Lessons Learned

The following is a list of lessons learned throughout the course of this design project. It is written to inform future design students of the things that we wish we had known (or did know and foolishly did not do). This list also includes our hard earned wisdom.

1. Plan out every detail of the technical design. The more specific and detailed your design is on paper the less work you will have when you actually start building something. It is easy to say that you will use a regulator, but what kind of regulator? What specifications do you need to meet? Does someone make a regulator that will fit your requirements? Where will you get this regulator? How much will it cost? How will you connect it to the other components?

2. Expect the unexpected. Even the best designs and plans can have many unforeseen problems. It is best to have a back up plan for everything. No initial design is bullet proof. Be prepared to rework and modify your design.

3. Don’t procrastinate. The lazy man works the hardest.

4. Try to finish your design as quickly as possible so that you can start prototyping. Errors and problems in a design become apparent very quickly after you start trying to construct something. Think of building your prototype as part of the initial design phase. Get this done the first semester.

5. Do not assume that anything will work or work together. Hit the books and data sheets and make sure that your assumptions are correct. Have designs checked by faculty or other experts.

6. Make sure to follow a strict e-mail protocol. If someone e-mails you always send them some sort of confirmation so that they know you have received the message. Expect them to do the same.

7. If you think that there has been a miscommunication then address it immediately. Once communication starts to break down it’s all down hill from there. Also make sure that all team members are on the same page, especially before meetings or presentations.

8. When it comes to phone calls and e-mails take care of things ASAP. If you put off writing or replying to an e-mail then it is easy to forget about it. E-mails also stacks up very quickly, so try and kill them as they come instead of working through a stack of 20. Communication needs to happen quickly and efficiently if you want things to run smoothly.
9. If you need someone to do something for you, especially a client, then plan ahead. If you need the services of faculty or students, address them early because they tend to get busier as the semester progresses. Give them enough time to do the task and don’t give it to them last minute. Telling people things last minute tends to make them rather unhappy with you.