# Problem Definition Assignment

**ME**

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#### Due Friday, October 22, 2010 (by 5:00 p.m.)

#### (worth 10% of your overall quarter grade)

#### A standard and important phase of the design process is the development of a clear problem statement. The problem definition phase can be broken down into three essential phases:

* *Clarification of objectives*. I.e., break down the general design objective of buildinga contest-winning entry into more specific and concrete objectives.
* *Establishing functions and sub-functions*. Work out a detailed list of the functions needed by your device(s).
* *Setting specifications and constraints*. Set specifications for as many of your objectives and functions as possible. Also, make a list of the overall constraints that have to be respected by your device(s).

#### In this assignment, you need to flesh out a detailed problem definition that covers these three key issues. You can use the structured design methods such as objective trees, function input/out diagrams, or function trees. Or, you can use any other approach that you like. But, you need to cover *at least* these three areas. Your homework will be judged as follows:

#### Did you really think through all of the objectives, or did you just go through the motions?

#### Did you really flesh out the key issues?

#### Are the functions you chose really meaningful for the contest, and did you really capture all of the functions needed for competition?

#### Are your specifications complete and realistic? Will you be able to measure or test your device against your specifications?