

## **Low-cost and modular gradient control system for MRI studies (MRI Probe)**

**Client:** Orhan Unal

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### **Progress Report for Week 1: September 6 – September 12**

#### **Problem Statement:**

\* This problem statement has not been modified by the team, and is solely based on that provided by the client. It will be subject to revision and expansion pending further investigation.

As part of an NIH grant, we will need to develop and test novel multi-mode intravascular MRI probes with tracking, imaging and RF ablation capabilities. We will need to build a low-cost and modular gradient control system. This project will involve designing and developing modular GUI using LabVIEW and interfacing pulse generation hardware using USB interface. Specifications provided will include response time of the hardware and waveforms to be generated and other specifications standard to MRI systems. The control system will form an essential part of a low-cost MRI system.

#### **Last Week's Goals:**

- Establish team roles/responsibilities
- Establish Meeting Time with Client
- Determine suitable team meeting times
- Begin background research as able

#### **Summary of Accomplishments**

- Team has divided into roles as shown above.
- Client and Advisor will be out of town September 12<sup>th</sup>, therefore first meeting will be delayed one week. Specific time is yet to be determined
- Several meeting options were determined to be best for everyone, with some flexibility. They are: Monday and Tuesday after 5:30 PM, and Friday during the normal design period, after 12:00 PM

#### **This Week's Goals**

- Have first meeting with client
- Continue background research, find literature specific to topic.

