that help achieve your entry’s key functionality. Discuss the results to these performance measures to help describe both the strengths and weaknesses of your design. In this discussion include:

* The actual results from these performance measures in your report in an easy to understand format that helps support your discussion.
* How your solution entry compares to any previously existing (even partial) solutions
* Results that detail the reliability, robustness of design, and potentially common or severe failure modes.

1. **Technical Documentation**

Describe all of the technical aspects of your solution entry as if you were creating a manual so that your work would be replicated, which includes key equations. Include relevant examples and diagrams to aid the reader. Also be sure to include any insights special to your design or in using your selected components that could help a reader easily overcome any stumbling blocks that you may have encountered.

For the selection of key components or major design decisions, provide justification for the route you chose to follow. This can potentially include brief descriptions of alternatives considered or decision matrix results.

Also include a description of the tests that were run to verify key components or the integration of key components was working properly. Details on the tests should be included in a Test Plans Appendix.

1. **Project Execution Overview**

Provide an overview on how the project was executed highlighting any:

* Issues or opportunities that arose, how they were handled, and their impact on the project
* Key decisions that had to be made and the reasoning behind those decisions
* Potential risks or concerns that were addressed and how they were addressed
* Project timeline issues or significant changes and the reasoning behind those changes as well as how better planning might have been able to help (if possible).
* Budget justifications or significant expenditures
* Notable outcomes of any mid-project or peer evaluation reviews

Include an updated version of your timeline, your budget, and a copy of all of your completed mid-project and peer-reviews in separate appendixes.

1. **Recommendations & Next Steps**

Describe what you would do if you were to continue this project’s development. What new functionality might you add or remove? What would you do differently in moving forward? What would be the required resources to pursue these actions? What would be the resulting performance gain or additional needs met? What have you learned as result of going thru the process (in terms of success, issues, and failures) and you’re welcome to highlight how you might do things differently in the future.

1. **References**

List all references cited in the final report following a standard journal formatting. Please include copies of your references if they can be provided. The reference pages do not count towards the max 50 pages of the main Word document. If no references are cited in your final report, this section can be left blank.