

"Feeding your pet at any time."

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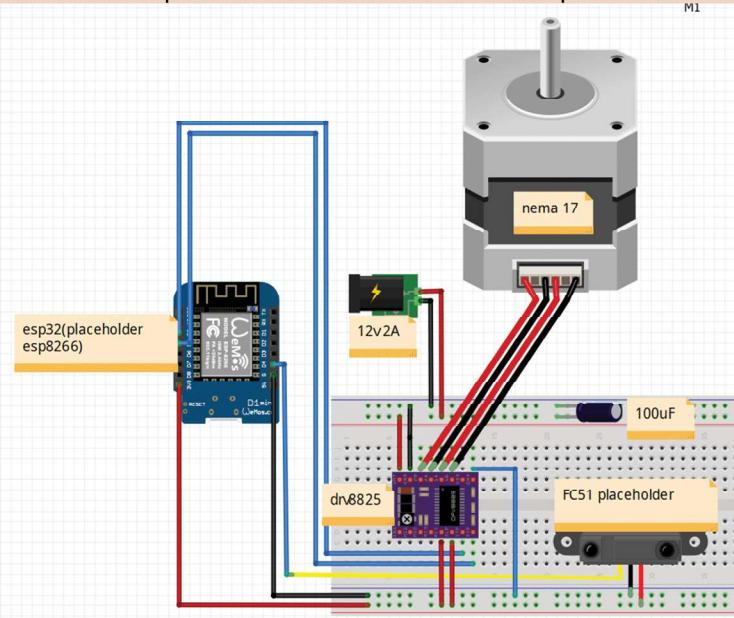
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Foody allows you to feed your pet without having to be at home around feeding time. This can help you with catching up with friends and family because you have more freedom. When your pet has no food anymore in his food bowl, you will get a notification and remind you to refill the foody afterwards the foody is ready to be used and can be activated easily. you only have to say; "Hey google, feed the pet"! Because dosage is possible too, its a way to always feed your dog the right amount of food.

Realizing, the software and the equipment that is used

The esp32 is programmed to connect to blynk, read the food level and trigger once it gets too low and send out the correct stepper signals to our drv8825. The drv8825 gets a separate 12v 2A power input to run through the nema17 which is only rated for 1A, that's why we adjusted the built-in potmeter to only conduct 0.5 volts over vref because: Current Limit = $V_{REF} \times 2$. this way the stepper won't get damaged the rest of the circuit is powered by the esp32 built in 3.3volt rail. to protect the drv we also used a 100uF capacitor.

The rotor is designed by ourselves and 3d printed for this concept



Foody

Sensors and actuators

The brain behind our project is the esp32. This is a micro-controller with internet capabilities. The esp 32 is connected to a service called blynk. this service allows you to trigger virtual pins with webhooks. through the service called ifttt The amount of food is programmed in beforehand in full rotations or steps. The steppermotor on the wheel is a nema17 sized which is connected to a drv8825 stepper motor. The steppermotor controller outputs the right signal for the steppermotors and regulates the amperage, speed and direction. On top of that we use a distance sensor to keep track of how much food is left in the tube which triggers when a threshold is surpassed. our code was too big for the poster, so its in the zip

