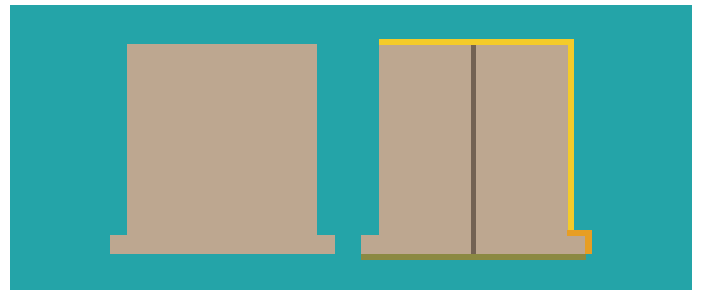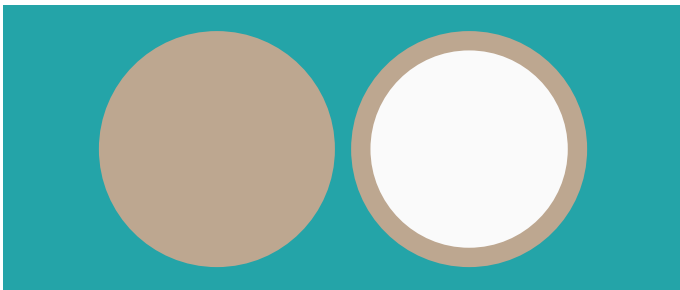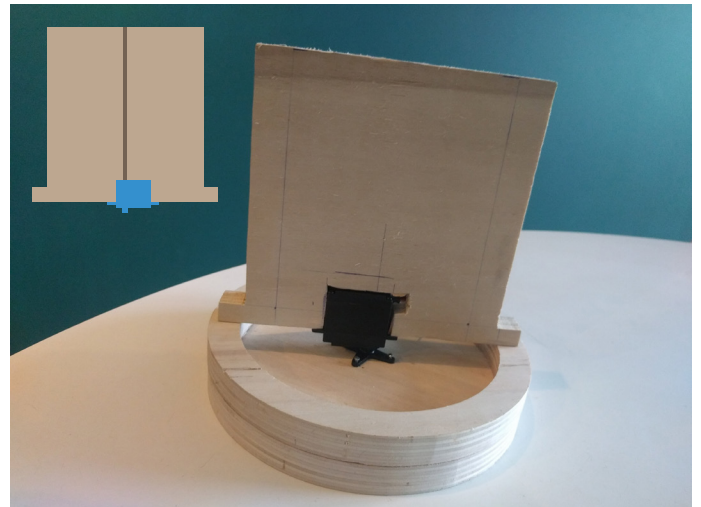# STEP 1

Step 1.1
- Cut out a wooden circle. I used a diameter of 20 cm but you can adjust that as long as you keep the proportions right.
- Cut a second circle, and cut the inside out of it so that a ring is left that fits exactly on top of the other ring. Nail the servo arm in the center.

Step 1.2
-Cut out a shape like the one in the pictures using the colored lines as a propotion guide. Make sure the green line on the bottom is the same length as the diameter of the circle. Yellow should be 16 cm and orange should be 2 cm on each side. The brown line should be 20 cm high.

Step 1.3
- Cut out the placement of the servo. Make sure that the twisting nib is in the actual center of the wooden shape. Otherwise if will twist like it's drunk and we don't want that.
-Screw the servo motor in place (see below)
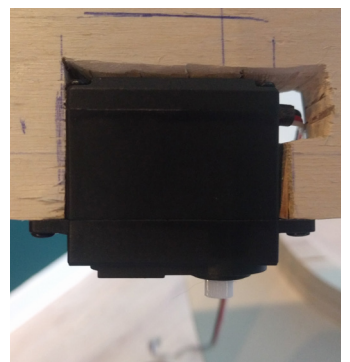
STEP 2
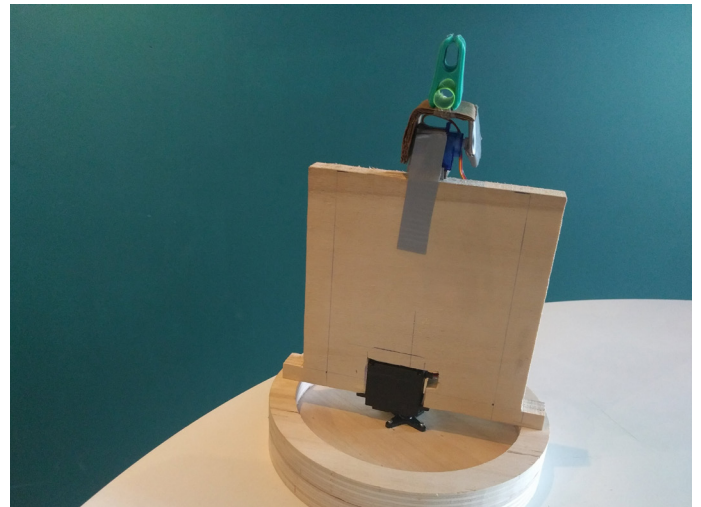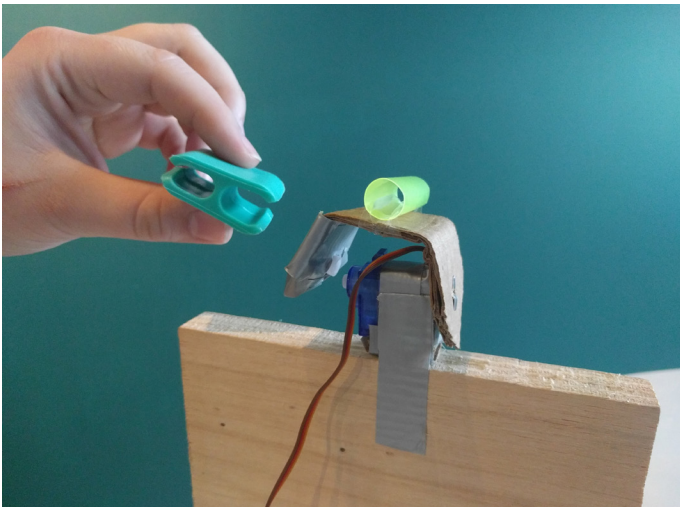
Step 2.1
- Create a pan and tilt construction for your 180 servo. I recommend you 3D-print this part but you can also use cardboard like I did.

Step 2.2
- Create a mount construction for the laser and your other toys. I used a cablewinder that fits perfectly on a straw. But once again I highly recommend you improve this prototype by 3D printing your mounting construction.
- Attatch your mount construction on top of the pan and tilt construction.
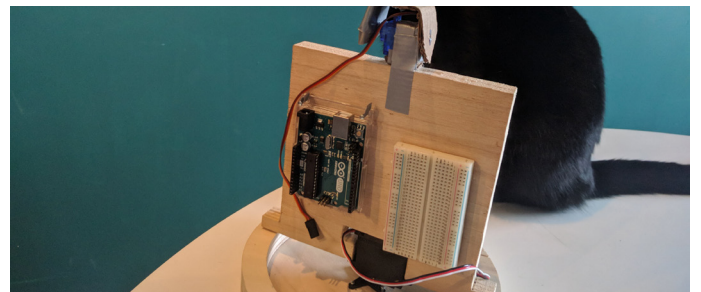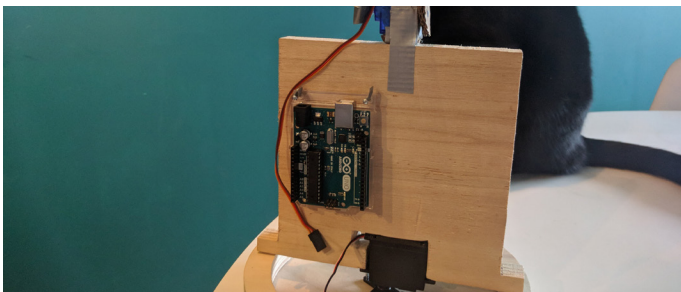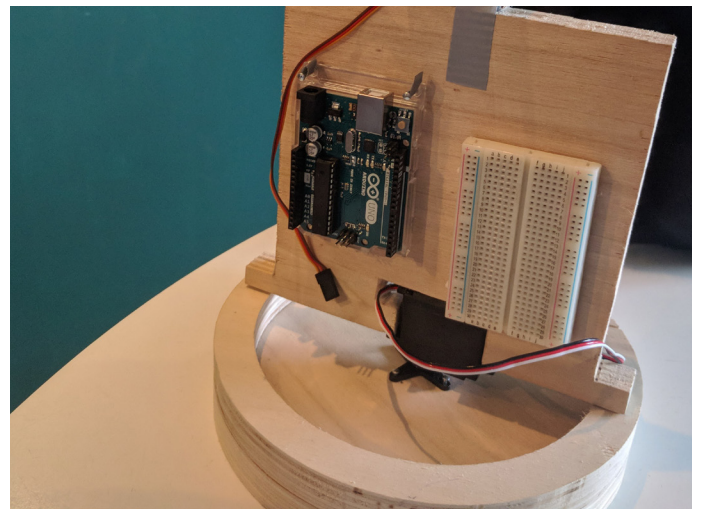
Step 2.3
- Put the servo on the wooden shape. You can use hot glue for this, tape or anything that will firmly stick. This servo will have a lot to endure since it's the closest bit of hardware to your cat's claws and will recieve the most stress.
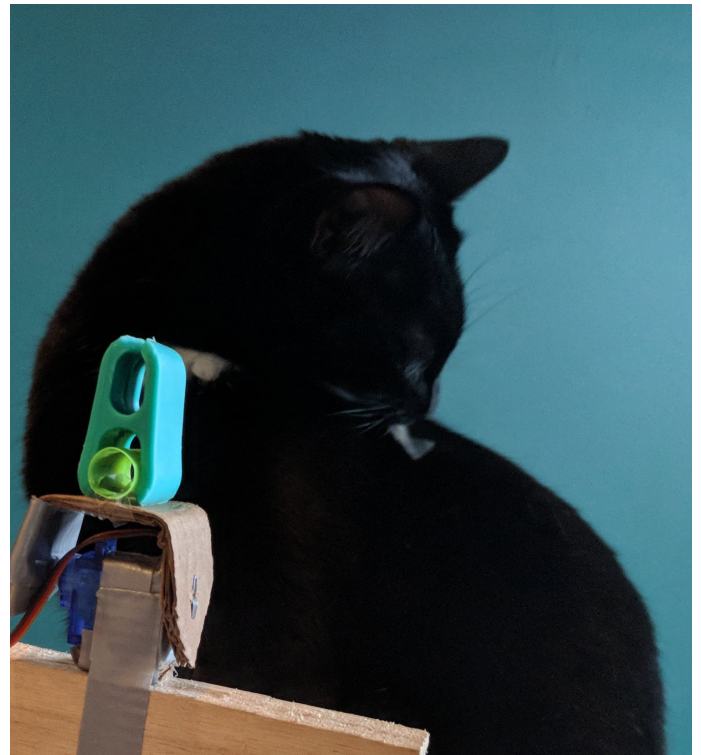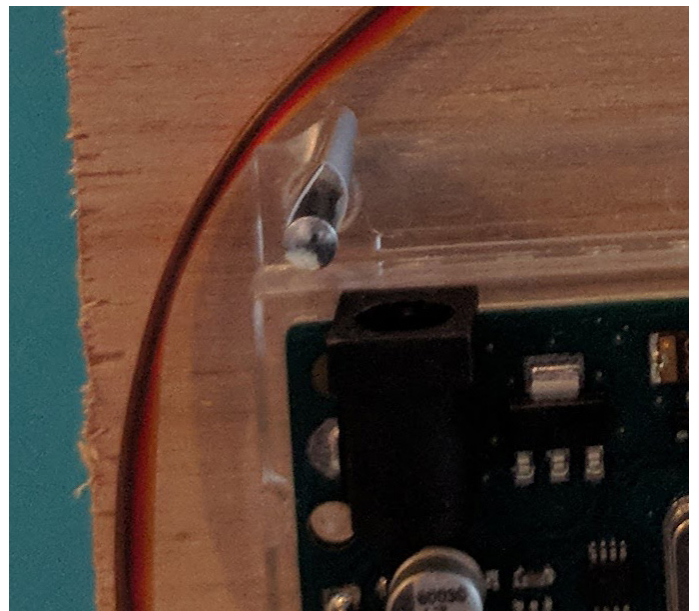
STEP 3

Step 3.1
- Stick the powerbank to the wooden shape with hot glue. If you don't want it to be there permanently, use a protective layer of duct tape.
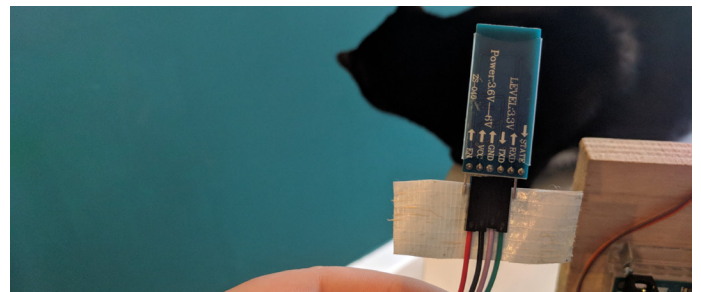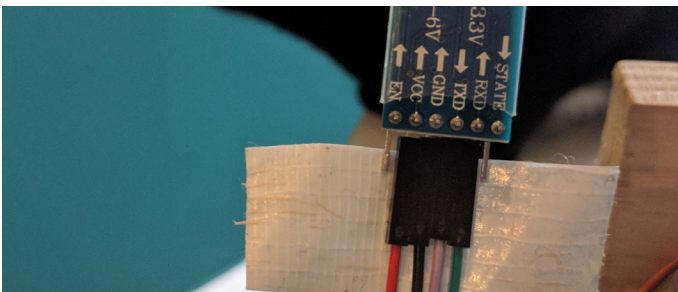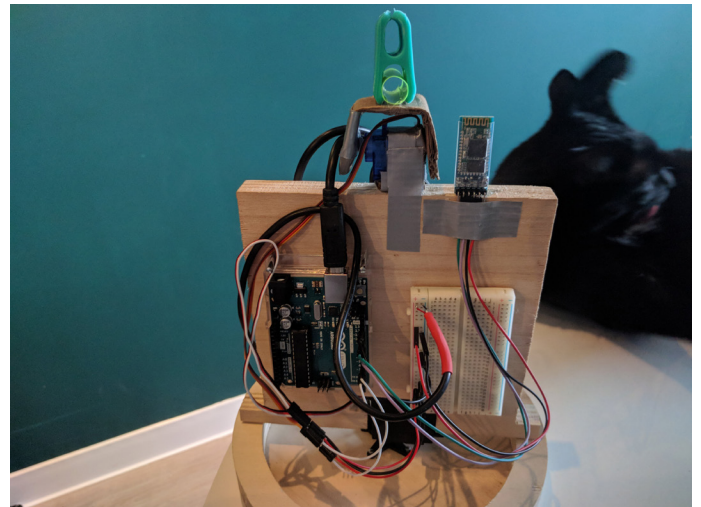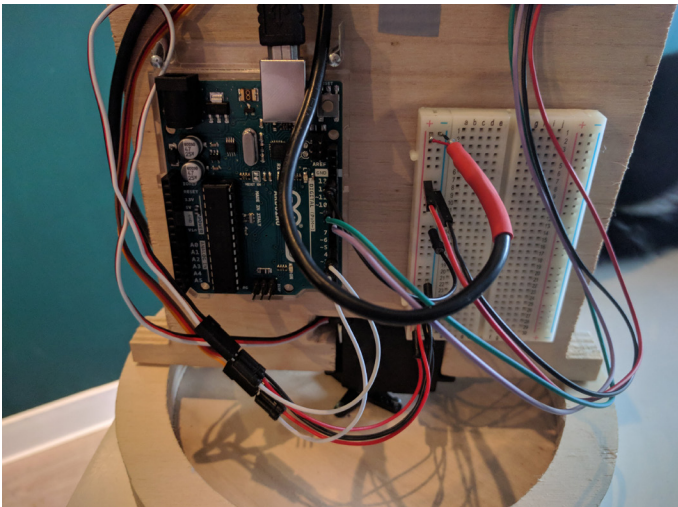
Step 3.2
- Stick the Arduino to the wooden shape. You can use hot glue, nails or both!

Step 3.3
- Stick the breadboard on the wood using eihter the sticker that's usually on them, or hot glue.

STEP 4

Step 4.1
- Attatch the bluetooth wires as on the picture.
- Mount the bluetooth conncector to the wooden shape. Make sure your cat does not eat it like mine did. He's a special snowflake.

Step 4.1
- Attach the wires as shown on the picture:
- All red cables go into the plus of the breadboard, and all the black, ground cables go into the plus of the breadboard.
- The white wire of the 360 servo goes into D6~
- The white wire of the 180 servo goes into D5~
- The purple bluetooth wire goes into D9~
- The green bluetooth wire goes into D10~
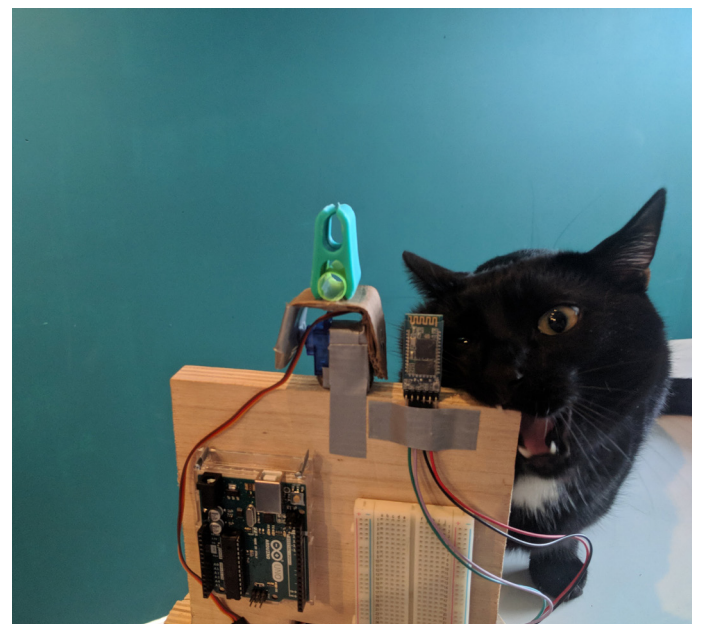
STEP 5

Step 5.1
- Use cardboard to make a cilindershape of about 16 cm high (about as high as the wooden shape is).
- Put a balloon in the outer end.
- Cover with paper mache and let dry.

Step 5.2
- When the paper mache has dried, cut the balloon from the inside.

- Cover the shape in gesso and let dry.
- Decorate the shape with any non-toxic paint or other materials that are safe for your cat and enjoy the outside! I used structure paint to make it look like concrete.

Aight! You finished the hard part, now it's time for some coding.

STEP 6
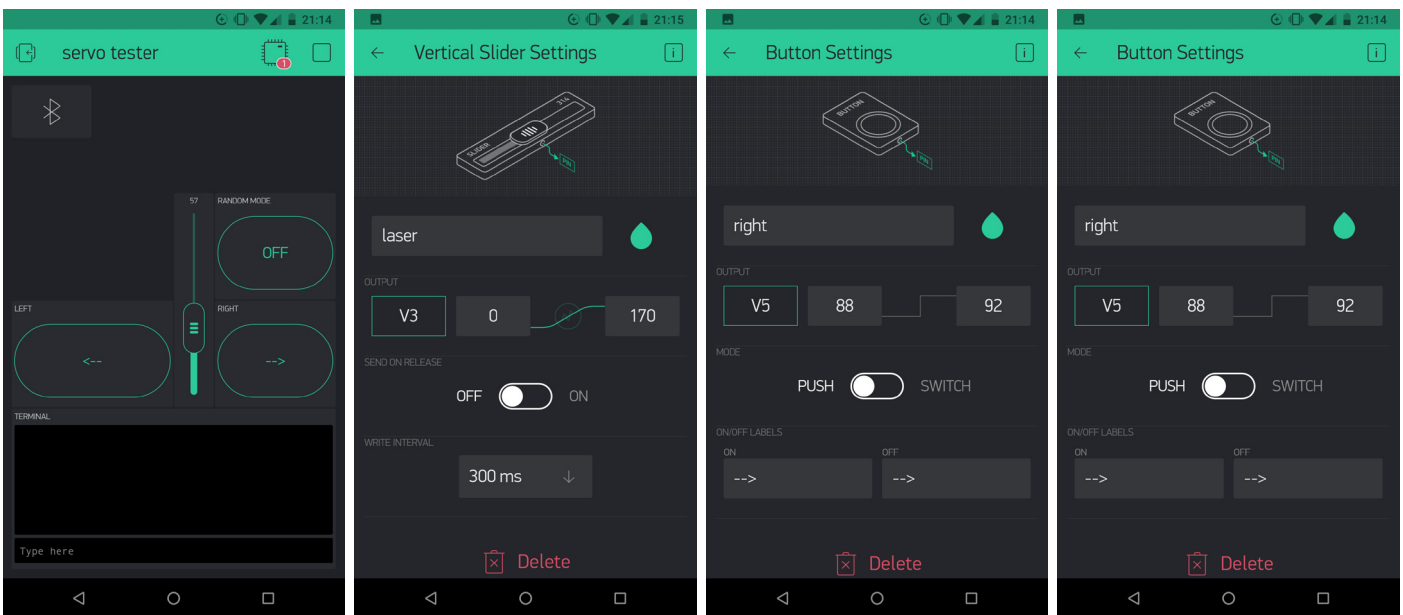
Step 6.1
- Download Blynk and create a new project. Save the code you get in your mail for later.
- Add bluetooth, a terminal, three buttons and one slider and arrange them as the first image.

Step 6.2
- Name the buttons as shown above
- For all buttons we will assign a pin and corre-spondending values:
- Random mode: V2, 0-1
- Right: V5, 88-92
- Left: V4, 88-84
- Laser slider: V3, 0 - 170
- Terminal: V1

Step 6.3
- Upload the the code to your Arduino. Don't forget to put the authentication token in the code. You should have recieved it in in your mail when you started this Blynk project.

Step 6.4
- Connect Arduino with phone over bluetooth, put the whole construction together and... have fun!