**RASPIGUARD**

From: Vivek Socrates & Karel Tutsu  
Discipline: Computer Engineering Technology  
Date: N.A. / N.A. / 2018

# Declaration of Joint Authorship

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# Approved Proposal

## Executive Summary

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## Background

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## Concluding remarks

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# Abstract

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# 1. Introduction

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# 2. Project Description

## 2.1 Problem

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## 2.2 Rationale Behind Project

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## 2.3 Project Scope

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## 2.4 Software Requirement Specifications

### 2.4.1 Database

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### 2.4.2 Mobile Application

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### 2.4.3 Web Interface

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### 2.4.4 Networked Platform Communication Software

On the Broadcom BCM2837 (Raspberry Pi) device there will be software that will connect to an MySQL database hosted on cloud services provider [*DigitalOcean*](https://www.digitalocean.com/)*.* The device will be authenticated using credentials stored on the database and will update sensor fields at constant regular intervals.

### 2.4.5 Microcontroller Firmware

On the Broadcom device, there is a python script that will read raw data from analog and digital sensors. The data will be converted, formatted, and displayed using the standard measurement for each individual type of sensor. Moisture sensors will display humidity in percentage, door sensors will show status as “Open” or “Closed”, and light sensors will display luminous emittance in lux values.

## 2.5 Project Overview

### 2.5.1 Bill of Materials

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### 2.5.2 Time Commitment

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### 2.5.3 Mechanical Assembly

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### 2.5.4 PCB and Soldering

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### 2.5.5 Power Up

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### 2.5.6 Unit Testing

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### 2.5.7 Production Testing

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## 2.6 Problems Encountered

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## 2.7 Approaches

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## 2.8 Walkthrough of System

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### 2.8.2 Microprocessor

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### 2.8.3 Server

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### 2.8.4 Android Phone Application

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### 2.8.5 Website

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# 3. Progress Reports

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# 4. Conclusions

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## 7.4 Database Input Script

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## 7.5 Database Retrieval Script for Phone Application

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## 7.6 Website Code

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## 7.7 Android Phone Application

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