

MCHE 470: Robotics

Fall 2013 – Master Plan Final Report

Assigned: Wednesday, November 20th

Due: By the beginning of the final exam

Assignment:

Submit a design report on your Master Plan robot. The report should introduce your chosen design and support its selection in a document containing *at most* 10 pages of text (figures, tables, etc. are excluded from this page count). This support should include final versions of the design tools used to generate the concept. In addition, two alternative designs (for a total of three) and evaluation of them via an Evaluation Matrix should be included. Finally, the robot's performance in the Master Plan contest should be documented, and the design process evaluated using this new data (*i.e.* What assumptions about the contest did you get right? What did you get wrong?) A suggested outline and required formatting for the report are attached to this document.

Submission: Hard copy to me or slid under my office door (Rougeou 225)

OR

Emailed *single* pdf:

- to joshua.vaughan@louisiana.edu
- with email subject line and filename TeamX-MCHE470-MasterPlan where X is your team number

Final Report Suggested Outline

Title Page

Abstract – Standalone summary of the report's contents

I. Introduction – Introduce the problem and its challenges

II. Selected Design Overview

- Give a detailed description of the final design
- Include computer-generated figures that show its components and how it operates
- Start with discussion of the entire design before focusing on sub-systems

III. Problem Understanding

- A concise presentation of the problem understanding process followed
- As support, include and discuss:
 - House of Quality
 - Specification List
 - Function Tree

IV. Concept Evaluation

- Present two alternative designs
- Support the selection of your final design via Evaluation Matrices

V. Design Performance Report and Evaluation

- Report the robot's performance in the final competition
- How does this performance:
 - Relate to your expected performance?
 - Relate to the assumptions you made during the design process? What did you get right? What did you get wrong?

VI. Conclusions – A summary of what was presented in the report

VII. References (if needed)

Required Formatting

- Fonts
 - Times New Roman at a font size of 11 points; or
 - Computer Modern family of fonts at a font size of 11 points or larger.
- Margins – 1 inch in all directions
- A cover page that contains:
 - Project title
 - Course information
 - Team member names and CLIDS
- The abstract on a separate page
- Pages numbered beginning with the page of the Introduction
- All equations, figures, plots, etc. are computer generated
- IEEE-style citations

NOTE: A LaTeX report template is available on the class website and at:
<https://www.writelatex.com/docs?template=MCHE-Report-Template>