

## Project#2 ZEN kinetic art sculpture

李振邦 2019531055

You can download the latest video at:

<https://share.weiyun.com/fyDQA9fZ>

### Design concept:

I want to involve both motion and stabilization in a 3-D active sculpture. The wooden sticks and lines are stable, but the small paper fragments on the lines and metal wires are active. This mixing wants to impress the idea of relativeness of motion.

The paper pieces and metal wires shake irregularly, but the sticks rotate in fixed pattern. This comparison wants to impress the idea of order and irregularity

What's more, the light with designed position cast the shadow of the sculpture on the white-paper-covered wall and floor for appreciation. The moving of the sculptures can be controlled with an Potentiometer: low range(<45%) for left-towards rotation, high range(>55%) for right-towards rotation and mid 10% for static mode. The shadows of these 3-D structures are variable.

I hope the viewer of this sculpture can be impressed with a feeling of ZEN: move and stay, order and irregularity, light and shadow, art of balance in the control of things…….

### Related work:

1.<https://cn.bing.com/images/search?q=Willem+van+Weeghel&form=HDRSC2&first=1&scenario=ImageBasicHover>

Some images of works of Willem van Weeghel. They are called dynamic structures, have the similar ZEN impression with my work, but the way to express and the ideas behind it are very different. This will be discussed further in discussion part.

2.<https://magazine.artland.com/top-ten-kinetic-art-artists-and-pioneers/>

I view some famous Kinetic artists and there art here. Not very useful. But when I saw the shadow of these works, I decide to involve more shadow in my design. My work is special at its amazingly changing shadow under light because its shape and rotation.

### Implementation:

#### Code:

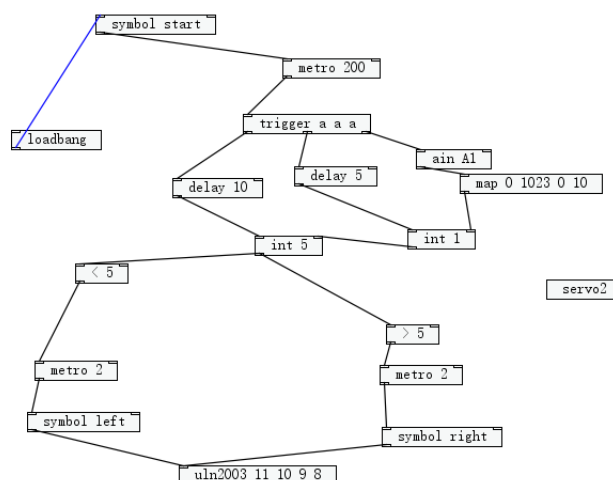


Fig1.Main code

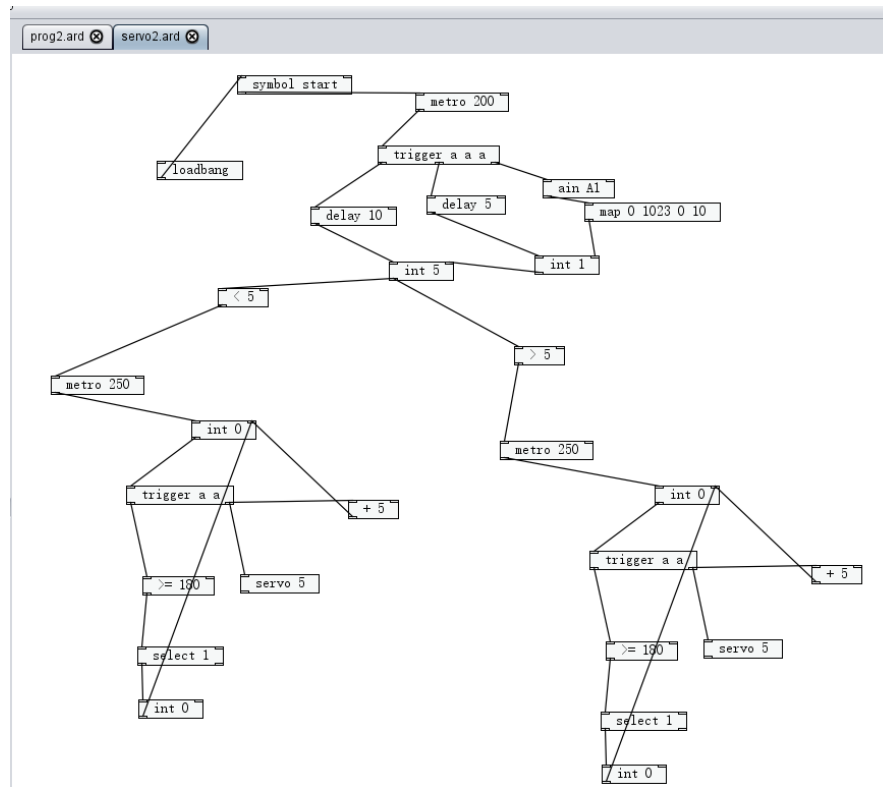


Fig2.Subpatch

Analog output is also not very useful in the project.

Circuit:

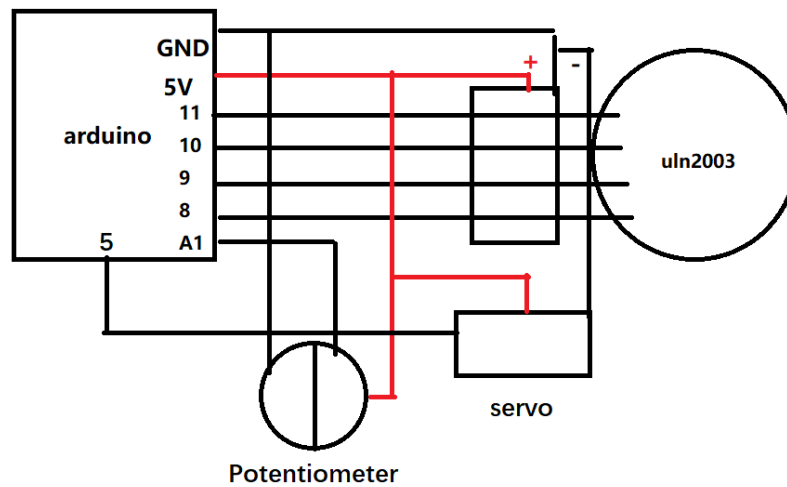
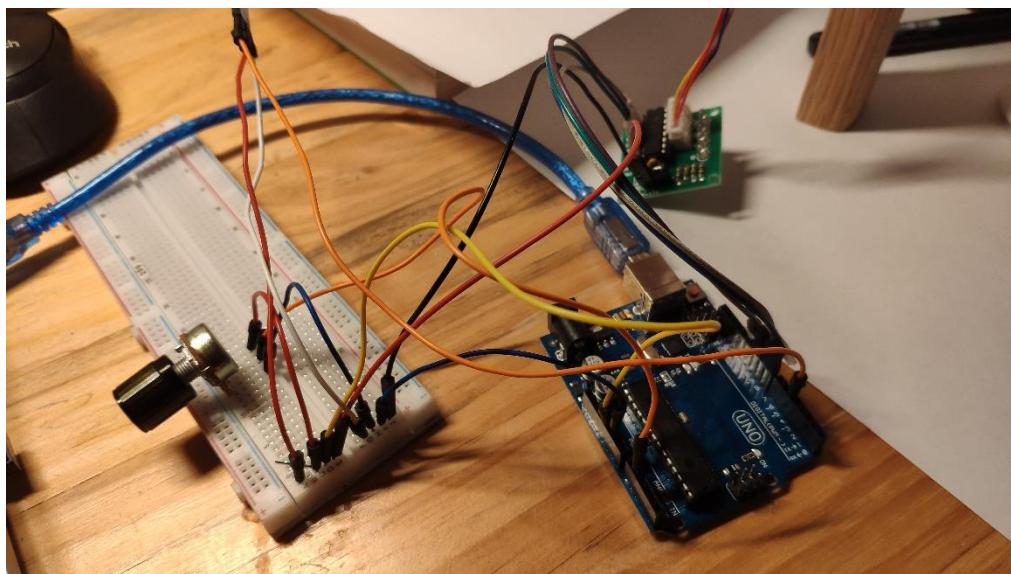
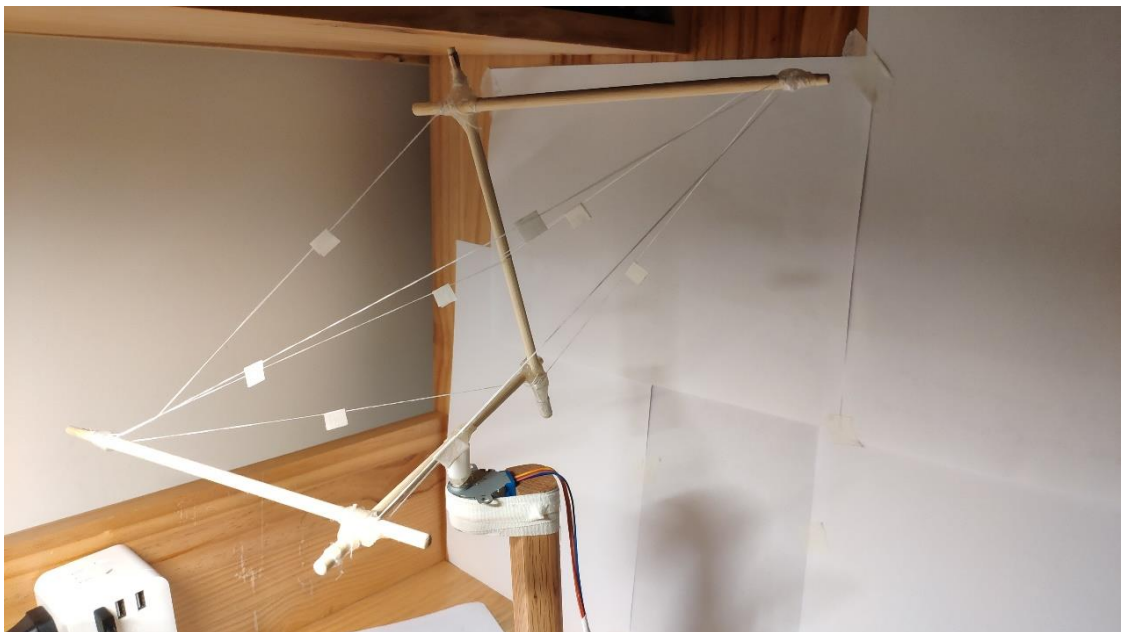
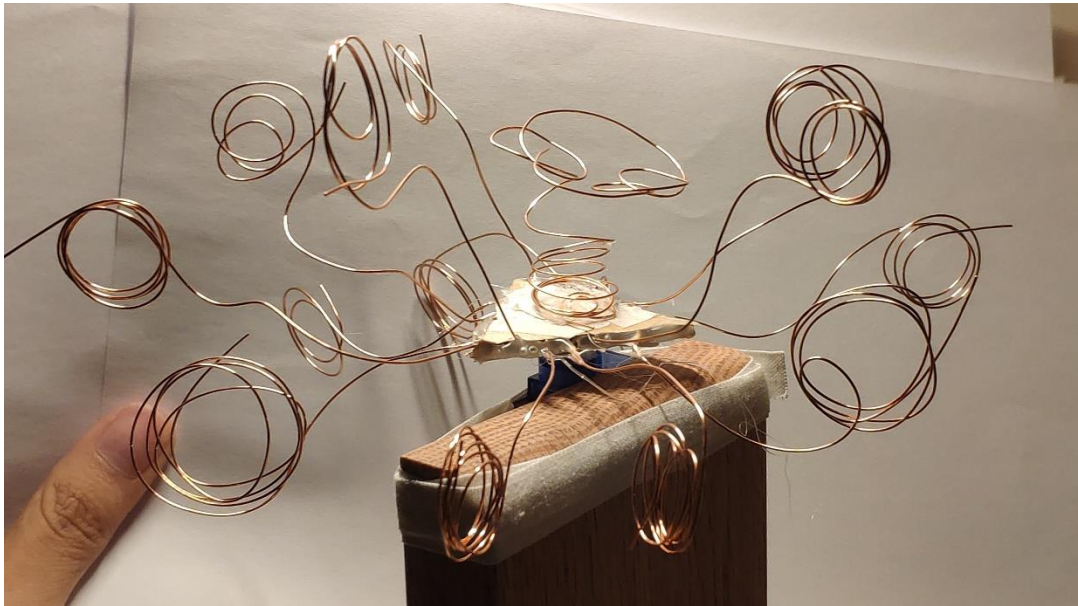
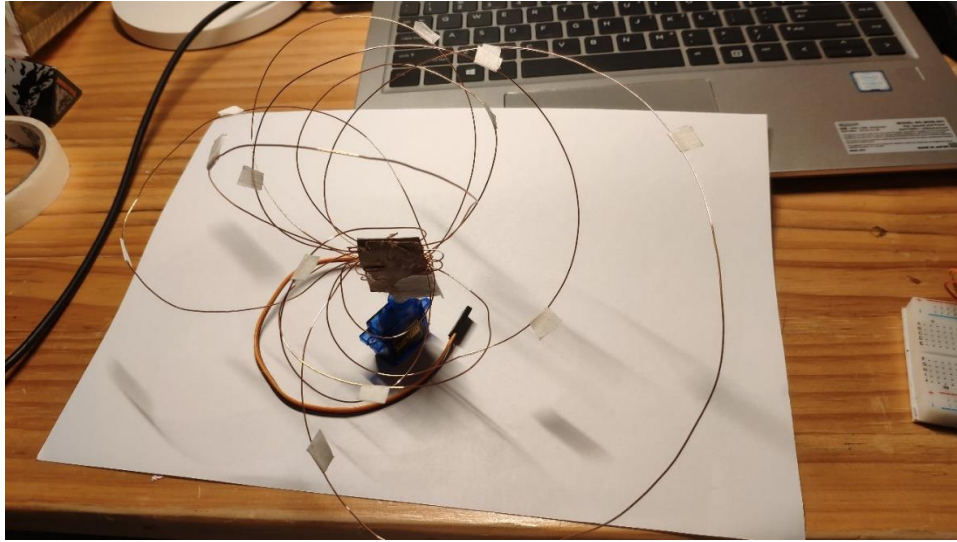


Fig3.Circuit

Pictures:



*Fig4,5,6.Final version*



*Fig7. Abandoned prototype*

## Discussion

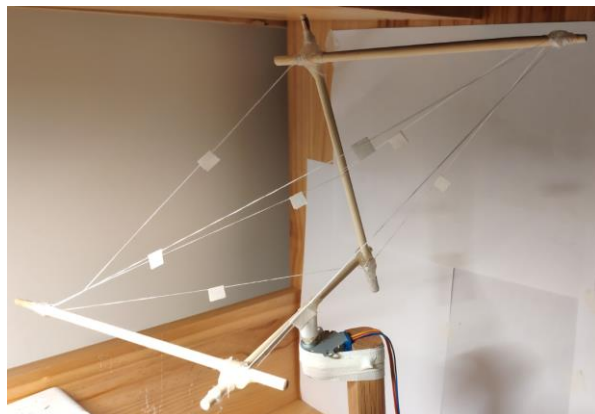
The basic ideas in design have been achieved..

The light I use is not very good and the Arduino limits the number of step-motors that can be used. (for the limit of power and port number) If given more material, we can use more these sculptures in different shapes and sizes and rotate in different directions. You can also involve **mirrors** in the wall and floor to produce more complex reflection images.

That will be much better, but I think you still get the ideas that I want to impress in this version.

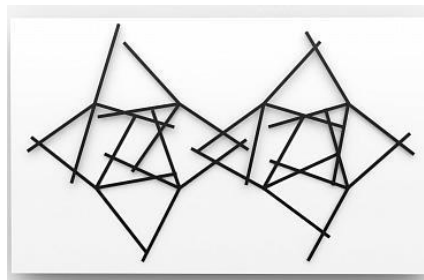
Willem van Weeghel's mostly use rotatable lines with motors to create a complex and changeable 2-D patterns. When viewing his works, the slow and basic rotation creating the variable patterns amaze me. It give me the ZEN feelings like the idea of relativeness of motion and change.

However, the way we used to represent is very different. Willem van Weeghel mostly use the 2-D flat rotations of same thickness , but I use the 3-D structure made with paper, sticks and lines, which are of different shapes and thicknesses. This is because I consider the shadow of my structure and what to make it looks more variable. (with 3-D structure) What's more, in Willem van Weeghel's works, all the motions are driven by motor. However, I use the paper pieces on the lines and metal wires to add some other motions: this light, flexible things will shake in irregular patterns when the motors are on. The comparison between the sticks' fixed rotations and these irregular shanking parts is very impressive and can express the idea of order and irregularity effectively.





*Fig8,9.My design*



*Fig10.Willem van Weeghel's Kinetic Sculptures*

### **Summary**

This 3-D moveable sculpture is designed to express some ZEN ideas like relativeness of motion and nonemotion, order and irregularity, light and shadow. It can be developed better with mirrors, more motors, and more complex shapes.

### **Reference**

<https://cn.bing.com/images/search?q=Willem+van+Weeghel%e2%80%99&form=HDRSC2&first=1&scenario=ImageBasicHover>

word count:614