BENEFITS TO HAVING THE RED ROVER

Red Rover is a device meant to be integrated into any kind of door you desire to have easier access for your pets. Here are some of the benefits…

1. This will save you time and since we all have precious little time this will save you the trip of opening doors for your pets.

2. This is also a safer alternative, since Red Rover takes out the chance of human error. There is no chance of leaving the gate open.

3. This is also a project you could expand on, so you customize what you desire this gate to do.

HOW MUCH WILL THIS COST ME?

The price for this product is low for the amount of components you need. The materials for the physical door will vary but the components I used cost approximately 70 dollars. These are prices I got from Amazon and Sparkfun, so prices may be different in other stores.

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LIFE IS TO SHORT FOR THESE PROBLEMS
**ARUINO**

Arduino is the programming language you will be using to talk to your components. This is an open source language that is based off the C++ and has numerous sites and forums dedicated toarduino. The components you will need for this are…

1. **Arduino Uno - R3** - $21.95
2. **RFID Module - SM130 Mifare (13.56 MHz)** - $29.95
3. **RFID Evaluation Shield - 13.56MHz** - $19.95
4. **EasyDriver Stepper Motor Driver** - $14.95
5. **Stepper Motor with Cable** - $14.95

**WHY ARDUINO R3?**

The reason I chose the Arduino R3 microcontroller was because this is a versatile microcontroller. This controller has the ability to fit dozens of modules into its interface and is simple to program with. There are numerous tutorials for this controller and its modules.

**RFID MODULE AND SHIELD EVALUATION**

The first issue to address is these parts are sold separately but you need to purchase them together for this to work. The perk of purchasing these components is they plug directly into the Arduino Uno R3 and you can start programming. Also even having to purchase both of these is cheaper than most other similar components.

**EASYDRIVER AND STEPPER MOTOR**

I highly recommend this combination because it simplifies the ability to operate the a stepper. This Easydriver provides an interface that allows for specific degree or micro step movement for the motor. Also the ability to change the direction the motor is turning has become as simple as a low and high command. The image below shows how easy the setup for this device is.

**WHERE TO GO FOR HELP**

There are many place you can go to get help for creating this project.

First place I recommend is to check out sparkfun's website because they provide links at all their products. These links lead to helpful sites for either programming or assembling.

Second if you are new to Arduino like I was I highly recommend YouTube, because of the wealth of helpful video. I suggest you watch Jeremy Blum’s Arduino tutorial series because he delivers the information in very easy to understand bits.

The rest are as easy as googling your problem and checking the many forums dedicated to Arduino.

**REMEMBER, HAVE FUN**

Just always remember this should be a fun hobby and not a chore, so have fun while you do this project. Enjoy this time and I hope I have been helpful.