**Brainstorming Design Decision Matrix Worksheet**

**Team Name:** ­­­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Overview:** Each team member should describe his/her top design idea. Compare the ideas in a matrix, rating them on important attributes. The design with the highest score wins.

**Instructions:**

1. **Sketch and describe each design.** This will get all of you on the same page with knowing what each other means, and it will help the instructor to understand what you are thinking. Include photos and descriptions of each idea in this document.
2. **List important attributes of the design.** Consider aspects such as cost, complexity, manufacturability, feasibility, originality, efficiency, prior experience, ease of integration, durability, modularity, and time to build. List as many of these that are applicable and add criteria (and rows) if appropriate.
3. **Weight each attribute.** This is what percent of your design decision is influenced by each factor, so total weight should add to 1.00 (100%). Higher weight means more importance.
4. **Rate each idea on each attribute.** This rating goes in the top left triangle of each score box. Rate the designs 0 – 10 in each category, with 10 = best and 0 = worst. It is fine if some criteria have matching ratings.
5. **Find the weighted scores for each idea.** Multiply the original rating by the weight. This score goes in the bottom right triangle of each box
6. **Calculate the total score for each idea.** Sum all the weighted scores in that column to obtain total score. As a reality check, max possible score is 10. The winning idea is the one with the highest score. You can also combine aspects of different ideas to make one final best idea.

**Design Decision Matrix**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Attribute** | **Weight (.%)** | **Idea 1** | **Idea 2** | **Idea 3** | **Idea 4** | **Idea 5** |
| **Complexity (simple is higher)** |  |  |  |  |  |  |
| **Cost (cheaper scores higher)** |  |  |  |  |  |  |
| **Feasibility** |  |  |  |  |  |  |
| **Mfg time (faster scores higher)** |  |  |  |  |  |  |
| **Modularity** |  |  |  |  |  |  |
| **Add more as needed** |  |  |  |  |  |  |
| **Weighted Total** | 1.0 |  |  |  |  |  |