

# EE 491 Weekly Report    MAY1612    Week 7 (10/6/15-10/13/15)

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**Advisors:** Mani Mina, John Pritchard

**Client:** Minnetronix

**Members (roles):** Brandon McDonnell, Group Lead; Justin Long, Web Master  
Timothy Dee, Key Concepts; Corey Wright, Communications

**Project Title:** Remotely Connected Electric Field Generator for Particle Separation in a Fluid

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## Weekly Summary

This week we meet to work on the minigen, Arduino, and raspberry pi devices as well as get the website and report posting finalized. We meet in the TLA to have access to the oscilloscope to read the output of our devices easily. We did further research into the possible types of amplifiers we could use but have not settled on any specific method at this time.

## Meeting notes:

At 3:00 pm on Thursday the 8<sup>th</sup> a meeting was held between our group here at Iowa State University in the TLA. We set up the minigen and raspberry pi devices and started working on them. The work on the minigen device has been done by Brandon mostly so far and the work on the raspberry pi device has been done by Tim. Tim has also been prototyping code to control the pi from a mobile device or from your computer. During this meeting the pi stopped working and had to be reset. After this delay though the pi was able to be fed a hexadecimal value and then to output that in binary form as a voltage. This can be seen at the end of the report as figure 1. Show are the values for 0xAC or 0b10101100. This was ran in an open loop for testing purposes.

## 10/8    Group Meeting with team

**Duration:** 2 hours      **Members Present:** All

### **Purpose and Goals:**

Work on getting the minigen device the raspberry pi working to some degree. Get the website and report setup figured out and finalized.

### **Achievements:**

We were able to get the raspberry pi to output a hexadecimal high low value, eg. for the value of A it output a high-low-high-low state. The plan is to have this set the registers of the minigen.

## Pending issues

1. We now need to continue doing research into how exactly we can accomplish our goals, specifically the amplifier portion of the circuit and the interfaces between components, and through what means
2. We need to continue to learn what sort of products are available to be used, particularly the function generator part of our circuit

## Plans for next week

Describe who will do what .....

1. Brandon: Facilitate further meetings with John and Prof. Mina
2. All: Continue to test the script code that was mocked up by Tim
3. All: Further work on the minigen and actually get it to write to its registers

## Individual Contributions (this week)

Each member was present at our meeting on Thursday  
All did some amount of research.

Brandon McDonnell	(3hr)
-worked on the mingen and arduino	
Justin Long	(2hr)
-worked on the website	
Tim Dee	(5hr)
-worked extensively on the raspberry pi	
Corey Wright	(3hr)
-worked on the lab report	

## Total contributions for the project

Brandon McDonnell	(13hr)
Justin Long	(12hr)
Tim Dee	(17.5hr)
Corey Wright	(13.5hr)

Figure 1.

