# Project Outline

## The What

We aim to create a Home Management System (HMS) for a security firm. The HMS will comprise of three main parts: an android application, a website & a Raspberry Pi equipped with a sensor board and camera module in order to monitor a household.

The Raspberry Pi will read inputs from the sensors through the Python programming language and host that information on a web server, using the Web.py library to create a quick and easy to use web server. This information can then be read by the android application which will present it in a user-friendly way.

The android application will be the main means of the user interacting with the HMS. With it the user can arm/disarm the house alarm which can be triggered by the sensor board’s magnetometer. The user can view the temperature in his home and adjust it (?) within the app. He can also turn on and off the lighting (?) in his home. A social media aspect is also included. Tweets will be sent to the owners account to alert him of various events in his house.

The site will be for use by the security firm only. It gives them access to all current customer’s HMS’s and allows them to monitor it online.

## The How

The Raspberry Pi will gather data from the sensors through Python and then host that data on a web server / push it to a web server hosted elsewhere using Web.py. The android app will be able to fetch and display that data. The website will be written in PHP and will also be able to fetch that data. The customer’s details will be stored in a relation database, such as MySQL.

## The Why

To broaden our skill range with both Python & PHP programming languages. For the experience of working on a full project with a team. This will improve our teamwork and project management skills as well as how well we collaborate with others. Essential skills such as GitHub will also be gained over the course of the project.