**Monitoring Usage In Domestic Heating Oil Tanks**

**Author: Robert O Driscoll-G00209099**

**Supervisor: Niall O Keefe**

**Year: 2016/17**

****

**Proposal to school of Engineering GMIT**

**Final year Honours degree project**

**B.Eng(Hons) Computing and Electronics**

**Table of Contents:**

**Introduction……………………………………………………………………..**

**Objectives………………………………………………………………………..**

**Scope……………………………………………………………………………..**

**Project Description……………………………………………………………...**

**Project Plans……………………………………………………………………..**

**Costs Discussion…………………………………………………………………**

**Conclusion……………………………………………………………………….**

**References……………………………………………………………………….**

**Introduction**

One of the major failings of the equipment used to heat a home with oil in which oil is supplied to an oil burner from a preloaded oil tank is that there is no exact indication of how much oil is being used or any indication what so ever of when the tank is nearing the refill point. This can lead to home-owners being disillusioned about their oil usage and can also lead to system problems such as air-locking in the houses plumbing eventually when the oil has run out.

The idea for this project has been inspired by both a love for the ‘Internet of Things’ and trying to support a greener environment, and through this project I am hoping I can accomplish both for people who use oil to heat their homes. Chiefly I am looking at demonstrating how a small amount of circuitry and programming can tackle a big domestic problem and in turn offer some convenient solution for affected home owners.

I will couple effective data analysis with an extremely user friendly User Interface by using up to date sensors, development platforms and heavily modified open source software frameworks to achieve as high of a standard of prototype as possible.

The device will use Ultrasonic distance measuring to detect the oil level in the tank and that information will be written to a local database and stored along with other information like the time, date and surrounding temperature. I will use an attractive open source framework called “Dashing” to gather the information from the data base and display it in a user-friendly manner so that the home owner is always up to date and informed of the status of their oil tank. Time permitting, I also intend to go a step further and offer features like compared prices in oil in the home owner’s location.

My name is Robert O Driscoll and I am a final year student in Computer and Electronic engineering in GMIT. My final year project aims to display my ability to approach a problem and use the hardware and software knowledge I have gained here in GMIT through lectures, labs and work placement coupled with my own experience in IT support to produce the highest quality project as possible.