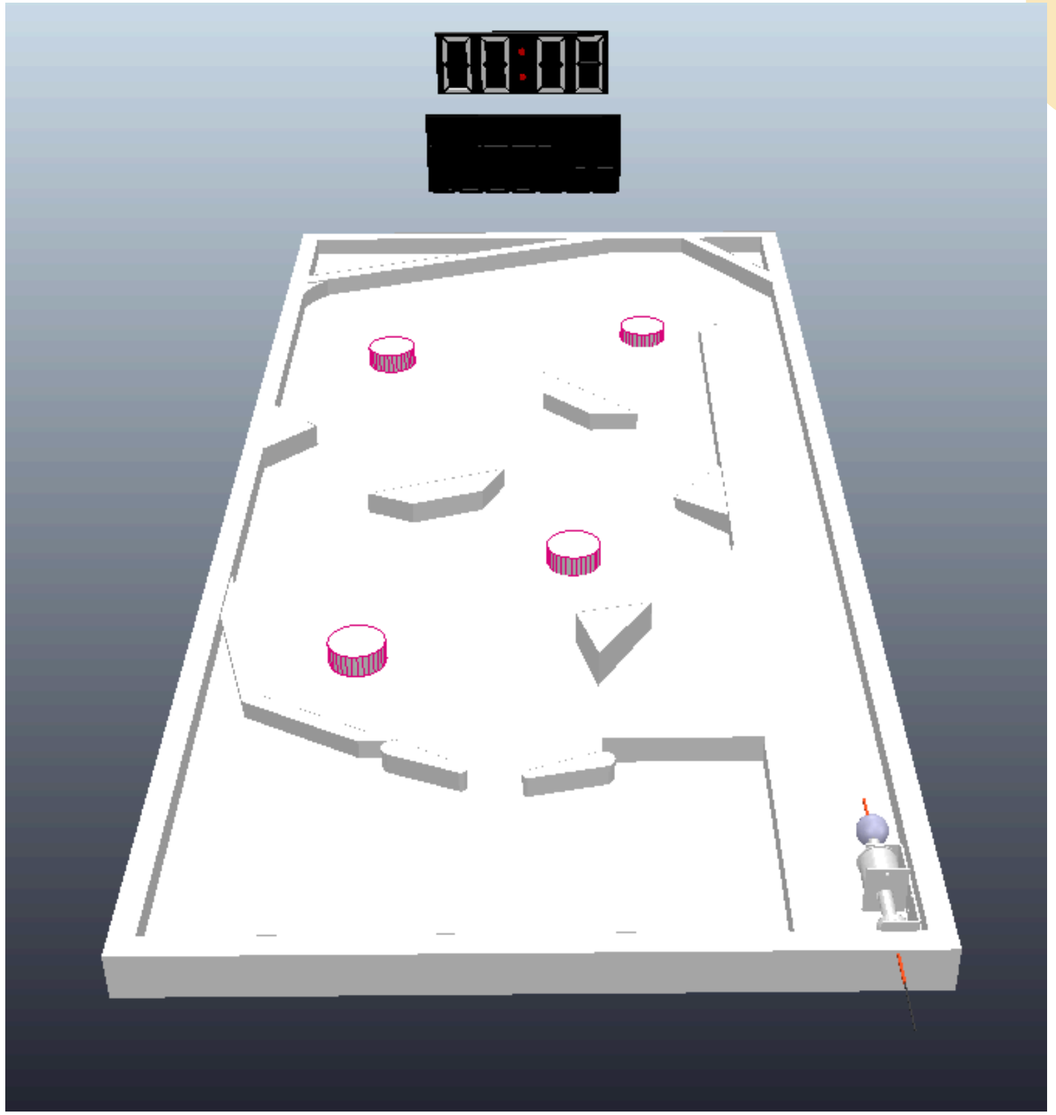
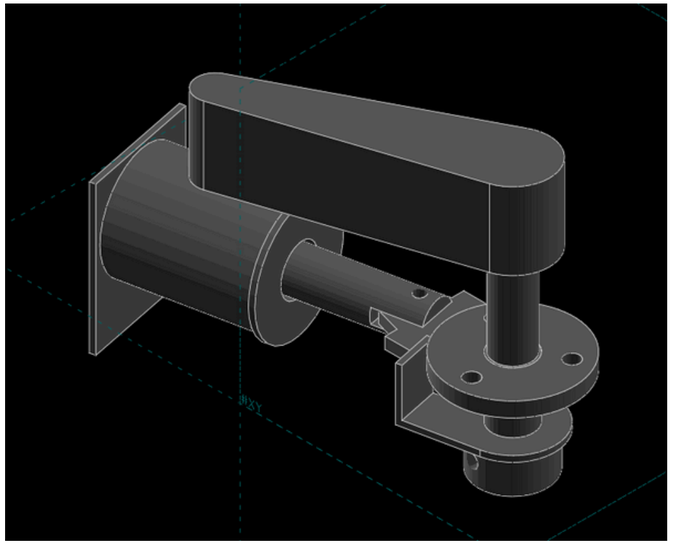
Cad2024
電腦輔助設計與實習
彈珠台

組長:41223228洪英毓
組員:41223227施宗廷
41223206陳顗亘

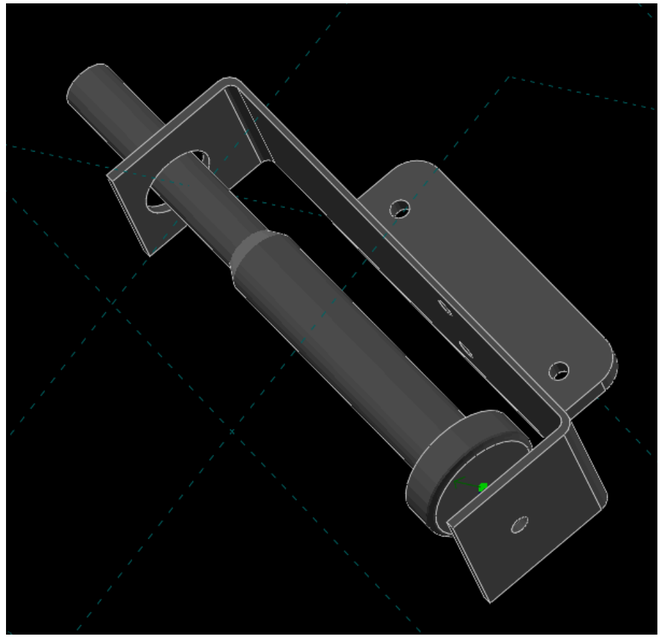


零件

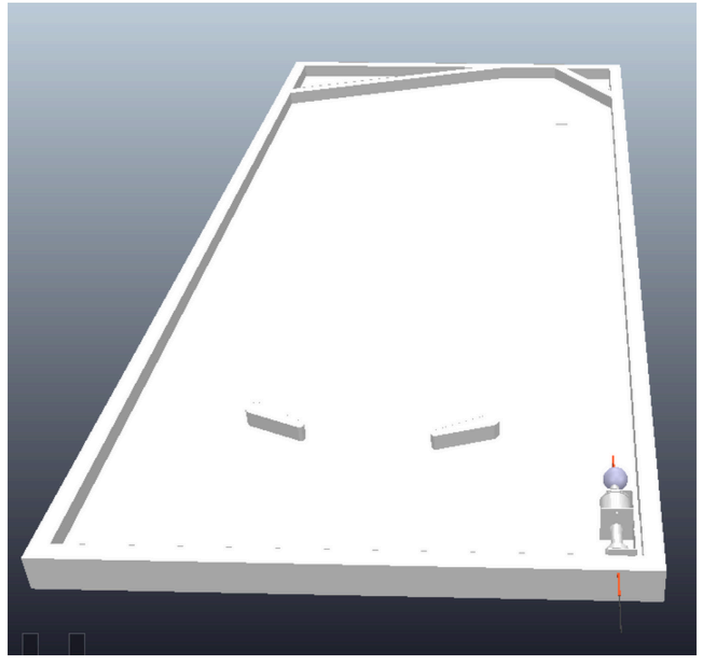
1.撥桿



2.推進器



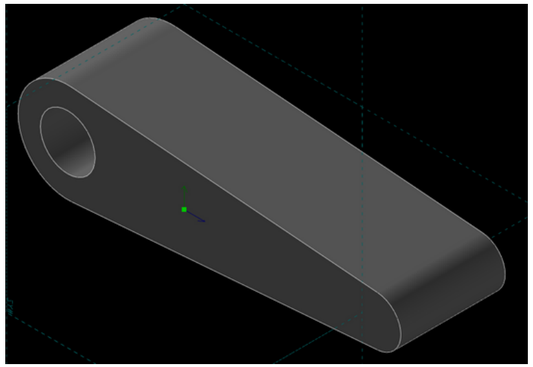
3.彈珠台



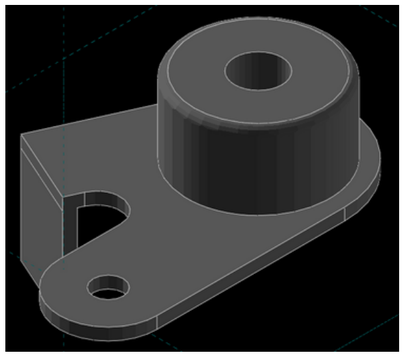
工作分配

41223206_陳顗亘 負責用solvespace繪製+STL

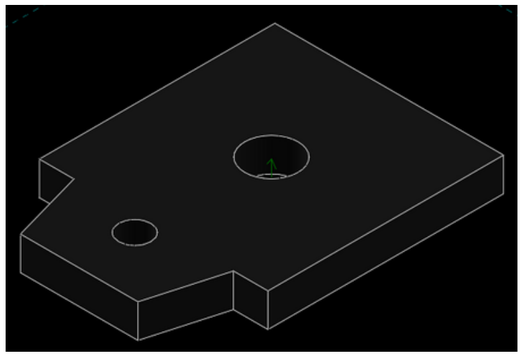
flipper



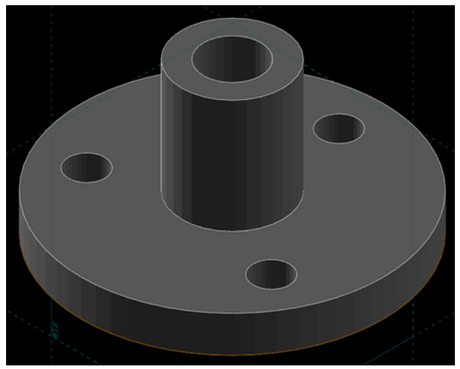
left_metal_piece



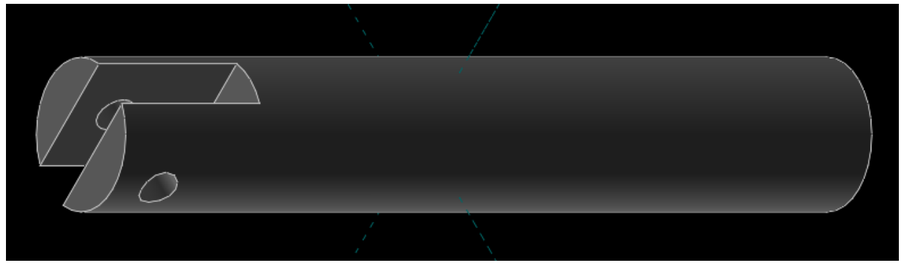
piece_composite



plastic_flipper

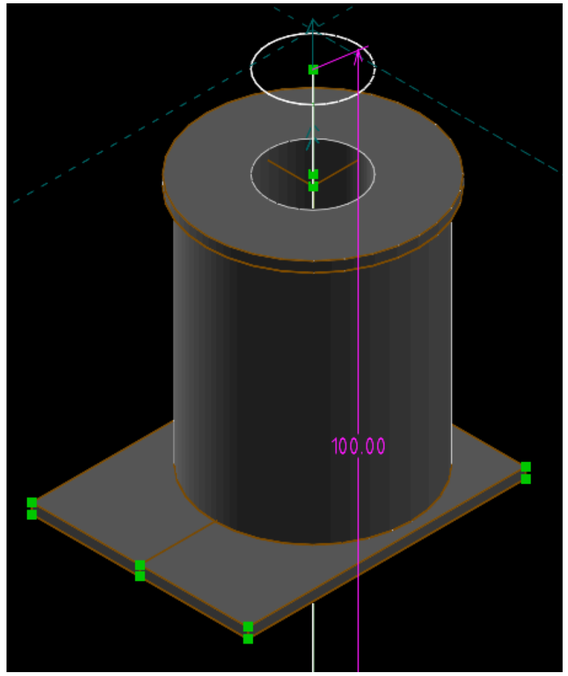


slider

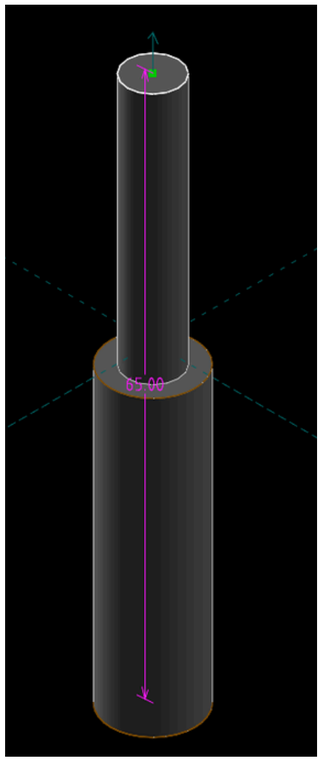


41223228_洪英毓 負責用solvespace+NX繪製

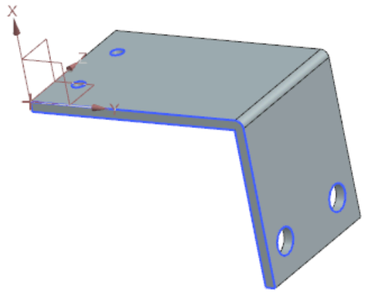
Plongeur Batteur_sldprt.prt



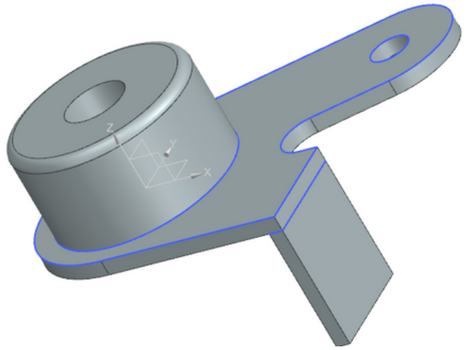
Flipper



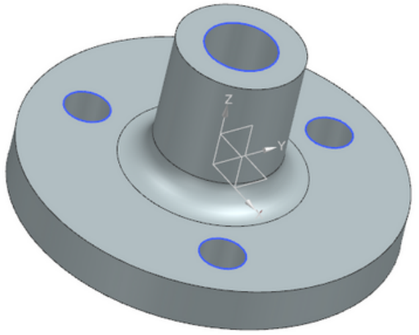
Bobine Batteur_sldprt



left_metal_piece

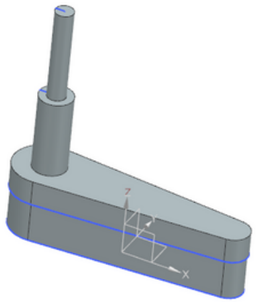


plastic_flipper

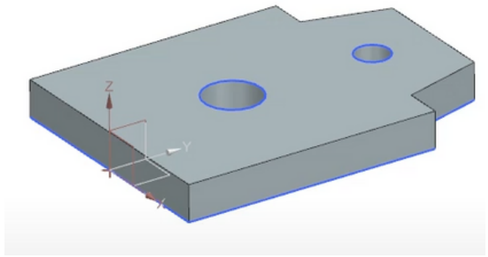


41223227_施宗廷 負責用NX繪製

Flipper

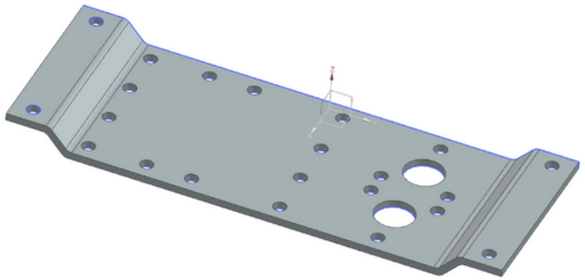


Piece composite

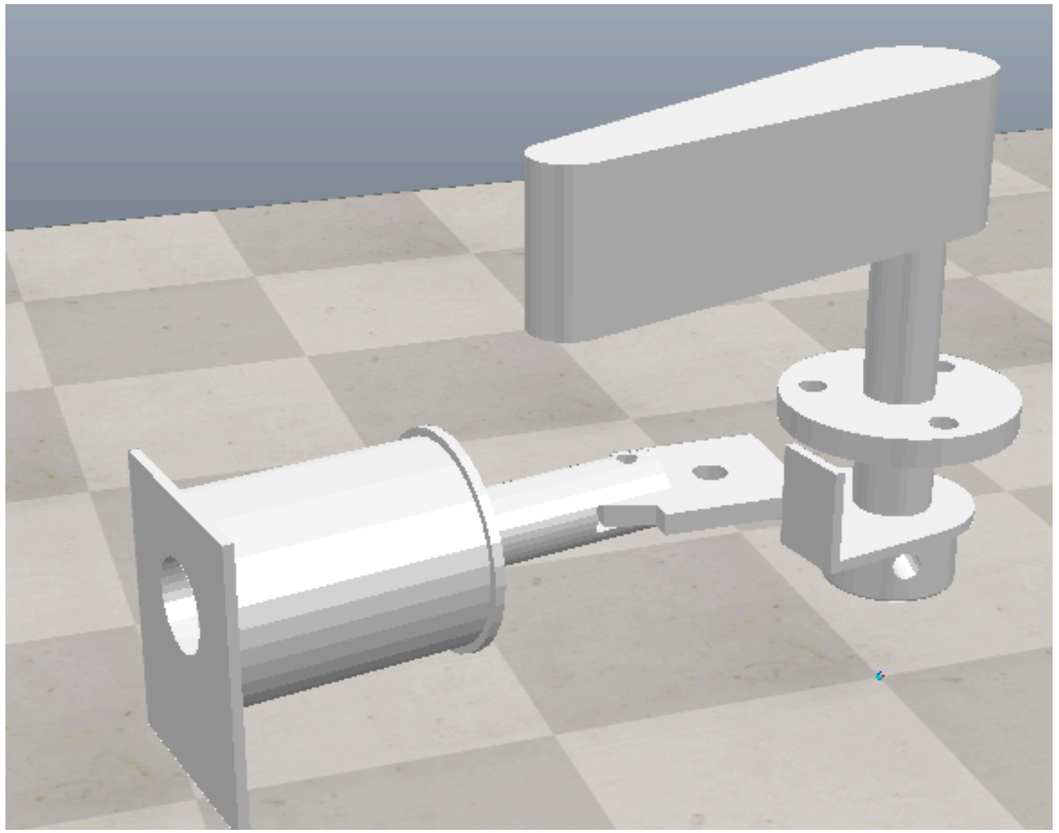


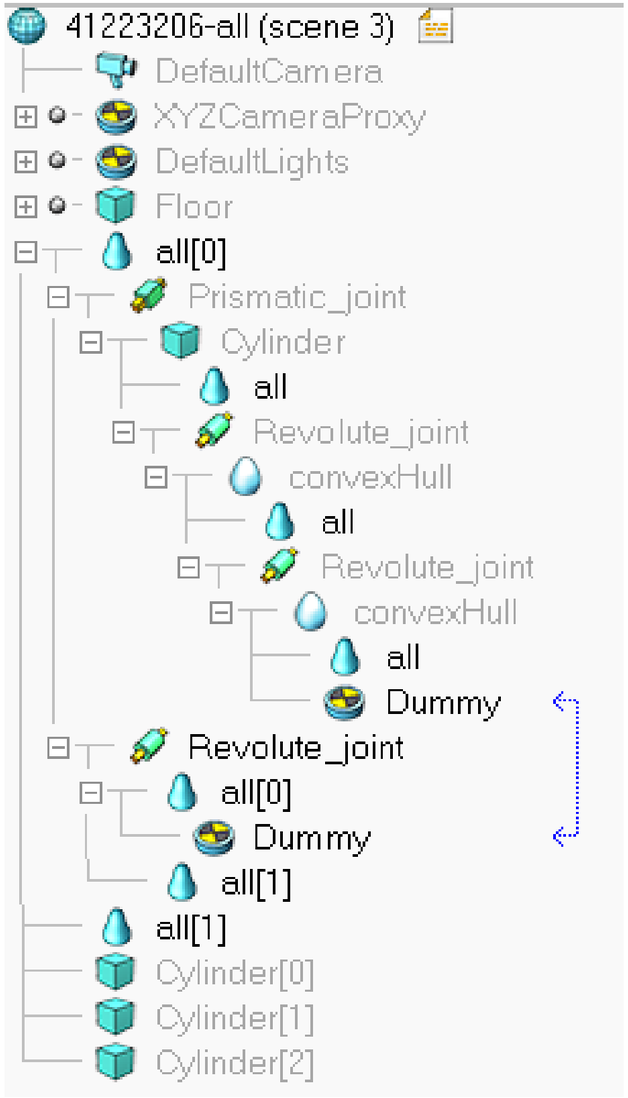
Plongeur Batteur

Platine Batteur

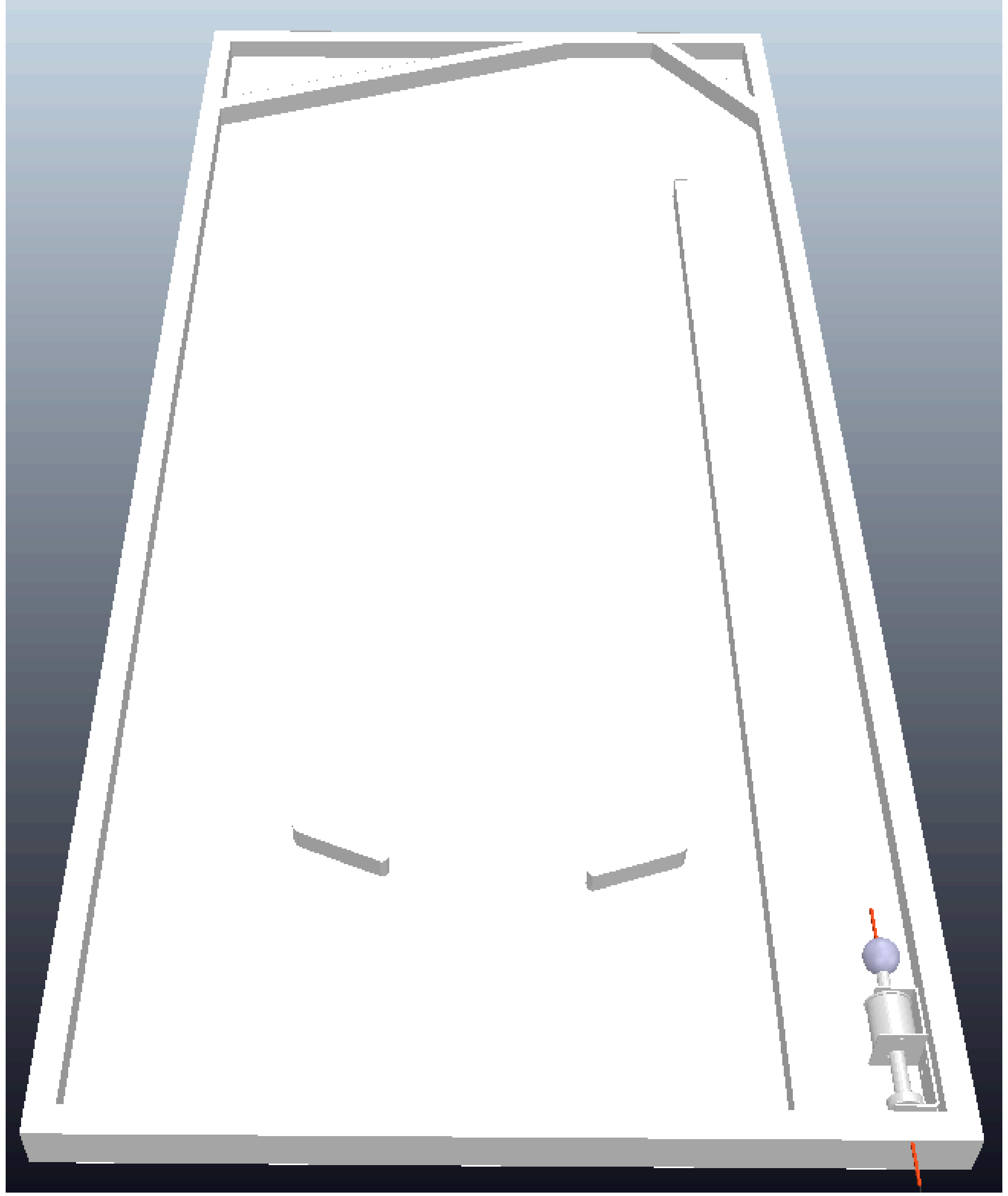


撥桿:程式




41223206-all (scene 3)
DefaultCamera
XYZCameraProxy
DefaultLights
Floor
all[0]
Prismatic_joint
Cylinder
all
Revolute_joint
convexHull
all
Revolute_joint
convexHull
all
Dummy
Revolute_joint
all[0]
Dummy
all[1]
all[1]
Cylinder[0]
Cylinder[1]
Cylinder[2]

撥桿:程式



```python
# pip install pyzmq cbor keyboard
from coppeliasim_zmqremoteapi_client import RemoteAPIClient
import keyboard

# Connecting to the CoppeliaSim server
client = RemoteAPIClient('localhost', 23000)

print('Program started')
sim = client.getObject('sim')

# Get the handle for the slider (prismatic joint)
cw= sim.getObject('/cw_joint')
ccw= sim.getObject('/ccw_joint')

# Starting the simulation
sim.startSimulation()
print('Simulation started')

# Main control loop
def main():
    # Keep running until simulation is stopped
    while True:
        if keyboard.is_pressed('p'):  # Move slider to -0.15 position
            print("p is pressed")
            sim.setJointTargetPosition(cw, 0.04)
         ㄋㄠ
        if keyboard.is_pressed('l'):  # Reset slider to the original position
            print("l is pressed")
            sim.setJointTargetPosition(cw, 0.0)  # Reset to the initial position

        if keyboard.is_pressed('w'):  # Move slider to -0.15 position
            print("w is pressed")
            sim.setJointTargetPosition(ccw, -0.08)

        if keyboard.is_pressed('s'):  # Reset slider to the original position
            print("s is pressed")
            sim.setJointTargetPosition(ccw, 0.0)  # Reset to the initial position

        if keyboard.is_pressed('t'):  # Stop the simulation when 'q' is pressed
            print("t is pressed - stopping simulation")
            sim.stopSimulation()
            break

# Start the main control loop
main()
```

```
s is pressed
l is pressed
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```
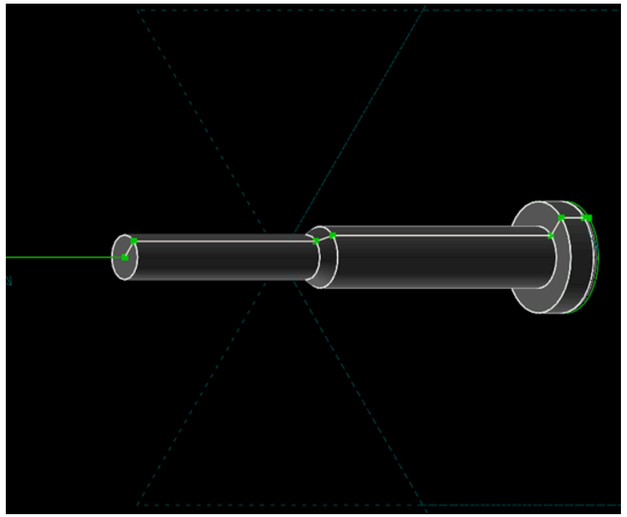
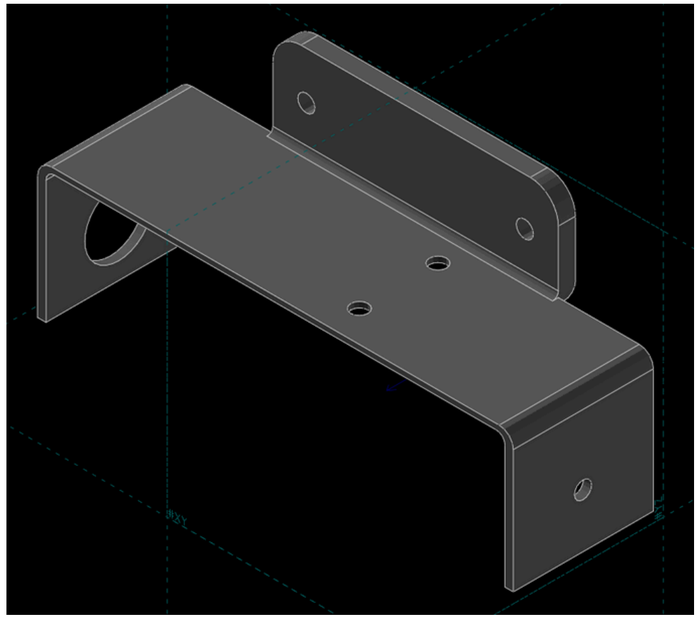

發射器:零件

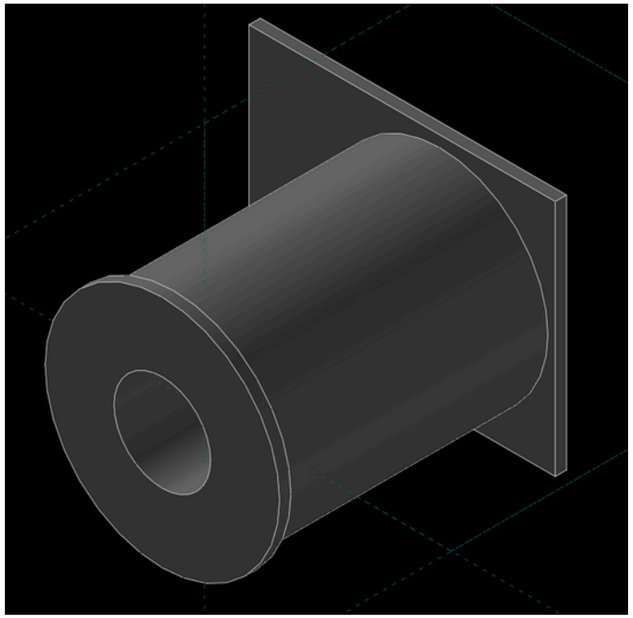
Plongeur Renvoi bille_sldprt



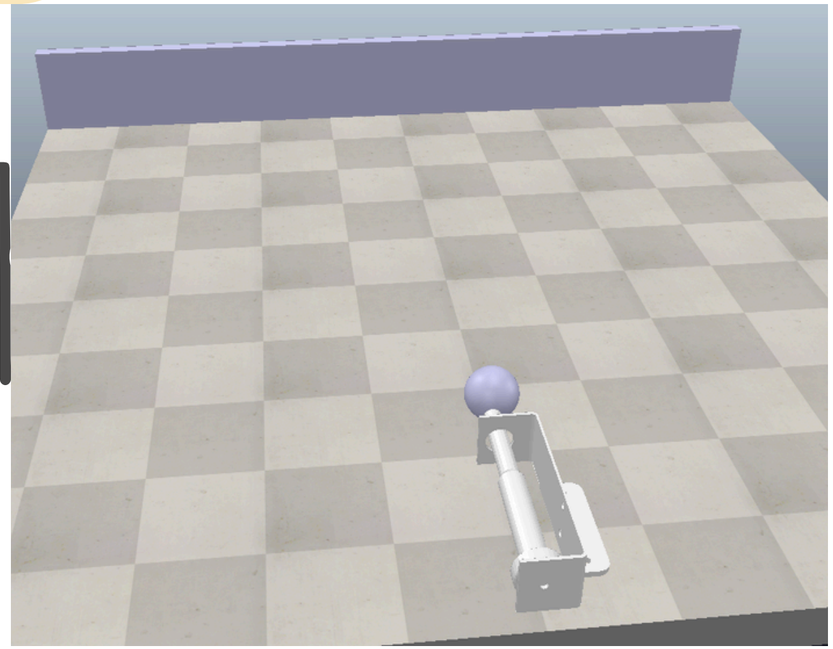
Platine renvoie bille_sldprt

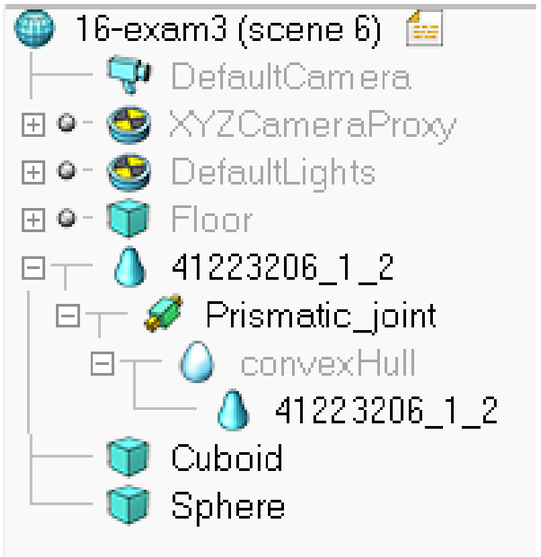


solenoid



發射器:程式

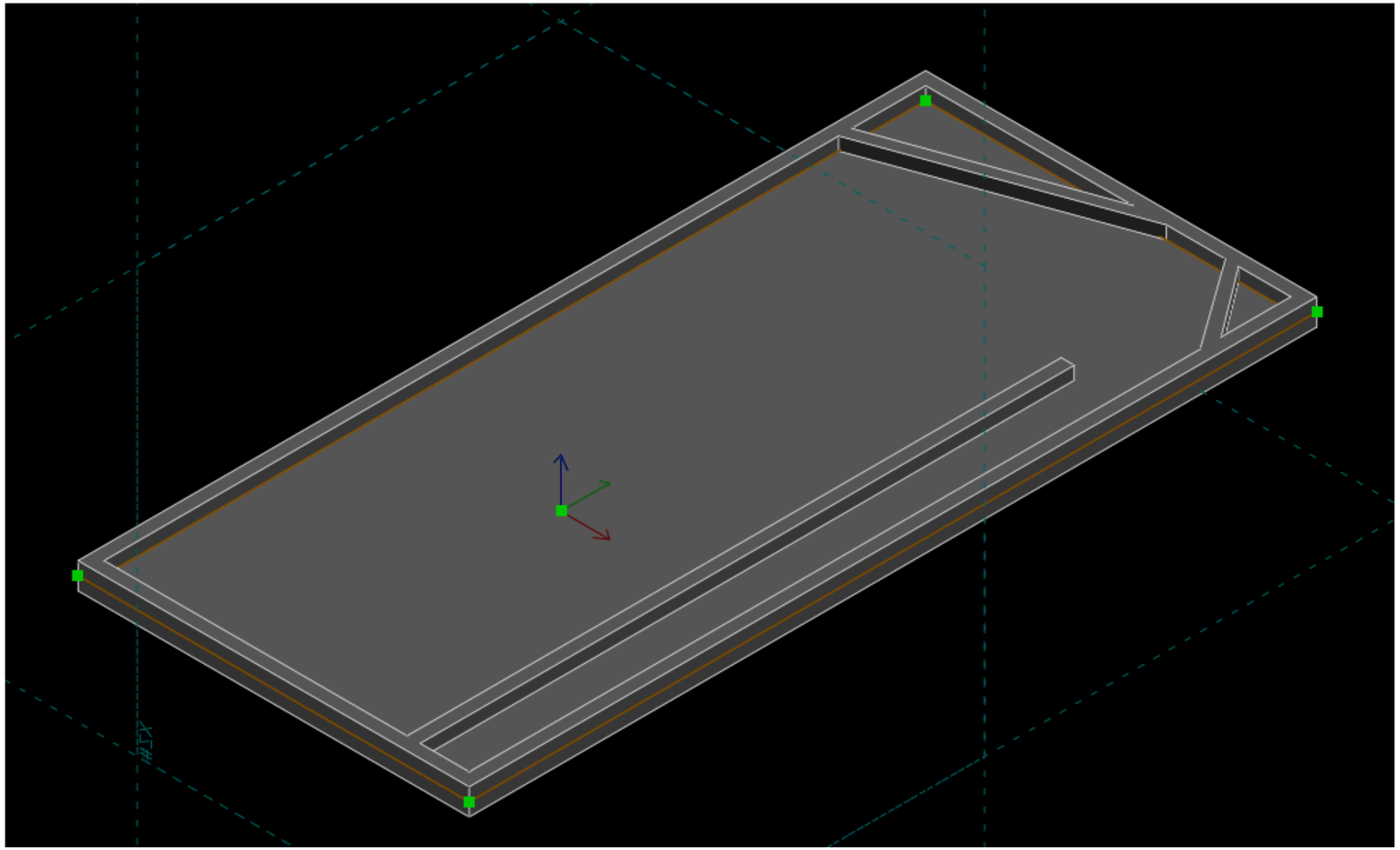





```python
# pip install pyzmq cbor keyboard
from coppeliasim_zmqremoteapi_client import RemoteAPIClient
import keyboard

# Connecting to the CoppeliaSim server
client = RemoteAPIClient('localhost', 23000)

print('Program started')
sim = client.getObject('sim')

# Get the handle for the slider (prismatic joint)
slider = sim.getObject('/Prismatic_joint')

# Starting the simulation
sim.startSimulation()
print('Simulation started')

# Main control loop
def main():
    # Keep running until simulation is stopped
    while True:
        if keyboard.is_pressed('w'):  # Move slider to -0.15 position
            print("w is pressed")
            sim.setJointTargetPosition(slider, -0.15)

        if keyboard.is_pressed('s'):  # Reset slider to the original position
            print("s is pressed")
            sim.setJointTargetPosition(slider, 0.0)  # Reset to the initial position

        if keyboard.is_pressed('q'):  # Stop the simulation when 'q' is pressed
            print("q is pressed - stopping simulation")
            sim.stopSimulation()
            break

# Start the main control loop
main()
```

s is pressed

彈珠台本體



彈珠台成品

問題:組裝時發現彈珠撥片在連桿垂直Piece compositeh和left_metal_piece的連接處時會出現兩種解
導致撥桿沒有往預期的位置作動。

解決方法：把連桿跟其他兩個零件移動成Z字，讓運動狀態成只有唯一解，並且把鏈接件動態關閉，避免回彈。