Wifi Mailbox

by atxguitarist · 4 months ago

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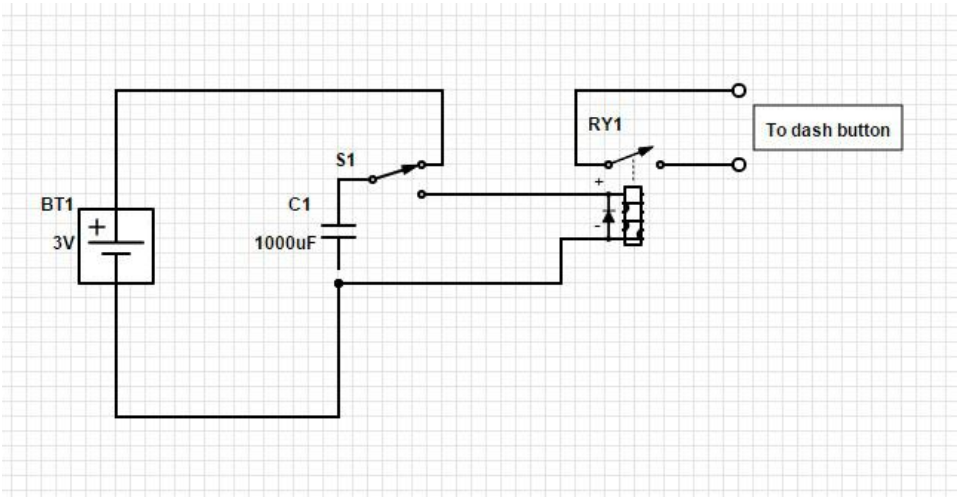
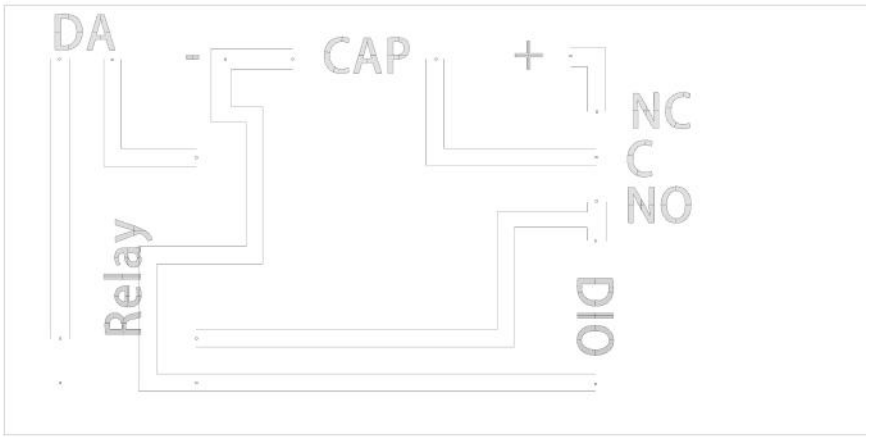
Schematic of One shot relay



The purpose of this circuit is to provide a momentary close of another circuit connected to a relay regardless of how long the reed switch is activated. It is setup to simulate a button push on my Amazon Dash button. It will be connected to my mailbox to alert me when the mailbox is open. I'll have to learn a bit of Python code to trigger an audio file to be played on my computer.

Mock up of component arrangement



My shitty attempt at PCB etching

Did this free hand with a dremel tool attachment. I really need to work on my soldering skills. If I get more into this, I'll dust off my CNC machine and use it to cut the paths.

Test fit

Here you can see the circuit I built next to the dash button.

It all fits nicely in a 4x2x1 project box. I super glued the battery holder to the lid. I also drilled a small hole on the side and sealed it with silicone.

Bottom side of mailbox

I used some Velcro stickers to mount the project box to the under side of my mailbox. If it does not hold it in place for the long term, I'll use screws.

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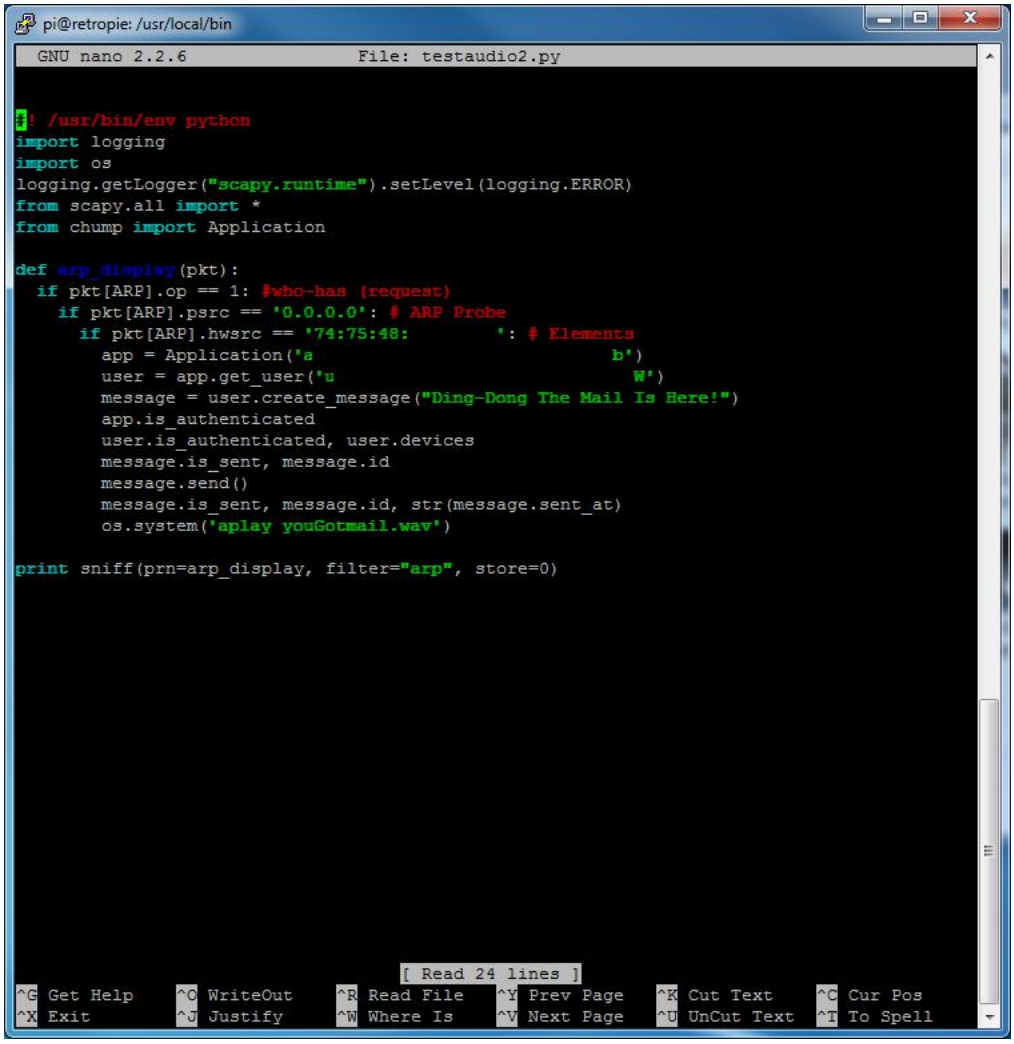
3 wire agnetic switch

The same goes for the switch, I may use small screws or a strong adhesive.

When the door is open, It opens the circuit from the battery to the capacitor and closes the circuit from the capacitor to the relay. The relay is only able to close the circuit to the Amazon Dash Button for only .12 second.

The Code on my Raspberry Pi



When the Dash button is pressed, it sends out a DHCP request. The Pi listens out for the DHCP request using Python. Once the request is detected Python performs two actions. One being to play the audio file You've Got Mail (that take me back). The other is to send a notification to my phone using Pushover service.

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SirChimi 1 point : 4 months ago reply
This is cool but you should give a description at the beginning so you draw people in

JigasMasnukkas 1 point : 4 months ago reply
you could move the sensor inside the mail box so it is a little more inconspicuous.

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