

Creator Statement

Creator statement (300-600 words) discussing the tech and its useful/lessness.

The second project I chose to build is called NerfPi. I choose this title because I use a Raspberry Pi, alongside a Nerf Jolt, to create a security system. The function of the NerfPi is to wait for a signal, and once the signal is given do the following: 1- Shoot the Nerf Jolt 2- Take a picture of the intruder, and upload it to Imgur 3- Send the picture to my phone as an sms, alongside with an alert.

The materials I used were: a Pi camera module, Raspberry Pi, a servo motor, a Nerf Jolt, and cardboard. The software I used were: Twilio, Imgur API, requests module, picamera2, and sockets. The NerfPi's components are housed in a cardboard box, and secured with tape. Both the Nerf Jolt and the pi camera module stick out of the box through small cutouts. Access to the components is made easy with the top section of the cardboard box that is capable of being opened up without any damage to its integrity. There also is a cutout for the power cord.

One thing that is also worth mentioning is that this project is made to be compatible with another project that does motion detection. With that being said, NerfPi runs a Python file that does the following: The sockets library is used to wait for the other Pi that does the motion detection to send a signal to alert that there is an intruder. Once the detection occurs, the servo motor connected to the Nerf Jolt is triggered making the Nerf Jolt shoot. Right after, NerfPi takes a picture using the pi camera module and uploads it to Imgur through the Imgur API. Lastly, the NerfPi sends an SMS to my phone number alerting me of the intruder, alongside the picture of the intruder.

I built this NerfPi with the intent of it being my “utility” project. NerfPi has utility because it can be used to scare off intruders from any kind of property you can think of. It will shoot a Nerf bullet which is intimidating, upload the picture of the intruder to the web, and alert the owner. These functions are pretty much in line with modern security systems you would buy from a trusted vendor, albeit a lot more DIY, thus NerfPi is a utility project.