Summary

This project overviews hardware and software installation for: Controlling your garage doors remotely and to monitor of the state of the garage door. The software is designed to run on a Raspberry Pi, which is an inexpensive, ARM processor based, credit card-sized computer developed in the United Kingdom. Interfacing to the garage door controller through a relay module, a digital switch you can control circuit of high voltage with low voltage, connected to the GPIO (General Purpose Input/output) header. A magnetic switch provides proof of the door position. This has been programed using python, a widely used programming language.
Have your ever drove out of your garage and after few minutes into your drive, feared you did not close the door? Or perhaps need to let a trusted repair man into your home and could not be there at that time? Did you ever feel the need to check the status of your garage door maybe from your office? This Raspberry-Pi based Garage door opener is capable of controlling of your garage door which enables you to open/close the door when desired, and lets you monitor the status if the door is opened or closed at that moment.

Garage door openers aren't exactly revolutionary tech, being first invented by C.G. Johnson in 1926. However I was leaving for work one morning and couldn’t remember if I left my garage door open or not. Fortunately, I was still in our neighborhood so I was able to do a quick double check before I would be late for work. After that, I wanted to build a remote garage door opener that I could use from my smartphone; with the ability to observe the status of the garage doors from anywhere using a computer or smartphone. I looked for a fairly simple way of building it myself.

From the information I gathered using a Raspberry Pi connected to the garage door that can open it via the browser seemed to be a simple and sound method. The project is relatively inexpensive and doesn't require an unapproachable level of skill to assemble. Another advantage of this setup is that a guest can also enter through the garage door without requiring their own remote, only the correct login credentials.

Things that are already assumed installed and functional: A standard garage door system operated with a wall button; and Raspian OS installed on a SD card. And there is some assumed knowledge as well. You will need basic understanding of electrical circuits; as well as a moderate understanding of programing languages and computer systems.

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