### **Activity - Evaluate the Possibilities**

**Description**

What designs work best?

Select the optimum solution to move the process forward. Look to combine ideas, eliminate those that are unworkable because of constraints, and decide on two or three to flesh out before deciding on a single solution.

Time To Complete: 1-3 Hours

Common Core Standards

* ELA.SL.1, 4, 6

NGSS Assessed:

* HS-ETS1-1, 1-3

**I Can Statements**

* I can evaluate solutions to my software challenge by:
  + Identifying an accurate list of criteria and constraints
  + Applying the criteria and constraints systematically
  + Considering the ideas and input of my collaborators
* I will know if my evaluation of solutions to my software design challenge is of high quality if it:
* Accurately identifies the criteria and constraints
* Systematically applies the criteria and constraints
* Considers the ideas and input of my collaborators

**Suggestions for Assessing Student Readiness to Move Forward:**

* Confer with students, asking probing questions about their evaluation to gauge how well it meets the quality criteria.
* Ask students to describe their brainstorming process and the solutions they generated and explain (orally or in writing) how it meets the quality criteria for a high-quality challenge.
* Ask students to self-evaluate their work after completing one of the activities below.

Ask students to brainstorm a list of challenges that the team will have to overcome (budget, time, expertise) to make their product or system a reality. Then use the criteria and constraints to complete a decision-making matrix to weigh the pros and cons of each solution.

Have students use a multi-vote process to narrow down ideas after brainstorming

Resources

Decision-making matrix: <http://asq.org/learn-about-quality/decision-making-tools/overview/decision-matrix.html>

Multi-voting procedure: <https://asq.org/learn-about-quality/decision-making-tools/overview/multivoting.html>