Project II provides the opportunity to solidify the communication skills you have been introduced to in Project I. The additional challenges of Project II will require you to argue for your own objective, customer/audience, and functional requirement. Further, the final communication deliverable, in lieu of a report, is a video that shows an audience the value you have added in creating your invention. Although a white-paper is not an explicit communication deliverable, the research element and the application of this research to your invention deserves to be included in the proposal. A rough overview of the project/communication work and milestones for Project II is:

Explore ideas: Oct 15-29
Identify and pitch idea: informal, **Oct 25**; revised **Nov 1**
Design and implement invention: **Oct 30**-Dec 4
Drafting of video script/collection & curation of images: Oct 25-Dec 4
Installation of invention: Dec 4 +/-
Evaluation of invention: Dec 4-11
Video shooting & editing: Nov 27-Dec 10
Screening of video report: **Dec 11**

Video editing capability can be found in The New Media Center, an Athena cluster full of Macs, 56-129 (Castor Lab) http://kb.mit.edu/confluence/display/istcontrib/Athena+Cluster+56-129

Project II starts with individual work to familiarize you with things around ESG and how ESG community members interact with things. In the next step, each student will brainstorm concepts and ideas, select the better concepts, and execute a preliminary FRDPARRC on these individual concepts. These ideas are vetted by the class. From these three concepts, one is chosen. You will need both to generate a wide range of ideas and to evaluate the feasibility of these ideas ruthlessly—because there is not enough time to make major changes to the idea midstream in the implementation stage.

In evaluating concepts, favor inventions that can be built at ESG or in the MIT Hobby Shop (http://studentlife.mit.edu/hobbyshop); inventions that can be embodied with an Arduino kit are similarly favorable. If you choose a hobby shop based project, ESG will pick up the tab for your hobby shop membership. Be wary of electronics projects unless you are already familiar with the technology you propose to use. Be very wary of micro-energy harvesting; this is a hard problem. Favor inventions that could live happily ever after at ESG, in your dorm room, or in some place where they would continue to make people happy or otherwise improve life. Avoid proposing something that you will make by simply following directions on the internet; instead, be sure to include some element of DESIGN—that is, you must make rational choices about your invention. Given the schedule for this project, it is possible that your ES.729 deliverable will be a mock-up rather than a thing that can be installed at ESG. That said, it is best to choose a project that can actually be constructed before Dec 4.

The average budget is about $80/project, independent of hobby-shop membership. Hobby-shop membership confers many resources (wood, glue, hardware...). There is a separate budget for tools or measurement devices for construction/evaluation of your invention, and much instrumentation can be borrowed from the 2.671 lab if need be; inquire further if these tools are of importance to your project

If you are building in the hobby shop, schedule an appointment to meet with a hobby shop guru (Hayami) to talk feasibility and materials before you propose your idea. Put your wily communication skills to use when you talk with Hayami & Coby.