

Diyu Zhou , Weiching Chen

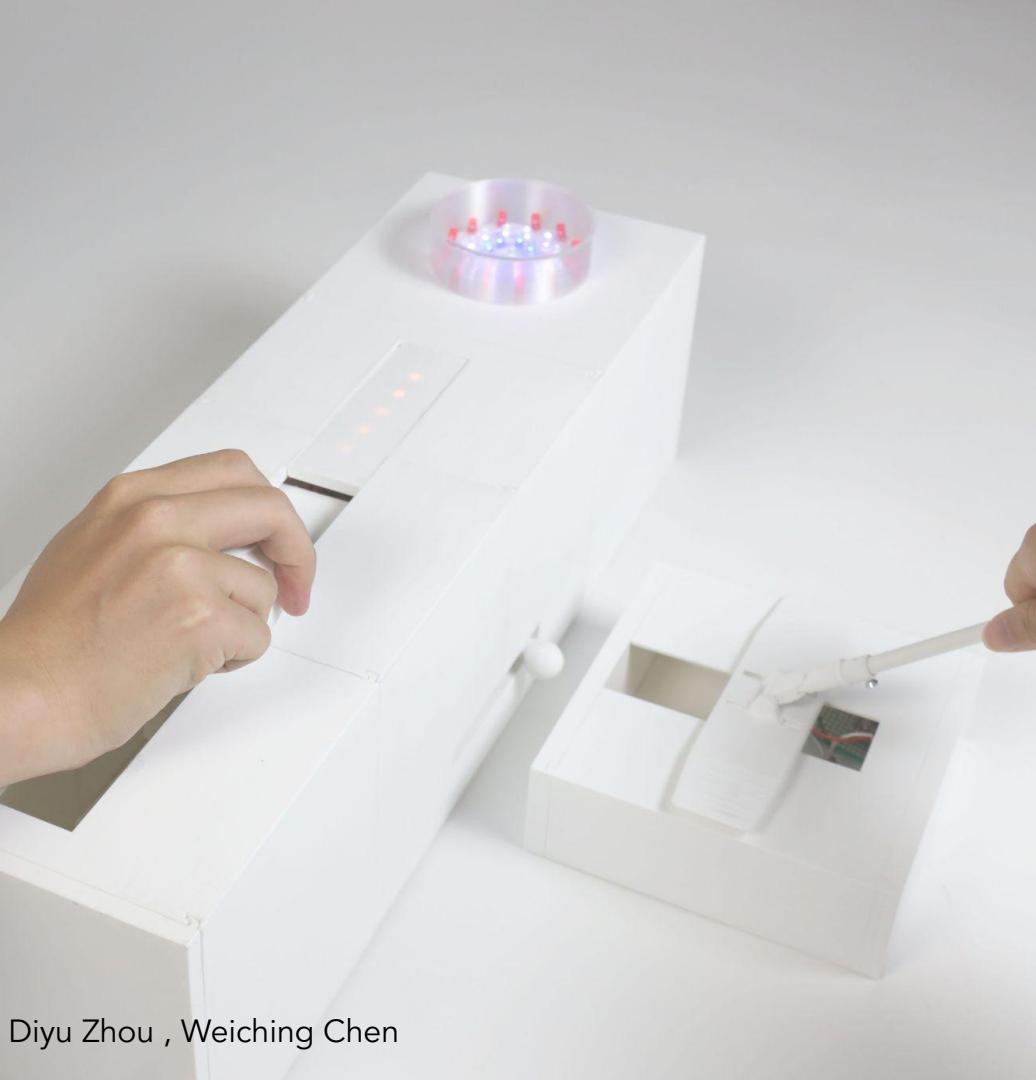
DESIGN 6397 Design for Physical Interaction I (2024FA)

Design purpose

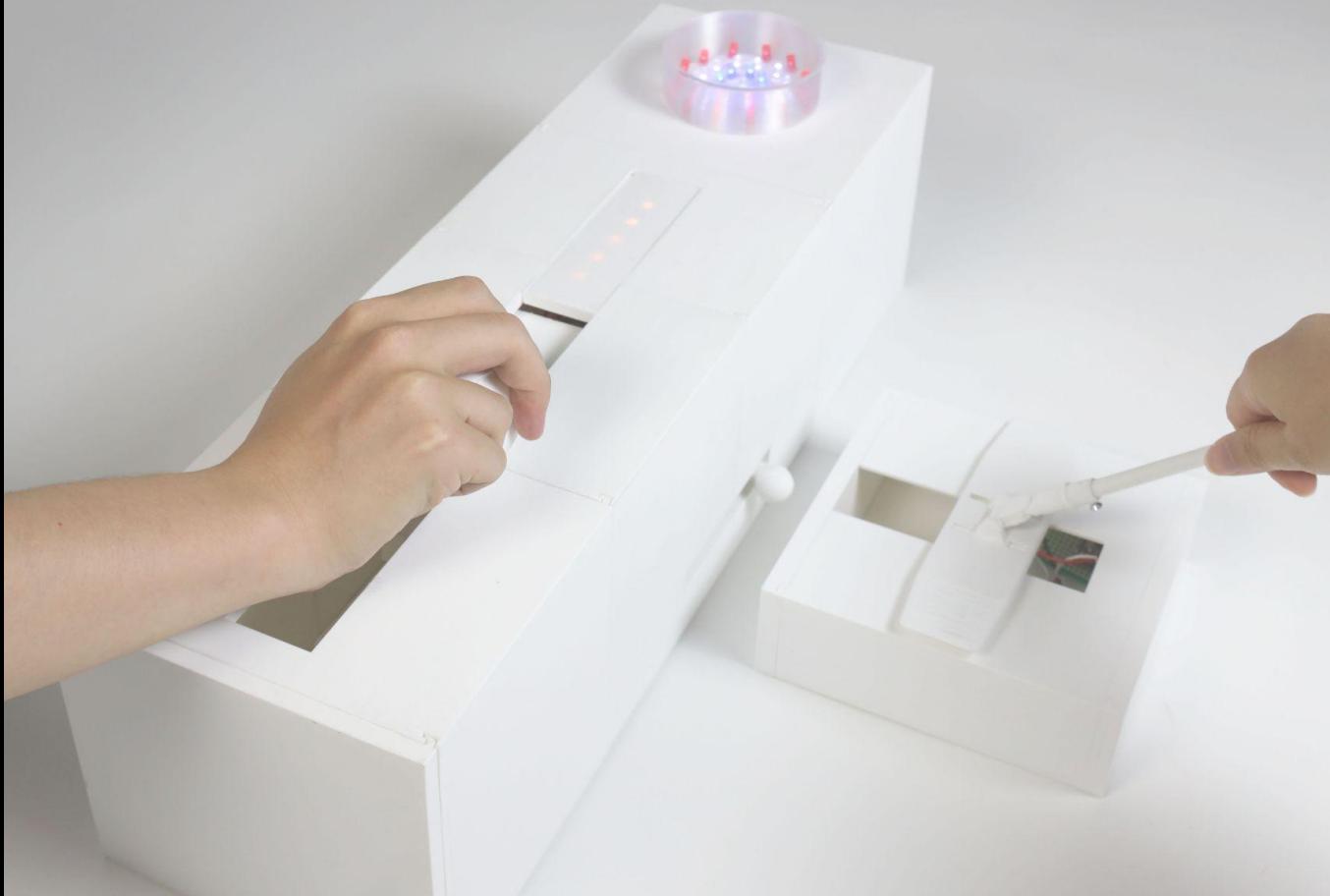
We aim to create a collaborative game that people can enjoy together.

In this game, the first player uses a curling-stone-shaped controller, pushing it forward within a specified time, causing the curling ball to move forward.

Player two can use the broom to sweep after the curling stone starts moving, adjusting its final position based on a position hint provided during the game.

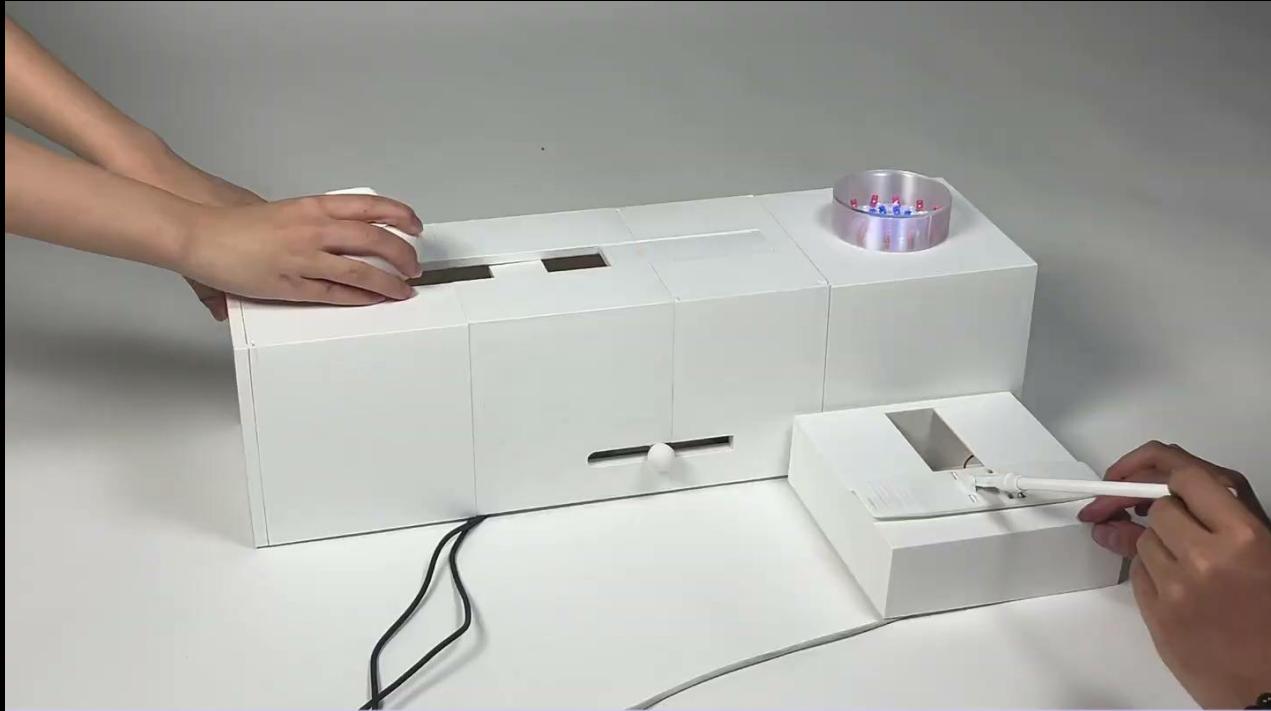


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Inspiration : Olympics + One-Direction Sport + Collaboration Game



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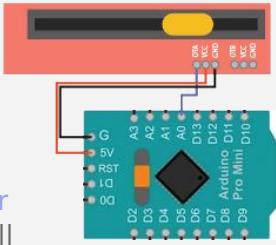
Inspiration

Curling is an ice sport where players slide heavy stones toward a target called the "house."

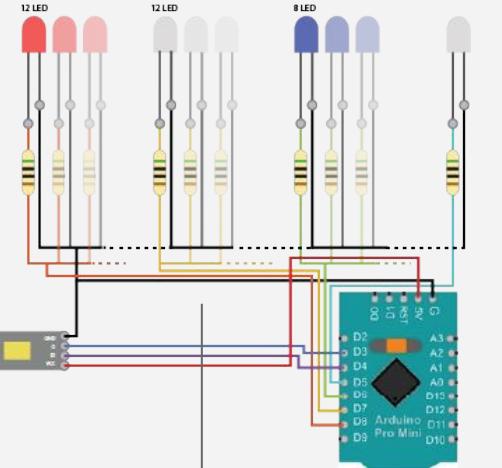
Brooms are used to sweep the ice, reducing friction and affecting the stone's speed and direction.

Technical picture

Sensor to detect how far the curling ball is thrown.



The LED will light up at different levels, so the player knows how far the curling stone will go.



This LED light demonstrates that the player has successfully reached the "house."

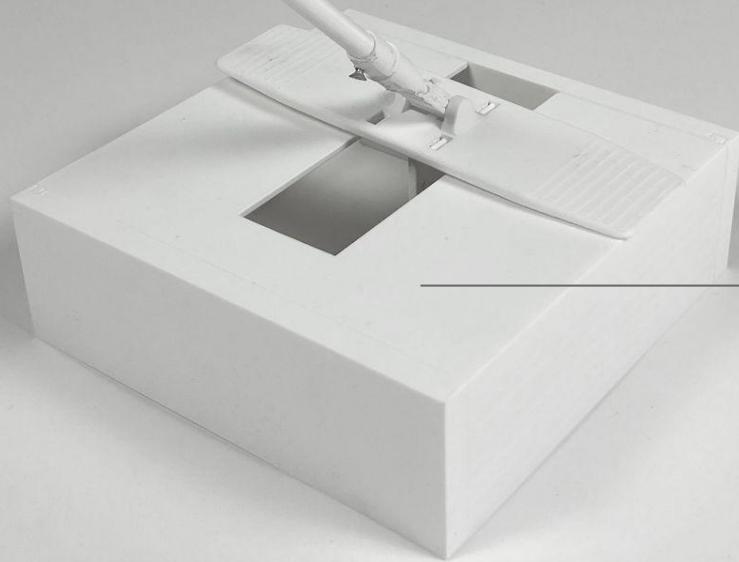
Curling Stone



Reset mechanism

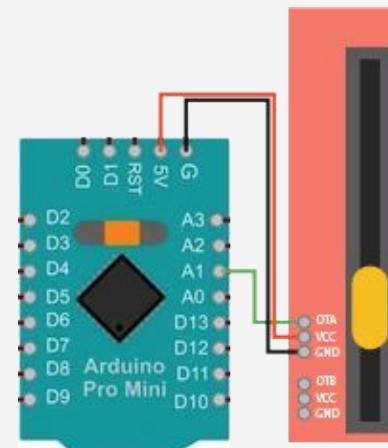


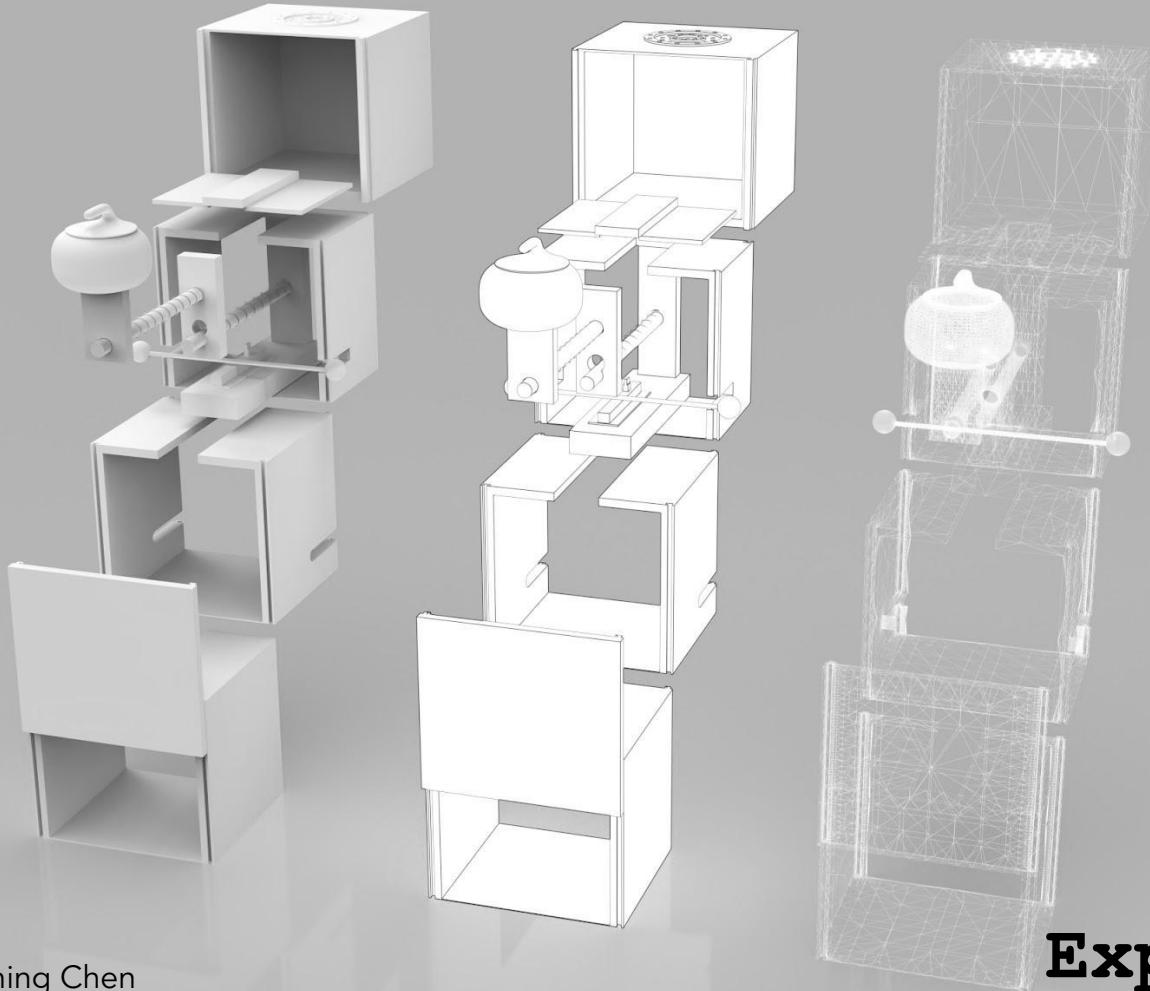
House



Technical picture

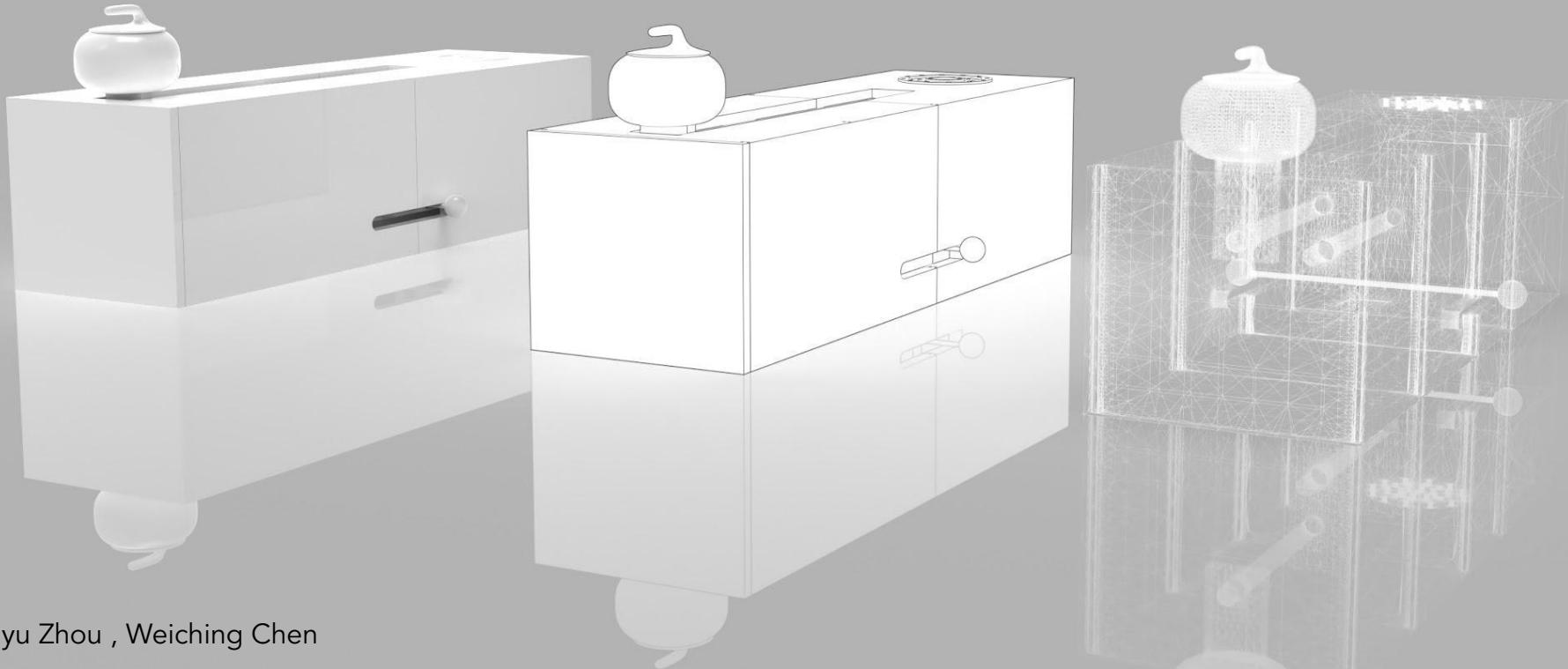
A broom connected to a slider sensor to collect brushing data.

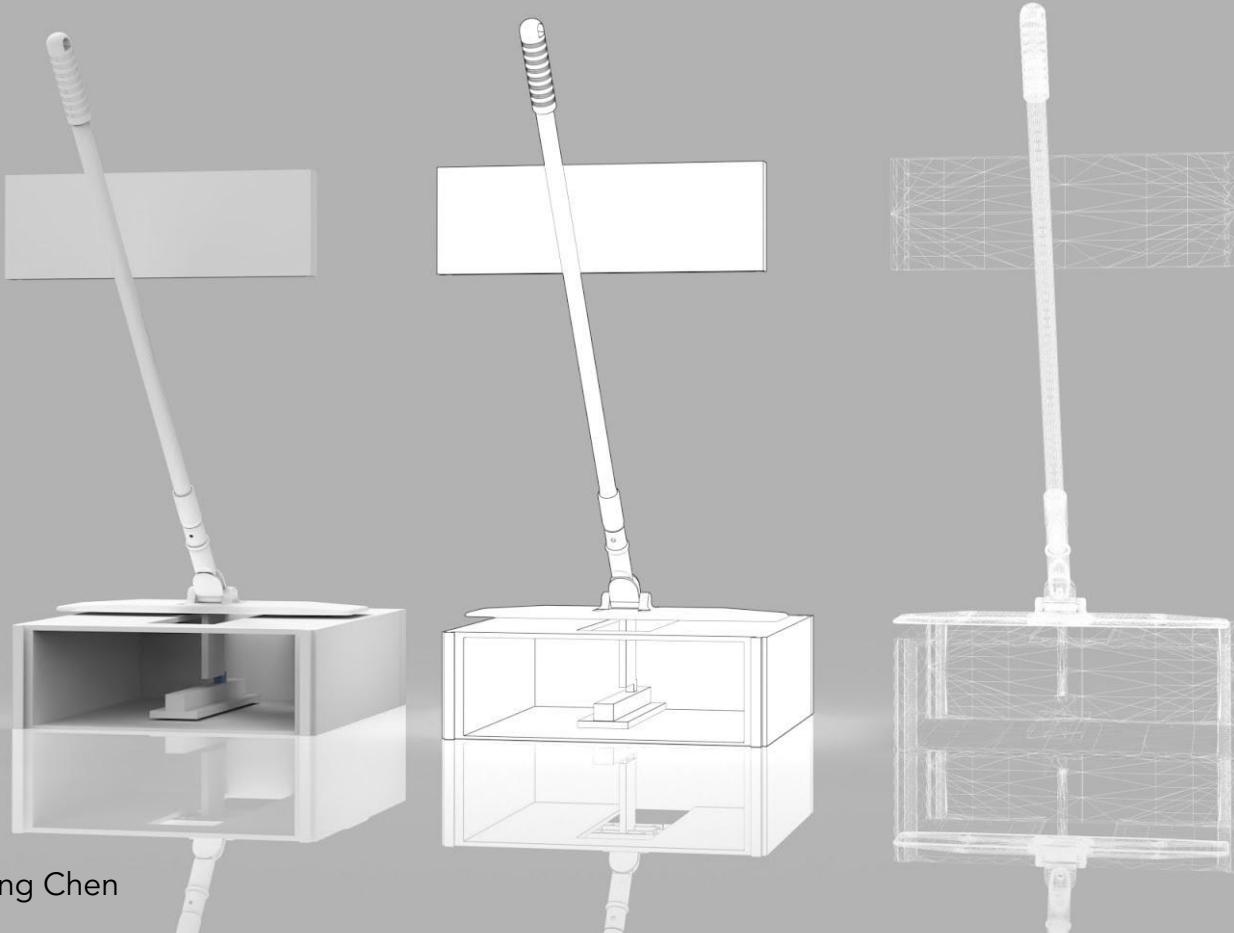




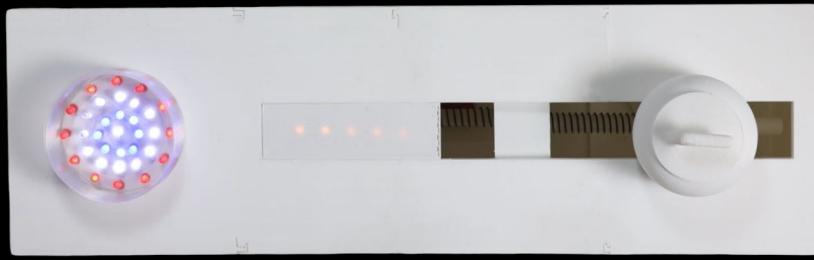
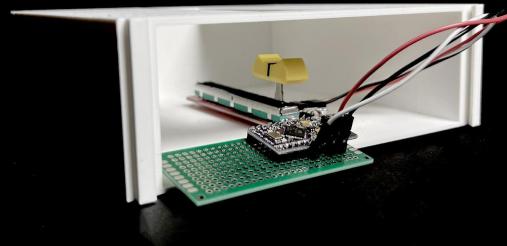
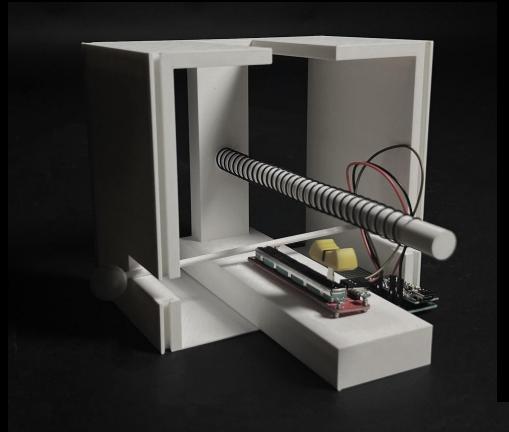
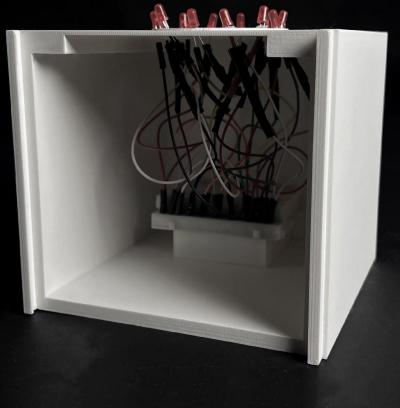
Exploded view

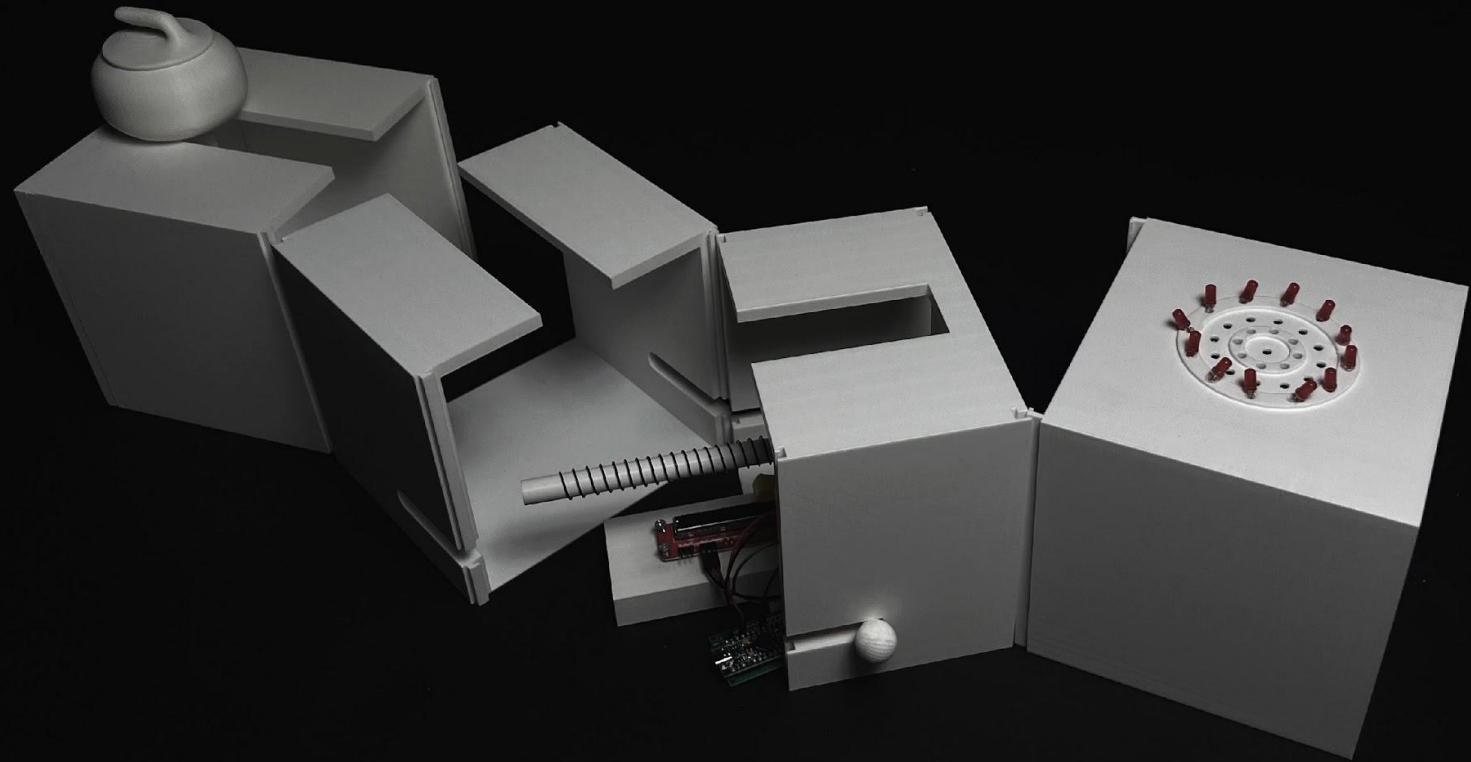
Rendering picture





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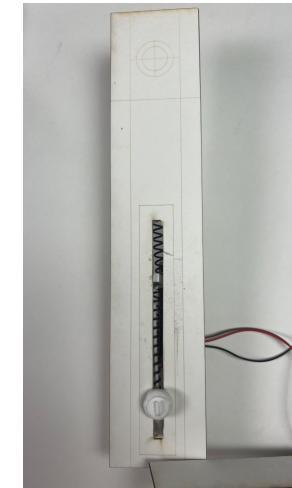
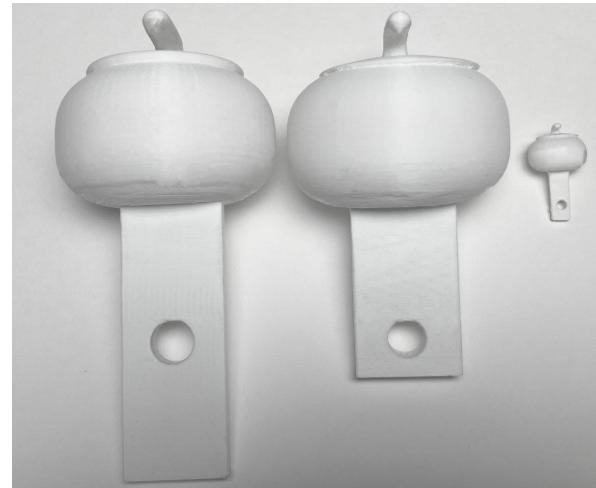
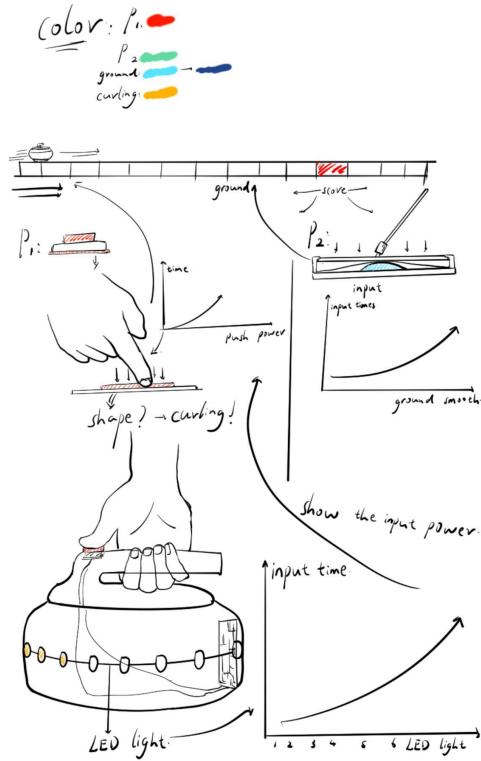
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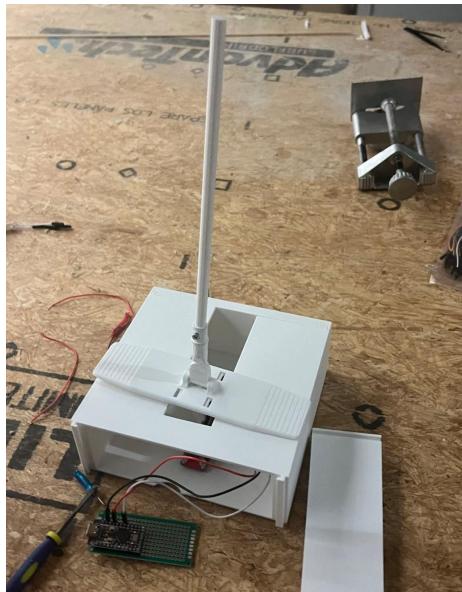
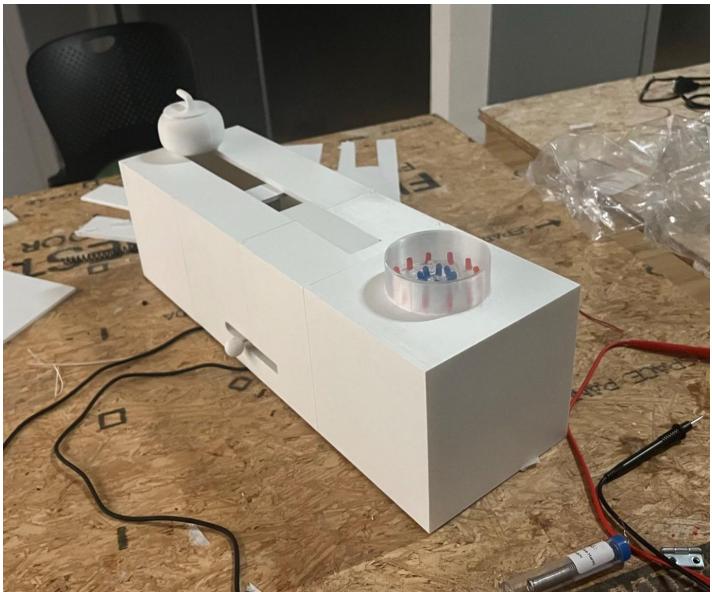
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Design Process



Design Process



Lessons Learned

1. Never use so many LEDs! It becomes very complicated when assembling all the LEDs on our model.
2. It is very important to have users play the game and get feedback from them. Sometimes, we may feel it is easy and clear to play, but others may have no idea how to play.
3. For the mechanical part of our model, we should test and create some prototypes before the final model, rather than just simulating the mechanical movement in Rhino. There are many differences between real life and Rhino.

Thank you!