ENGR107 S10

Design Project

Object: To prepare students to enter next year’s Pumpkin Chucking Contest. To do so you will build an apparatus that will hurl a tennis ball to the far reaches of the Earth. The Earth, as you know it, will be the space between Robinson B and the Johnson Center.

Limitations:

1. All structural members, including a throwing arm, if used, will be no larger than standard 2x4 lumber.
2. The structure, except for a throwing arm, will fit inside a 4'x4'x4' box.
3. A throwing arm, if used, may be no longer than 8'. This includes the complete throwing arm structure, not just the distance from the center of rotation to the projectile delivery point.
4. Only released human-inputted potential energy may propel the tennis ball.
   a. No externally compressed air.
   b. No electrical or chemical energy may create the potential energy.
   c. No kinetic energy may be input by external sources.
5. All designs must be approved for safety by management before construction may begin. If you have any doubts about safety, find a better idea. Management is paranoid and refuses to take any chances. You will be expected to show how the direction of flight is controlled.
6. Team budgets are $50.
   a. Every component must be itemized and priced at it’s market price.
   b. The only exception is salvaging parts from existing assemblies not designed to chuck something.
      i. Such parts will be priced at $1.
      ii. If evidence can be provided that the part costs less than $1, a lesser price will be accepted.

Deliverables:

1. An oral presentation covering the first six (6) chapters of the Project Report Table of Contents
2. A working device
3. A completed written Final Report using the Project Report Table of Contents.
   a. The report will be submitted electronically
   b. Photographs showing the object in operation will be included
   c. Charts, graphs, sketches, etc. will be scanned and included
4. The device delivered and demonstrated during Final Exam week

Disclaimer: Management reserves the right to modify this project if deemed necessary for safety or to improve the educational characteristics of this project.