Preliminary

Garage Door Opener

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Description

This use case involves opening an closing a garage door using the MoneroAuth protocol.

A MoneroAuth *Resource Manager* interacts with entities that control the garage door and the MoneroAuth *Resource*, in this case, the garage door opener.

Resource

A Raspberry Pi (model 3 B) single-board computer running Debian version 11 (bullseye) is connected to a 5-volt relay module that controls the switch to open/close a garage door.

Garage Door Opener Prototype-*The device with the real bright LED at the top is a Raspberry Pi, the smaller device with the LED on below it is a 5V relay module, and the device with the black and red wires at the bottom is a garage door opener.*

The Raspberry Pi runs the software that controls the opening and closing of the garage door via the MoneroAuth protocol.

Resource Manager

The MoneroAuth Resource Manager software, in this case executes on a separate computer (it is possible for it to run on the Resource (Raspberry Pi) if so desired). In this experiment, we elected to place the Resource Manager on a separate computer.

The Resource Manager accepts requests from entities to control the action of the garage door. It authenticates requests using the MoneroAuth protocol. Once a request is successfully authenticated, the Resource Manager checks to make sure the authenticated ID is authorized to control the garage door. If the requesting ID is authorized, a message is sent to the Resource (garage door opener) specifying the action to take (open/close the garage door).

The remainder of this paper will describe the prototype in detail.