

MIT OpenCourseWare  
<http://ocw.mit.edu>

2.007 Design and Manufacturing I  
Spring 2009

For information about citing these materials or our Terms of Use, visit: <http://ocw.mit.edu/terms>.

2.007 -- Introduction to Design and Manufacturing I  
**Milestone #7 – Design Integration**  
Dan Frey and Kaitlyn Becker

**Deliverable: About 5 pages in your design notebook.**

**Due Date: March 30 through April 3 at the normal times (T, R, or F at 4PM).**

**DESCRIPTION:**

This milestone concerns overall design of your system based on the results you attained in making your most critical module. For many of you, this will be an important juncture in your design process. Some of you will want to develop mechanisms that cooperate with the module you just developed (for example to take a can from the field and place it in your crusher). Others may want to reconsider the module they just developed, simplify their approach, and begin to execute a new plan. In either case, the decisions you make now can have a big impact on your overall success and the relative ease or hardship you'll experience in subsequent weeks.

In early March, we increasingly emphasized building of hardware. Now is a good time to throttle back on building and return to the drawing board – literally and figuratively. Therefore the deliverable is primarily centered on the design notebooks. Hardware can be part of the milestone too, but it doesn't have to be. Specifically, your notebook should include:

1. **Some reflective discussion regarding the module demonstration.** Please briefly state the result of your demonstration and what you learned from it. This is particularly important if the demonstration was not entirely successful.
2. **A representation of your overall system.** Please make a graphical depiction of your most critical module along with other supporting systems including, just for example, your means of mobility (a car? two cars?), arms that might be needed, and any defensive sub-systems you feel strongly that you intend to develop. Solidworks can be used, but a hand drawing can be made instead if that is more expedient or expressive.
3. **A plan for the month of April.** Please lay out a schedule covering the period from Spring break to "impound". Please plan for your machine to be complete and ready to be stored away on 27 April. If your schedule slips, you may have your machine impounded as late as 1 May, but please plan for an earlier impound because the lines for processing impounded vehicles typically grow during the week before the contest.

**OTHER ACTIVITY:**

If you want an introductory or refresher session on programming the BASIC stamp, I'll be happy to provide some review (including discussion and exercises).