



# *Making a 3D printed “Hollow Clock”*

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# *Agenda*

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02

Demo

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Circuitry

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3D Parts

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Assembly

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Test Demo



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THE ASSEMBLY

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## About The Assembly

- A smart lab & makerspace based out of in5 since 2014
- Over 350 free workshops done
- Focus on Smart Technology & Practical Applications
- Assembly : HACK - Embedded systems, IoT, hardware
- Assembly : CODE - Software - APIs, frameworks, apps
- Assembly: Data Science - Advanced topics in AI/ML
- Audience – Students | Professionals | Entrepreneurs
- Social Media: @makesmartthings
- [www.theassembly.ae](http://www.theassembly.ae) → Online workshop videos

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GitHub Link



What is this project?

- 01 A hollow clock is a desk clock that functions as both a showpiece and a functional clock
- 02 Almost every part of the clock is 3D printed so anyone with a 3D printer can design and make this clock



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## Items you will require

- 01 Aside from the 3D printed parts there are also 3 other items you will need and which can be ordered off Amazon or brought at any local electronics store.
- 02 These parts include: An Arduino Uno (or nano), a 28BYJ-48 stepper motor, neodymium magnets and a couple of breakout wires





*Arduino Uno*



*28BYJ-48 Stepper Motor*



*Breakout Wires*

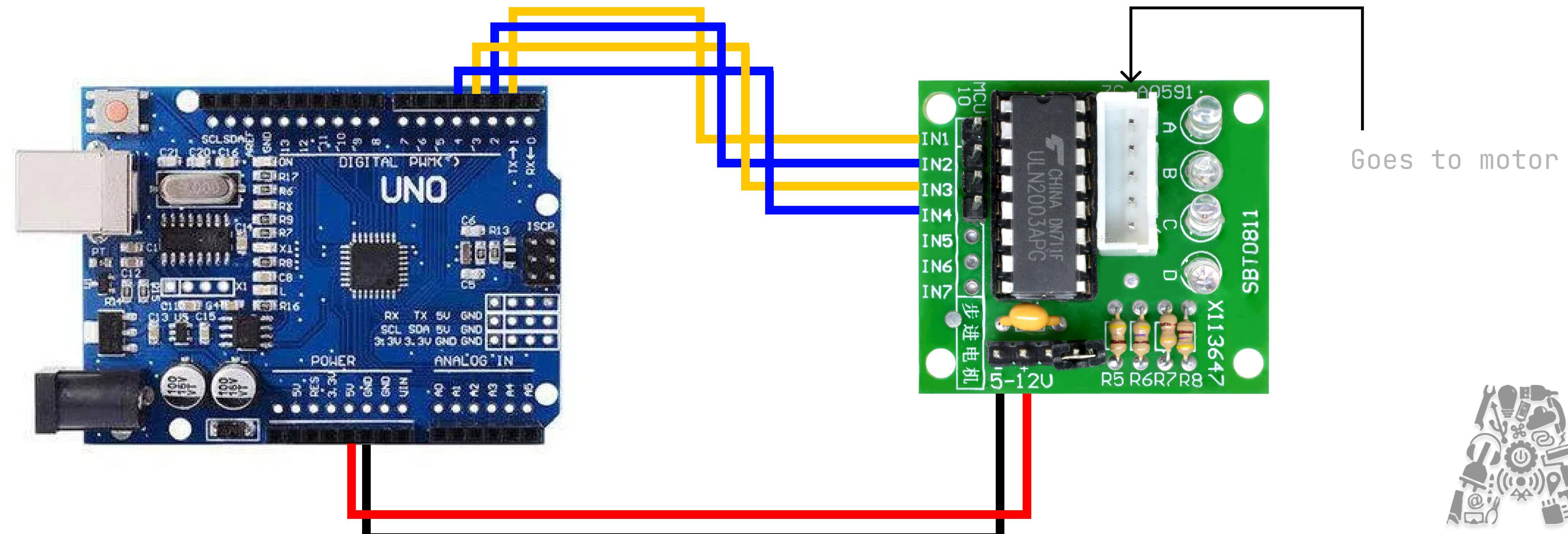


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## Pin Connections

01 Pins D2-D5 → IN2 - IN5

02 Negative pin to Arduino ground, positive pin to 5V.



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## 3D Parts needed

The STL files of each part are in the github repo, the main parts you need are:

01 Min rotor

02 Hour rotor

03 Hour hand

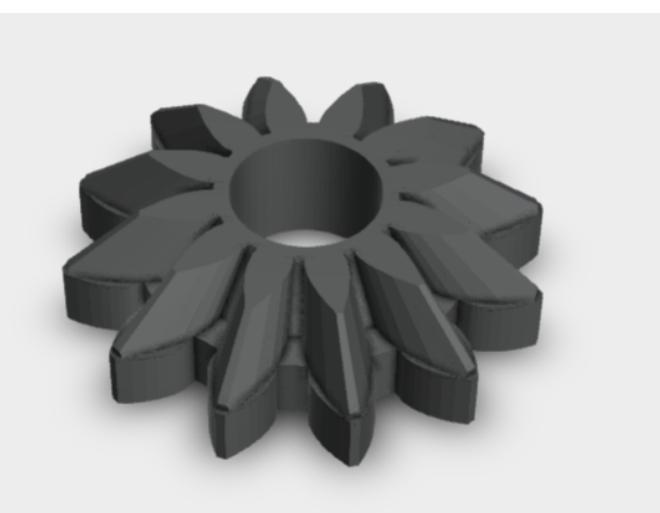
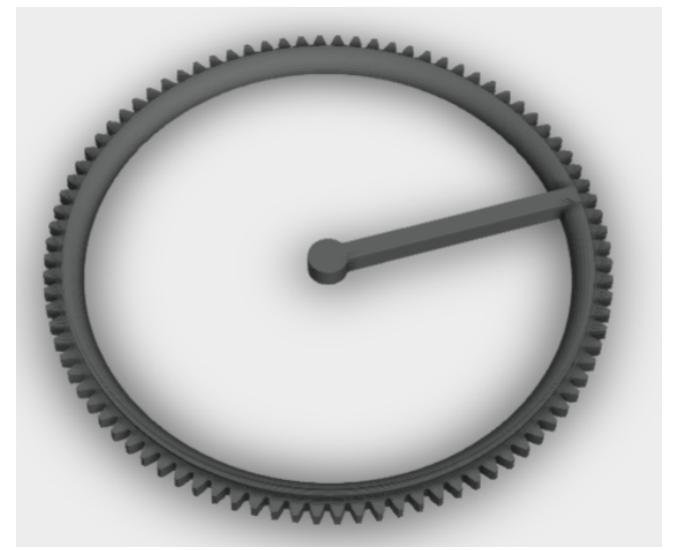
04 Front and Rear cover

05 Bevel, worm and drive gears

06 Case and Cap



## 3D Parts needed



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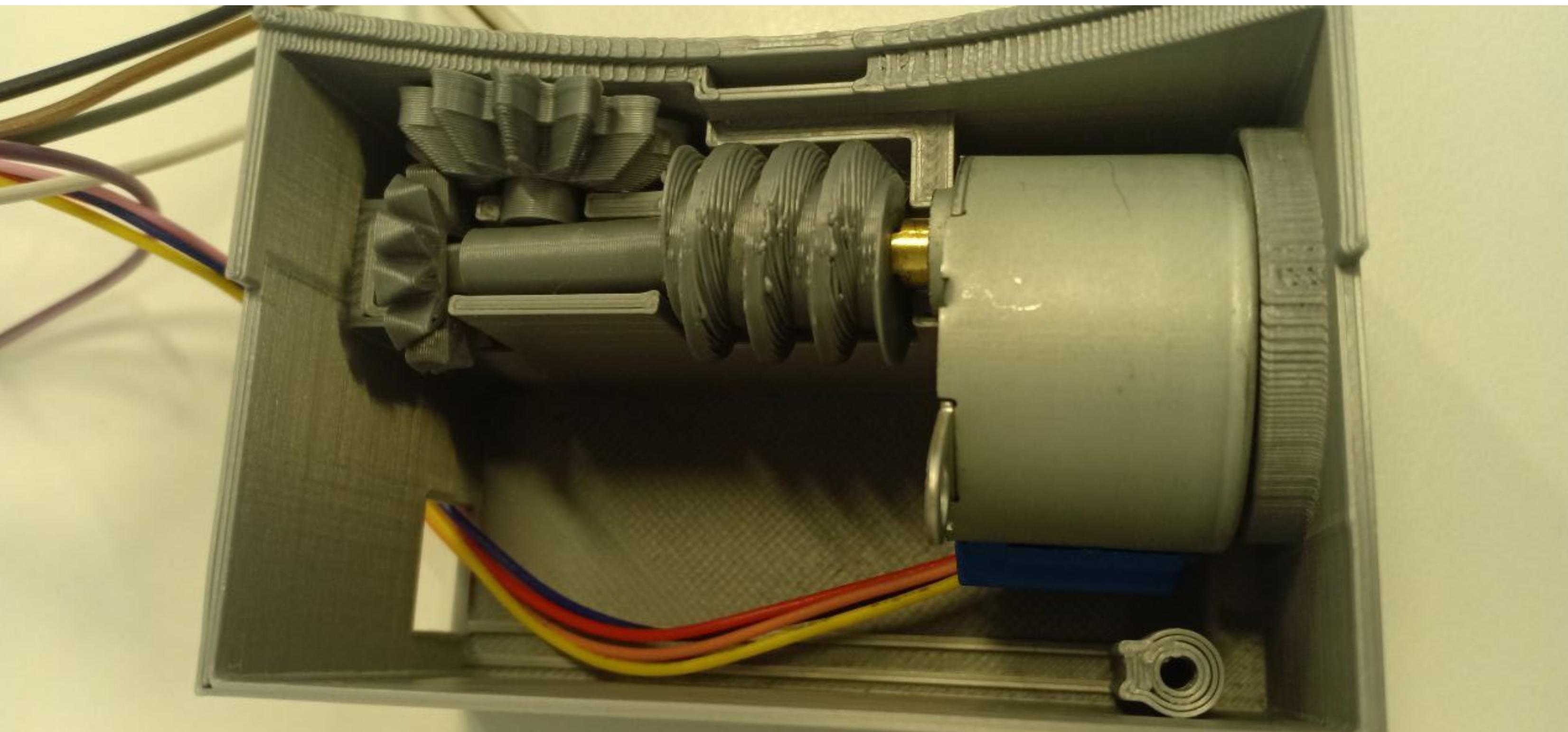
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## Gearbox setup



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# Gearbox setup

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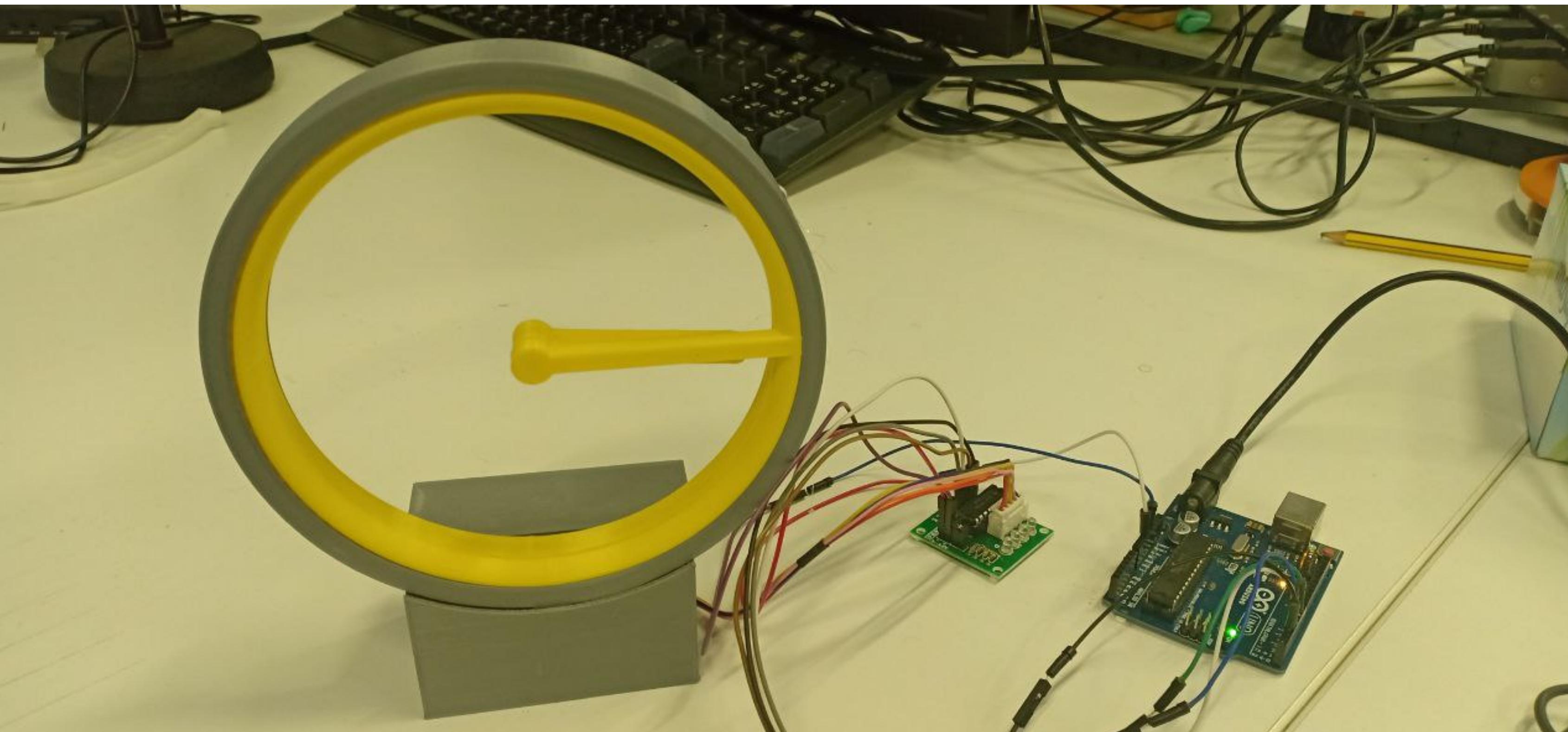
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## Finished Product



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# *Thank You*

Any Questions?

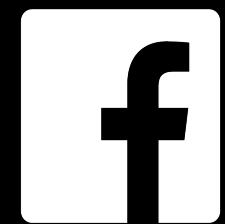


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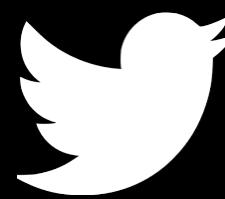
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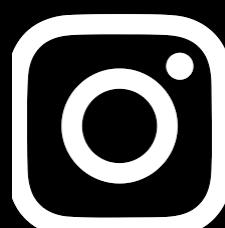
The Assembly



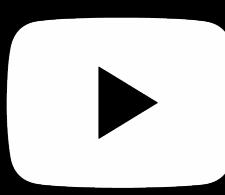
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