PC Controlled DC Power Supply

Overview:

The Overall goal of this project is PC Controlled DC Power Supply that has output 2-channels that are adjustable with buttons on the power supply, with a range of 2-14V and a maximum current of 1.5A. The project has an additional requirement that we have added to it which lets The system include visual indicators on each channel. The Power Supply is safe where it will adhere to IP43 ratings.

We have created a Top-level block diagram that makes the process of creating and managing the project better. Brendan Worked on the The Arduino UNO and the coding parts of the project as well as he managed to work on the voltage regulator using the buck converters and the digital potentiometer. Jasem Worked on the PCB Design for the Project which lets the Arduino Nano connected to it as well as the potentiometer connected to adjust the voltages using buttons. inAddition 3D modeling for the enclosure of the project. We have both worked on making the LED and the LCD function where it was a challenging part and we both worked on it to make it work. This project had a lot of different parts, but by breaking it down into smaller pieces that each team member could take responsibility for, it allowed us to play to our strengths and then just join our bricks together once we had done them all. Overall, we were satisfied with the design process and result.

Key Lessons:
- Team Communication/Coordination
- Documenting the Progress
- Time Management
- Double Check the measurements
- Hardware Testing Protocol
- Progress Tracking

Timeline

Block 1	First block check-off	Block 2	Second block check-off	System verification documentation	System verification documentation
Check-off documentation due Apr 28 by 11:59pm	Due May 3 by 1:50pm	Check-off documentation due May 12 by 11:59pm	Due May 17 by 1:50pm	Due Jun 2 by 11:59pm	Due Jun 7 by 1:50pm
Demonstrate a block in the Final Project. the top-level block diagram	Demo/Grading during recitation	similar to Block 1 however only one property is required. Power outputs must at least show nominal current	Demo/Grading during recitation	verifing the system works with the team	Demo/Grading during recitation

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10

Planing	Designing	Bulding