Club Smart Monitoring System

Student Name: ***Raymond Power*** **Student ID:** ***93234538***

I will be attempting to set up a smart monitoring system for a private 2 table snooker club I helped set up. The aim would be to have an app where one or more selected committee members would have access to the system to check up on the club.

Using the Raspberry PI, SenseHat and a camera module I would be aiming to set up a small system that we could use in the club to both keep the tables running well and monitor access.

Although the room is heated with timed oil heaters during the winter we also use under specific table heaters to keep moisture of the cloths and keep the running well. We would ideally have an app that could turn on/off the tables heaters remotely say an hour before going for a game. The Pi should also send temperature and humidity readings to the app and message the user should it fall below or rise above a certain level, so he can take action or have the Pi programmed to take specific action.

I would also be aiming to use the camera module to work as a motion sensor and trigger a push notification or email to the user. The user should then be able to view a live stream from the club to check up on it. Other options would include a time-lapse images being stored throughout the day to the cloud.

I would also be intending to monitor access by identifying members by matching their mobile phones though Bluetooth or WIFI and names of members on site displayed on the app.

As it's only a project turning on the heaters will be simulated and it wont be running in the club but should I manage to get it working to a good enough degree I would like to install it out in the club after the project is complete.

Tools, Technologies and Equipment

I will be using the Raspberry Pi , SenseHat and the camera module for starters and might purchase more if needed including maybe PIR Sensors.

I will be looking at all the technologies in the tutorials to try see which are best but it's looking like Wia, Thingspeak and Blynk will be the main cloud applications I will be using with Python and JavaScript the main languages used in those tutorials.

I will be running it using both a Blynk App over Android and via a web site.

Project Repository

I have created a repository at https://github.com/raypower139/IoT_App for the project.