

# Project Deliverable F: **Prototype I and Customer Feedback**

## GNG 1103 – Engineering Design

Faculty of Engineering – University of Ottawa

### ***Objective:***

Develop your first prototype and devise a test plan for your second. Get customer feedback on your prototype.

### ***Instructions:***

1. Develop a prototype which will be used to achieve the objectives your team has set out in the plan created in the last deliverable (i.e. you need to answer the “why”, “what” and “when” of prototyping).
  1. Remember: a prototype is not normal work on your project, it is something that has a smaller, targeted objective with specific tests and measurable results.
2. A simple analysis of critical components or systems should also be included, based on your current knowledge of engineering science or other knowledge.
3. Carefully document your prototyping test plan, analysis and your results (including detailed images of your prototype).
4. You must gather feedback and comments on your ideas and prototype from potential clients/users that you have sought out and identified on your own.
5. If applicable, update your target specifications, detailed design and BOM after tests are completed and analyzed.
6. Finally, teams will outline a prototyping test plan based on the template provided in “Lecture 11 – Prototyping Test Plan” to prepare to build the second prototype in the next deliverable.
  1. Typical objectives include: communicating and getting feedback for ideas, verifying feasibility, analysing critical subsystems or system integration or reducing risk and uncertainty.
  2. You must also define a stopping criteria which will allow you to end the test once you are satisfied that you have achieved your testing objectives.
  3. Be very clear about what you are trying to measure and define an acceptable fidelity based on the objectives of your prototype. See [https://wiki.makerepo.com/wiki/Design\\_for\\_manufacturing](https://wiki.makerepo.com/wiki/Design_for_manufacturing).

Since this will be your team's first prototype, you should focus on creating a basic proof of concept which should be made using materials and components that cost very little (e.g. things found around the house, scraps, etc.). Get creative in order to improve your results.

It is strongly recommended that you start early, as prototyping takes a significant amount of time.

### ***Client Meeting 3:***

You will explain your prototype in front of the class, and your client, in a very short presentation to get more feedback. Make sure to explain the test you have performed to validate the most critical assumption and the results you gathered from that test. Prepare some questions to ask the client to confirm your target specifications and/or to clarify aspects of the project.

### ***Task Plan Update:***

1. Update your Trello task board to include any changes in estimated task duration, missing tasks, task responsibilities, or details, based on your better understanding of the project or based on feedback that you have received from your PM/TA.
2. Include more detailed sub-tasks for the tasks that will need to be completed over the next few weeks.
  - **Important note:** It should be possible for ONE person to complete each identified task or sub-task in the allotted time. The allotted time should also be *reasonable*, based on the task owner's availability. Everyone should be doing their fair share of the work.
3. Verify and update the task start dates and end dates for each task, based on your project progress.
4. Ensure that you have taken into account each team member's *actual* availability over the next two weeks, as well as significant events, such as particularly high course loads, exams or travel, which might be going to limit actual project work progress.
5. For *each* person in your group, it should be possible to determine:
  - What was completed last week (i.e. **"Completed"** tasks),
  - What will be done next (i.e. **"In Progress"** tasks)
  - If tasks are going to be put **"On Hold"** or **"Cancelled"** altogether
6. Any and all group "Issues" should be discussed and dealt with, ideally with the assistance of your Project Manager (PM). This should happen during **each** of your lab sessions or can happen earlier, using your defined communication methods. As already explained, it is essential to keep your PM/TA *"in the loop"* throughout the term. It is usually *not* a good idea to ignore conflicts between team members. Instead, you should deal with them in a constructive way.

### ***Submission:***

Each team (***only one person from each team***) must submit a PDF copy of this deliverable by uploading the file as an attachment into Brightspace.

***Due Date:***

See BrightSpace.