

**Team: P20562      Engineer: Nick Claver**

**What were the outcomes of the prior phase?**

1. What did I plan to do?
  - a. Construct integrated functional decomposition with tasks from different sub-teams, formulate concrete mix that will work with our printer, follow-up with gear solution specialist from Gleason and discuss their support of our team, spend more time making quality entries into my logbook. Before classes, meet with Amiee and Chad to congregate our individual work into one mechanical team deliverable.
2. What did I actually do?
  - a. Constructed a functional diagram, scheduled a meeting with Gleason gear specialist. Made contact with several staff members at RIT regarding storage space for our printer as well as locations to start testing mixtures. Log-book entries were minimal because of decrease in course assignments on mycourses.
3. What did I learn? How were plan and reality different?
  - a. Plan was to start formulating mixture but the group decided to spend almost all of its time making a system level design. Our design is thorough and we are confident that it has set us up for success in the future phases.

**Team level goal for next phase**

Complete, document, and prototype subsystem design (rev 1). Further revisions are stretch goals. Design includes mechanical/electrical components, baseline mixture ratios and mixing procedures, software workflow, firmware and microcontroller selection.

**What do I plan on doing to ensure that my team has a successful review at the end of the next phase?**

1. Formulate concrete mix that will work with our printer (5+ hours, weekends, everyone)
2. Stay in contact with Gleason to help develop our design and acquire assistance from them (unknown amount of time, unknown date, Chad and Amiee)
3. Start developing rough models of the structure of our machine. May be done in CAD or just drawn out as sketches. Ideally design work will be done thoroughly enough that by the end of this phase we might be ready to purchase important components of printer and begin physically prototyping. (1 hour, every week, Chad and Amiee)

4. Design nozzle assembly. Nozzle will likely consist of several components at the end of a delivery hose and will likely require design work to control flow rate and other mechanical characteristics to achieve the desired result while printing.
5. (Dependent on steps 3 and 4 being completed) begin focusing on a delivery system for the mix (i.e. how is the mix getting from its reservoir to the printhead?).

**What is standing in my way of meeting my next phase goals?**

Primarily the concrete mix. Without a mix formula, we cannot have a printer. It is the most critical task for our group and has the ability to halt all productivity for everyone if it is not figured out.