ARTIFACT "THIS = THEN = THAT" Report

Stress Shaker

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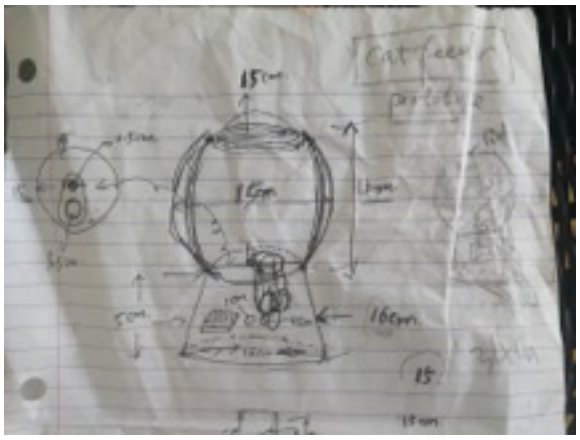
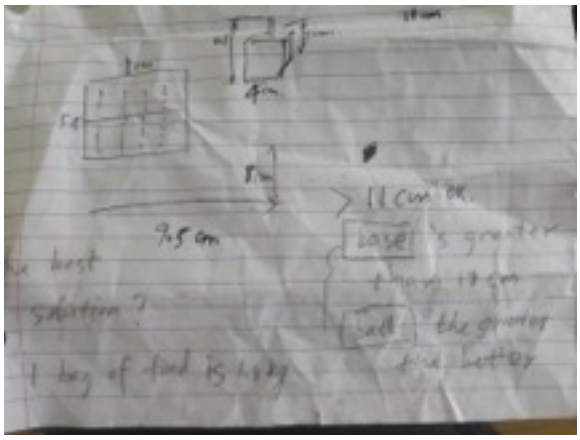
Base on this open concept project requirement, I think my piece is belonging to the category of things and more like a machine. I call it cat-feeder. The project of mine is aimed on IoT at the beginning of proposal phase. It is not only a machine, it is a intelligent artifact controlled by app through internet. why I name this piece stress smoother, the reason is personal. I have a cat, 7 years old. He is a nice gentle social cat. He likes playing with me a lot. I feel very good with his accompany during day. However, his visit during night stresses me for a long time. Either he wants attention from me, or he wants food. since he is in diet, I do not want give his food more than he needs. So, this is the background story. In this case, I need to design a machine or I call stress smoother to fix it.

1. First, I drew a draft to be able to 3d model the shape of machine.



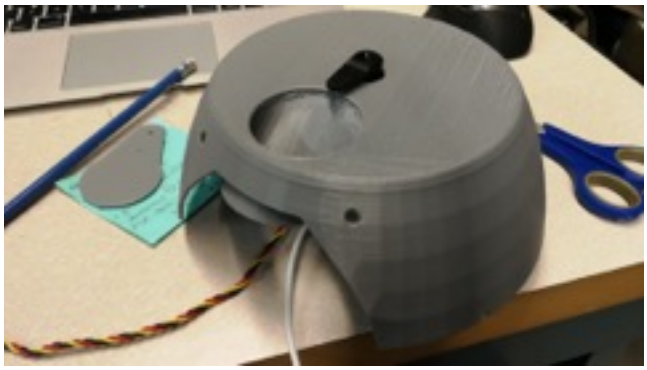


2. make a 3d model and print it.

3d model design is base on the draft which the length, width, height, the size of holes and shapes are all have to be considered. Also I need to think about the shape of cat food container, how to fix it

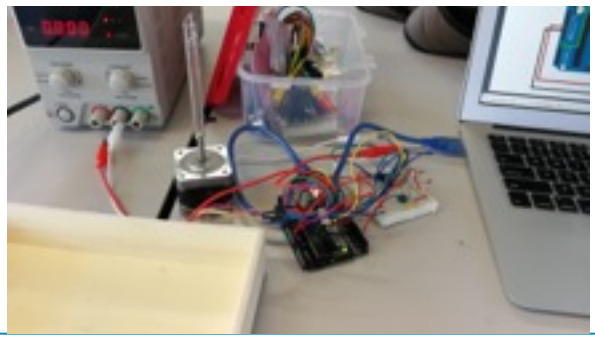
under the cat-feeder, how much food for once can be given into the storage, for now I planed to hold 1 month food for the feeder.

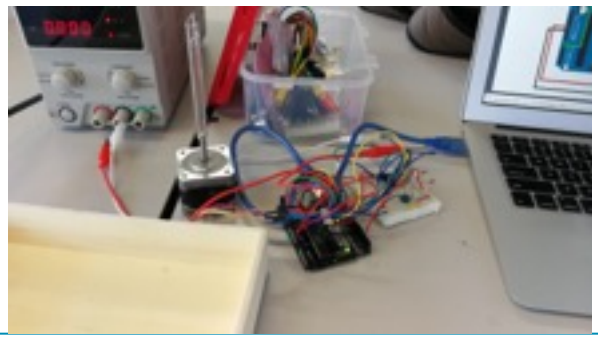
the mechanism of open and close is the key for the core function. the trigger can be a button or sensor. I thought about ultrasound sensor at first. but I give up at the end. my cat is in diet. the ultrasound sensor will provide him food everything time he tries to approach to the food container. I also concerned that ultra sound may cause health problem for long term usage. So sensor is out.

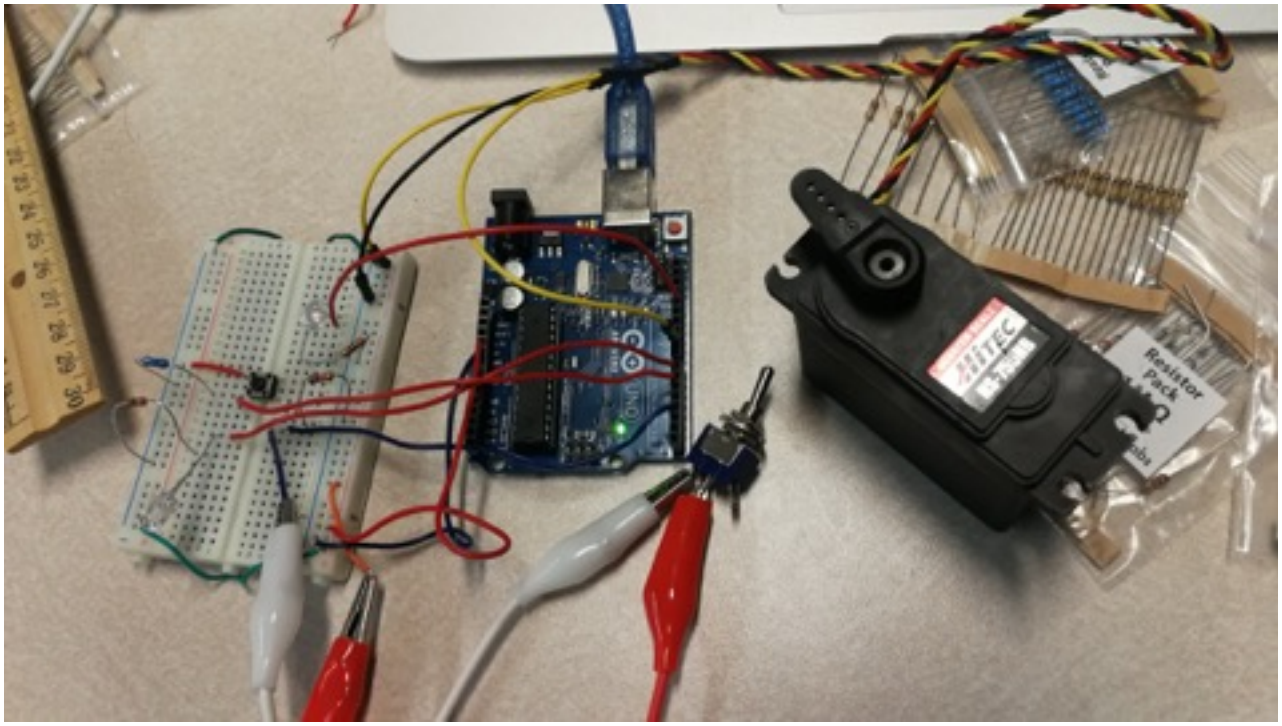


3. Build up the circuit for two function.
 the first function will be a button, once it is pushed, the food will be provide once. This want to keep bond with my cat, I need a bonus mechanism to achievement this. So I design a button only for me to use. When my cat needs to be feed more than twice a day, I use this magic button.

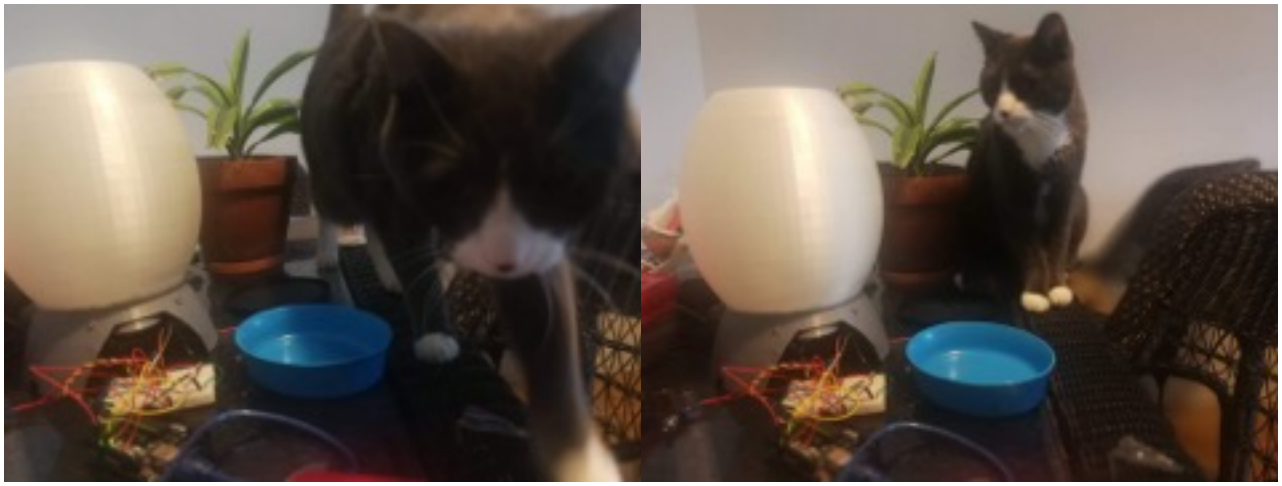
Second, I need a automatic feeding mechanism to fix my night stress problems. in order to do so, I designed another button, when this button being triggered, this machine will feed the cat with 1 quarter of food twice a day from 4pm to 4am as the pet doctor suggested. I was using stepper motor but it cause heat when I test it and also it is not easy to control. So I decided switch it to servo motor. it required less power:6v, stepper motor was 12v. its weight light and size small. it is a good choice.







4. installation of the final piece



Insights & Future Development

Grounded in the field of IoT, this work combines insights from the relationship between human and animals, specialize to pet, this work as a basis for the exploration of relationships between humans, animals, and technology. Based on scenarios from the pet-master, I prototyped two functional components to visualize how harmony a human and a pet can be. this scene is coming from the daily life.

Further speak of IoT, I have much more can do base on this concept. Setting up feeding frequency and amount of food. also inform the lack of food from mobile app. even watching my cat daily life with a camera through the phone! anything is possible. The internet landscape is burgeoning. It's not just about computers, laptops, tablets, and smartphones anymore. Now a multitude of devices are internet-connected. The list of "smart" devices includes washing machines, robotic vacuum cleaners, door locks, toys, and toasters. The Internet of Things is the umbrella term — and, yes, you can now buy a smart umbrella — for anything that connects to the internet. in the near future, artificial intelligence will continue to become a bigger thing. we will see more about smart home hubs, thermostats, lighting systems, and even coffee makers collect data on your habits and patterns of usage. When you set up voice-controlled devices, you allow them to record what you say to them and store those recordings in the cloud. In most cases, the data is collected to help facilitate what is called machine learning. Machine learning is a type of artificial intelligence that helps computers "learn" without someone having to program them. The computers are programmed in a way that focuses on data that they receive. This new data can then help the machine "learn" what your preferences are and adjust itself accordingly. For instance, when a video website suggests a movie you might like, it's likely learned your preferences based on your past choices.[1]

References

[1] https://us.norton.com/internetsecurity-iot-5-predictions-for-the-future-of-iot.html
[2] https://www.particle.io/
[3]https://www.ey.com/Publication/vwLUAssets/EY_-_Future_of_IoT/$FILE/EY-future-of-lot.pdf