Neuro Force Senior Design Summer 2017 June 15, 2017

## <u>Client Interview – Dr. Bryn Martin</u>

- Waveform and Frequency
  - o Step size by 10
  - o Cardiac (30-230 bpm)
  - Respiratory (1/5 heart rate)
- Patient: Human, Primate, Elephant, Mouse
- Interface:
  - o Enter Heart Rate
  - o Enter Stroke Volume
- Research Averages between different species
- Calculating Stroke volume:
  - o Area under curve
  - o Typically, 0.01ml → 2.0ml
- <5% uncertainty with all parameters</li>
- Test pump with water closest to SPF
- Independent waveform
- Both waveforms are independent but can run continuously at same time
- MRI Materials:
  - o Aluminum
  - More research may be necessary
  - o MRI compatibility is not high priority
- Budget:
  - Unlimited Budget
  - o Email Dr. Martin for purchasing
- Goals:
  - Mechanism figured out and beginning prototyping before summer ends

## **Mini Team Meeting Proceeding Interview**

- Create Project Schedule
- Brain Storm Possible Solutions
- Create Action Items Sheet
- Create Needs/Specs Matrix



