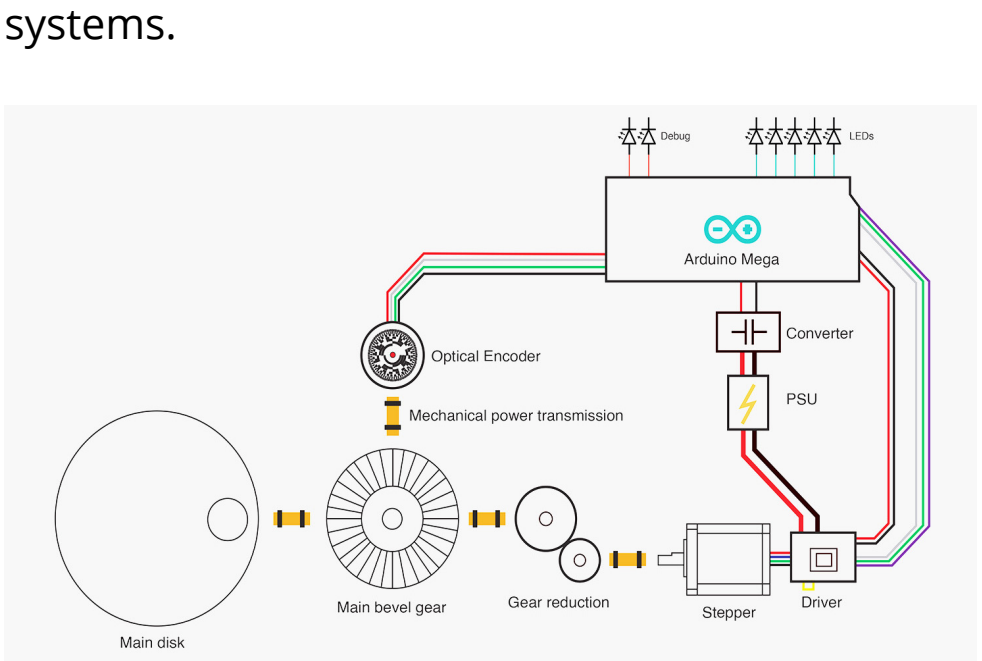
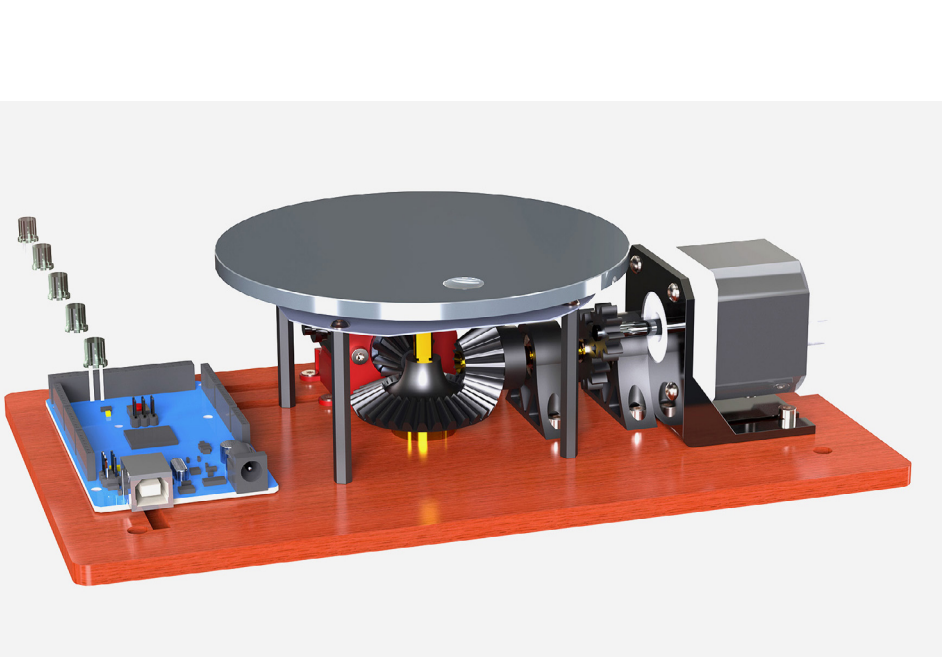
GIZMO

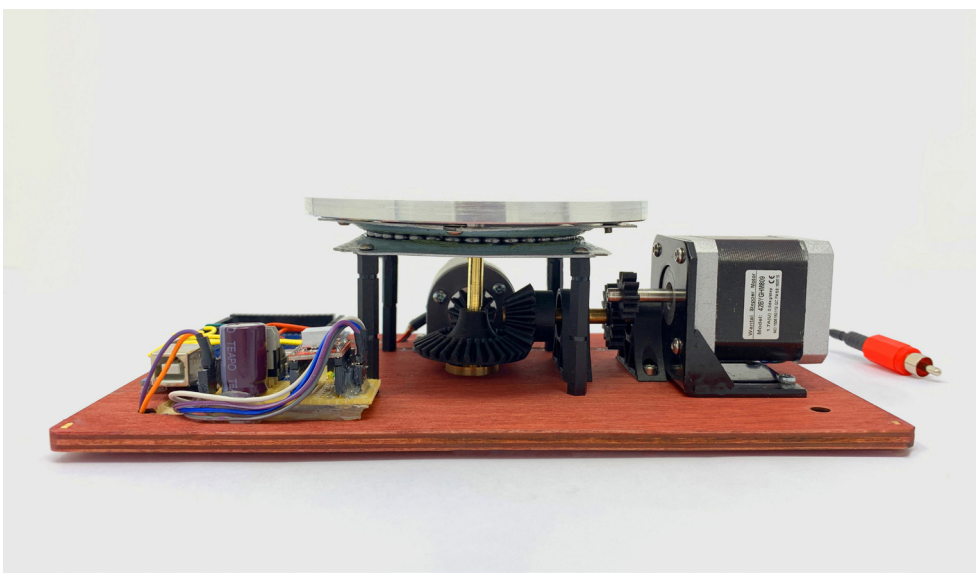
My physical computing project involved designing, fabricating and testing a mechanical electronic device.

The scope was very open with the only requirement being a human interaction.

The goal was to teach us about sensors, actuators and control systems.







My idea involves a large dial that the user could rotate. It had to be in the correct position to proceed to the next level.

An indication is given to the user by the brightness of an LED - the brighter it is the closer they are to winning.

To make the game more challenging I added a powerful stepper motor connected to the disk through a gear train.

If the user made an incorrect move or spun the disk too slowly the motor would add resistance to the motion, or completely take over fighting the user for control.

The game is beaten by either not making any mistakes (the patterns can be learned), or by going with brute force and overpowering the motor.