EGM 180 Project 1

PROJECT DESCRIPTION:
Design and build a Boe-Bot to compete in the enhanced Robo-Billiards event.

PREVIOUS YEARS CONTESTANTS:
Photos from Spring 08;
Photos from Spring 09;
Photos from Spring 011 section 602;
Photos from Spring 011 section 603.

PROJECT DOCUMENTATION:
Your complete project documentation is due in class on March 20th. One documentation package is required per team. The project includes the following:

1. A project proposal, including a statement of your planned bot-esthetics, due on Feb 27th.
2. A schematic of your breadboard.
3. A final project report.
4. Participation in the in-class competition.

Each item is discussed in greater detail below.

1. Project Proposal
   Your proposal must include an English description of your proposed Boe-Bot design including bot-esthetics. A sketch of your proposed bot must be included. You must also include a schedule showing the order in which the major components of your design will be developed and tested. Your proposal should be submitted in hardcopy no later than the start of class on Feb 27th.
2. Schematic
Your final project documentation must include a schematic of your breadboard layout. Although your breadboard should evolve incrementally, you are only required to document the final version of your breadboard. Your schematic may be hand drawn or produced using computer software such as the free schematic software from ExpressPCB.

3. Final Report
Your project documentation must include a final report, and that report must include 2 sections: (1) a section on testing and evaluation, and (2) a section describing your final design including your bot-esthetics. The testing and evaluation section should discuss your development schedule and explain any deviations from your proposed schedule. The design description should contrast the final design with the design presented in your proposal and explain/motivate the differences. The final report should be completed by March 25, the second day of the in-class competition.

4. In-class competition
You are expected to participate in the in-class competition on the final two days of project 1 work. The points that you earn in competition contribute directly to your grade for project 1 as indicated below.

**GRADING:**

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<tbody>
<tr>
<td>Proposal</td>
<td>10</td>
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<tr>
<td>Schematic</td>
<td>8</td>
</tr>
<tr>
<td>Bot-esthetics</td>
<td>5</td>
</tr>
<tr>
<td>Report</td>
<td>14</td>
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<tr>
<td>Competition Score</td>
<td>43</td>
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<td><strong>Total</strong></td>
<td><strong>80 pts</strong></td>
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Project 1 grades will be assigned to the “team,” with each team member getting that same grade. Only one copy of all project documentation is required for each team.

**DUE DATES:**

Project proposal: 2/27/13
In-class competition: 3/20/13