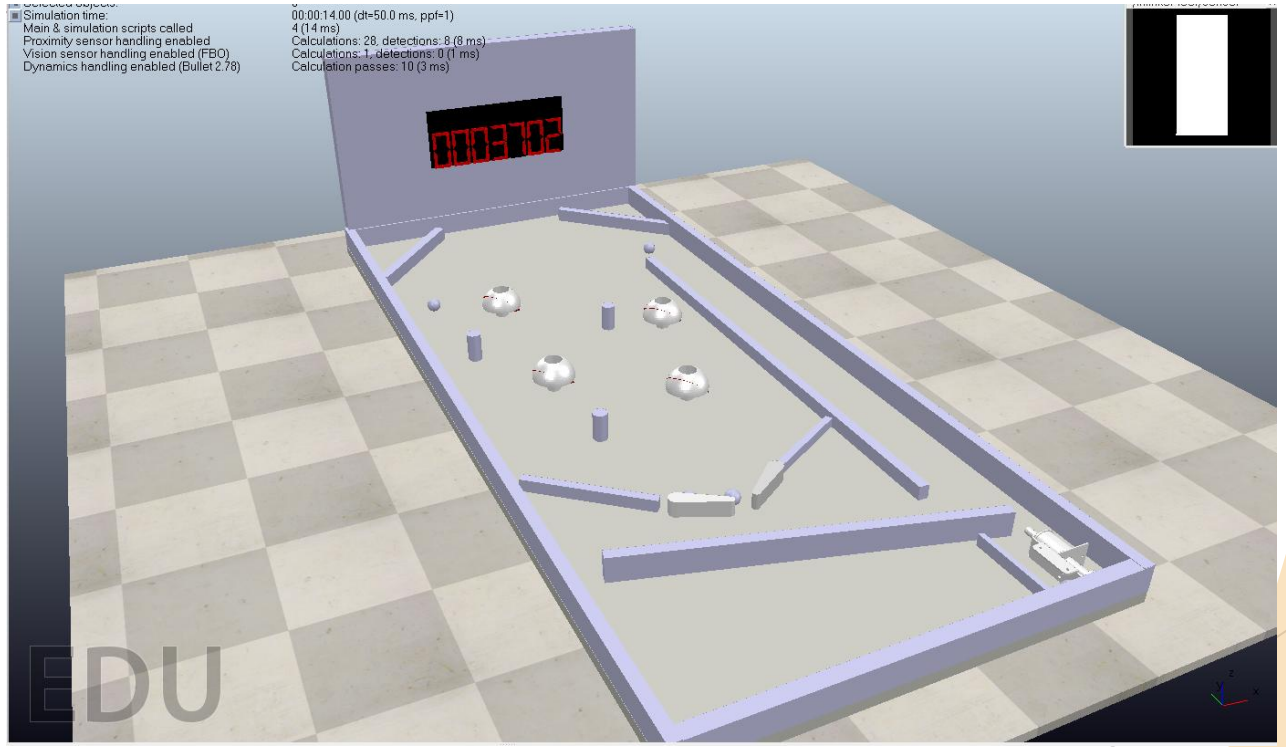
CAD電腦輔助設計與實習

41223138黃彥捷

41223140黃耀韋

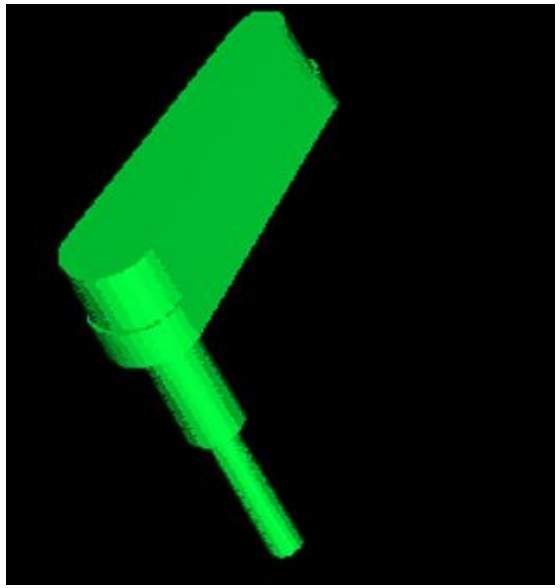
41223147蔡福璟

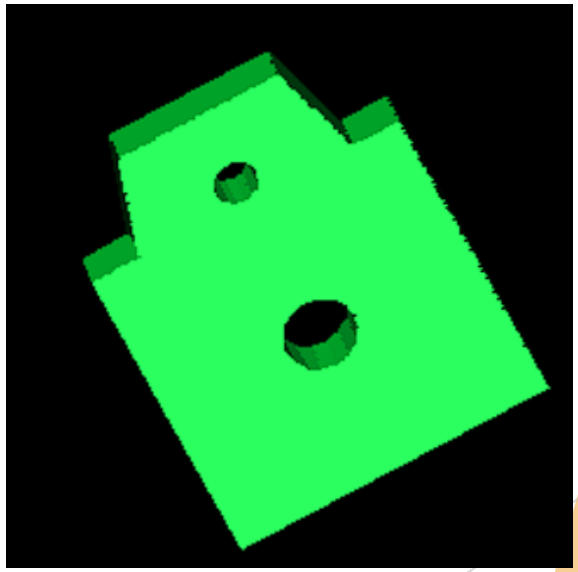


零件繪製分工

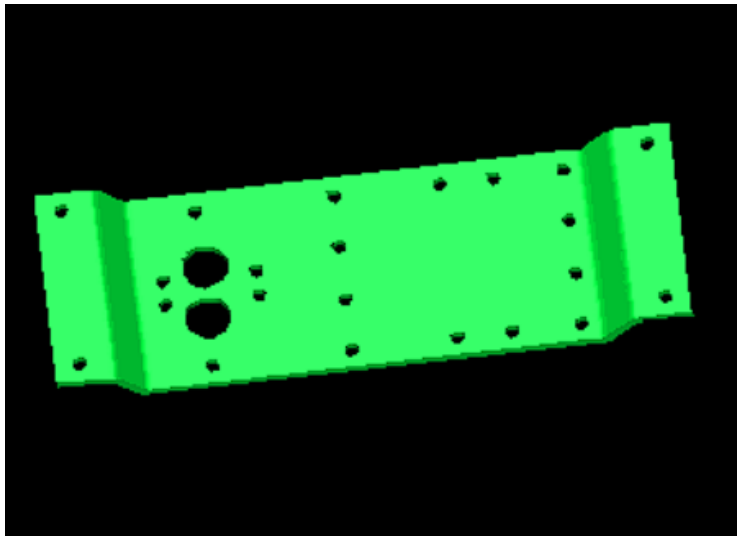
都是用Solvespace繪製

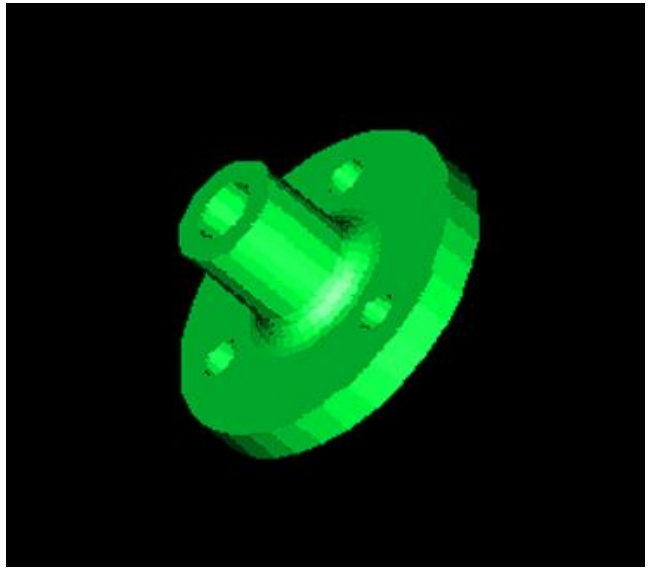
41223138黃彥捷負責以下零件



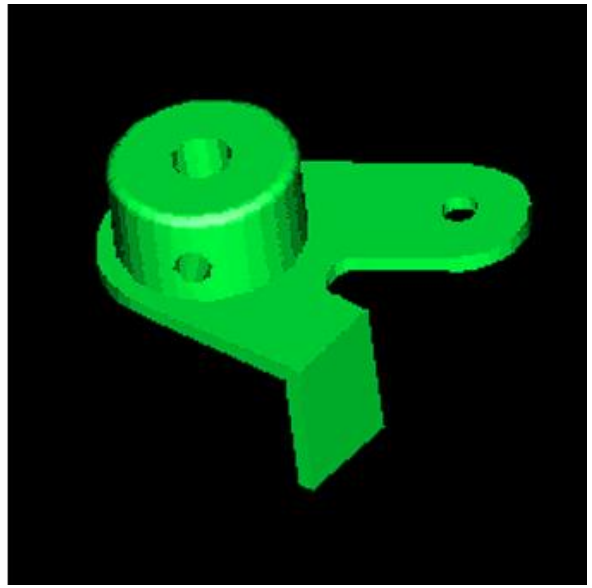


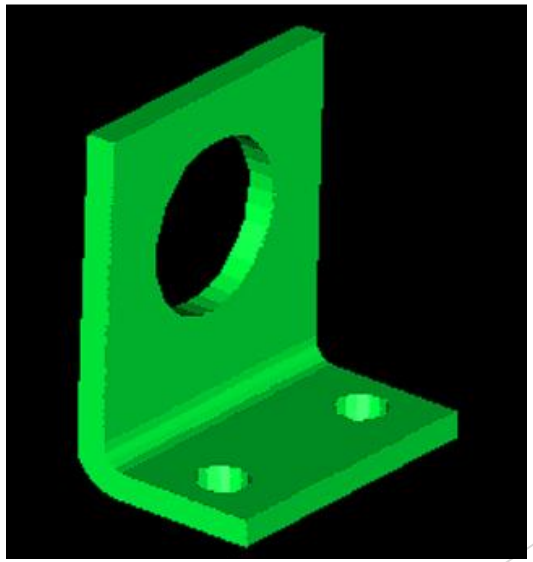
41223140黃耀韋負責以下零件





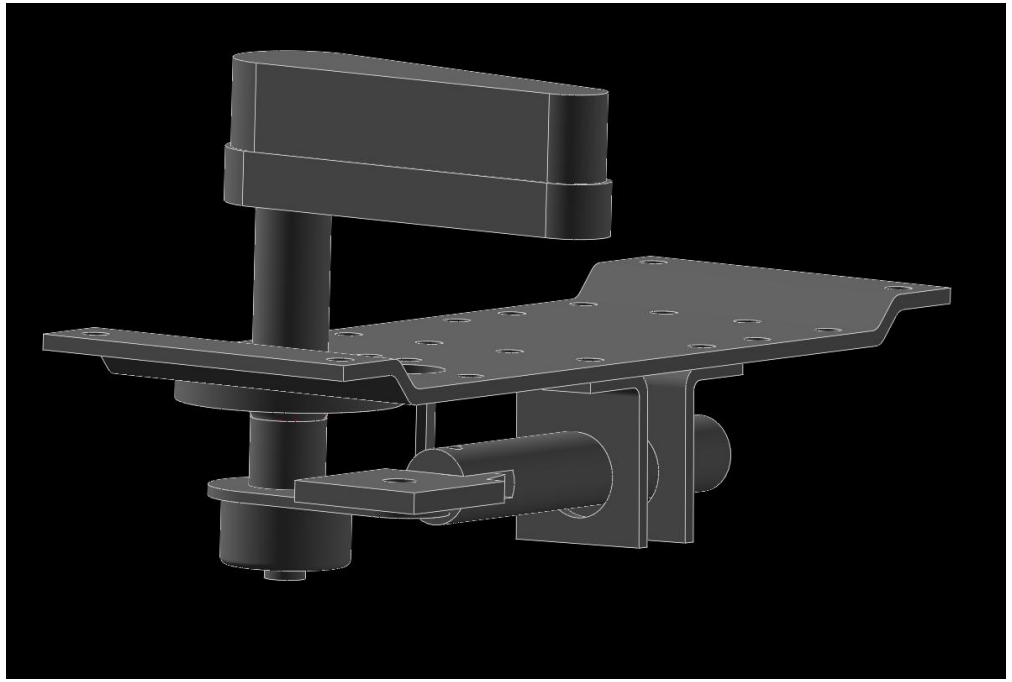
41223147蔡福璟負責以下零件





組合

一起討論組合



1.開啟Solvespace
2.確認所有零件檔畫完都有開啟輪廓線
3.點選assembling film新增畫好的零件檔
4.拖移零件位置
5.定義零件之間的關係，例如:共點/平行/垂直
6.完成組合

零件轉動測試

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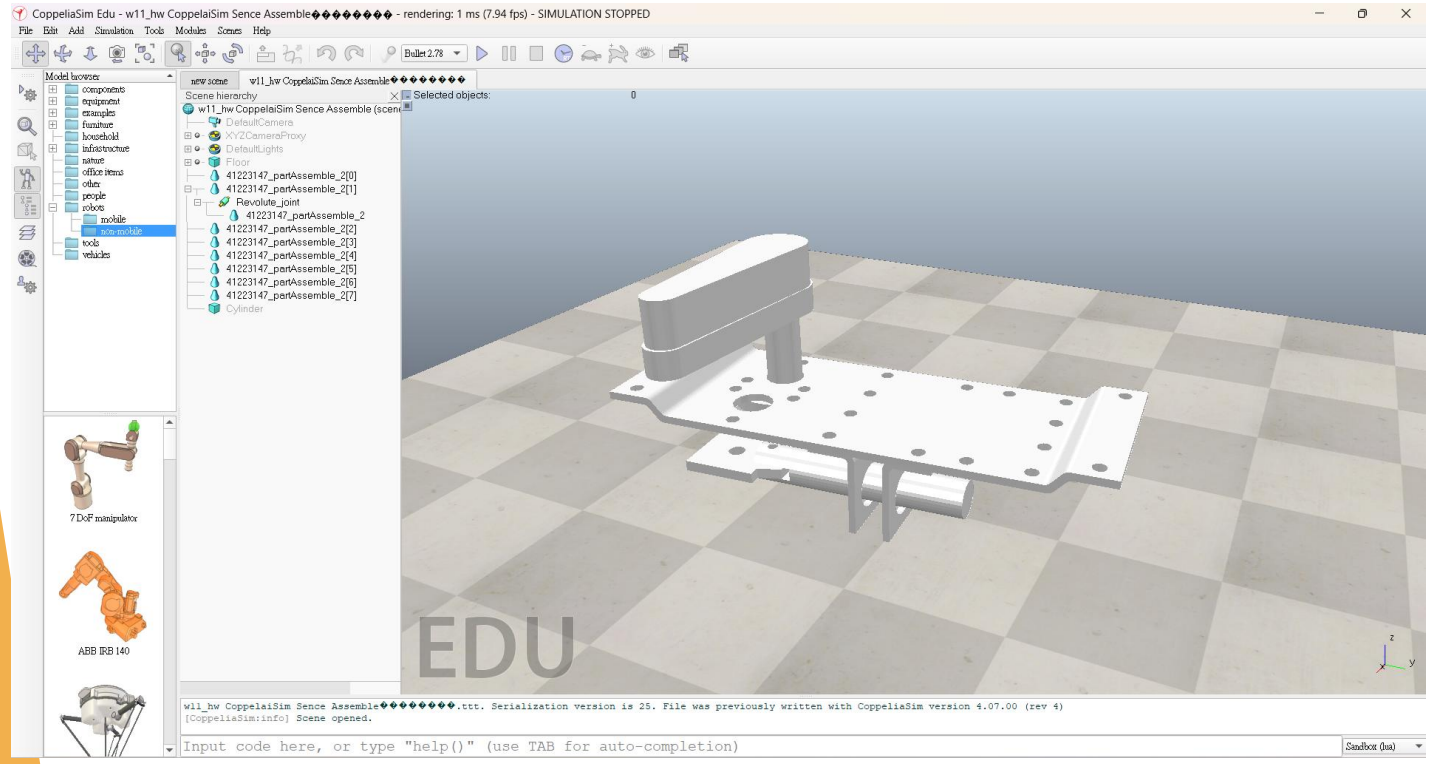

1.開啟coppeliasim
2.匯入stl組合好的零件
3.調整零件的位置及方向
4.分解零件
5. 匯入轉動軸(轉動軸的速度可調整，轉軸可以隱藏起來)
6. 調整對應位置(調整碰撞檢測與物體動態)

彈珠檯版面繪製

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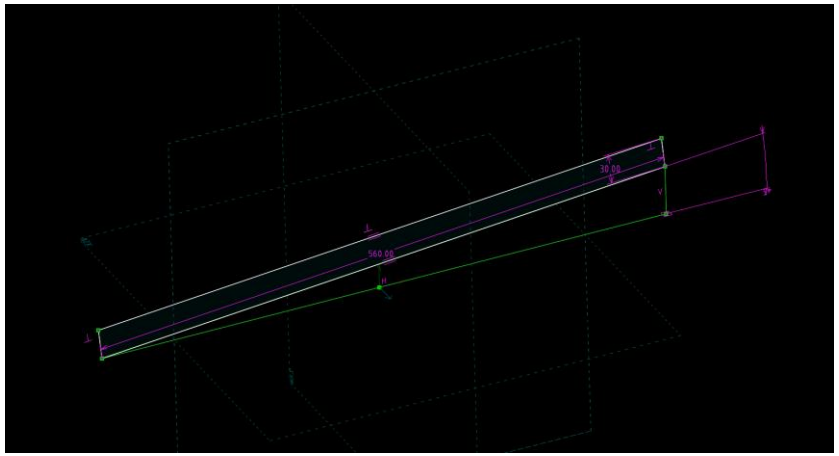
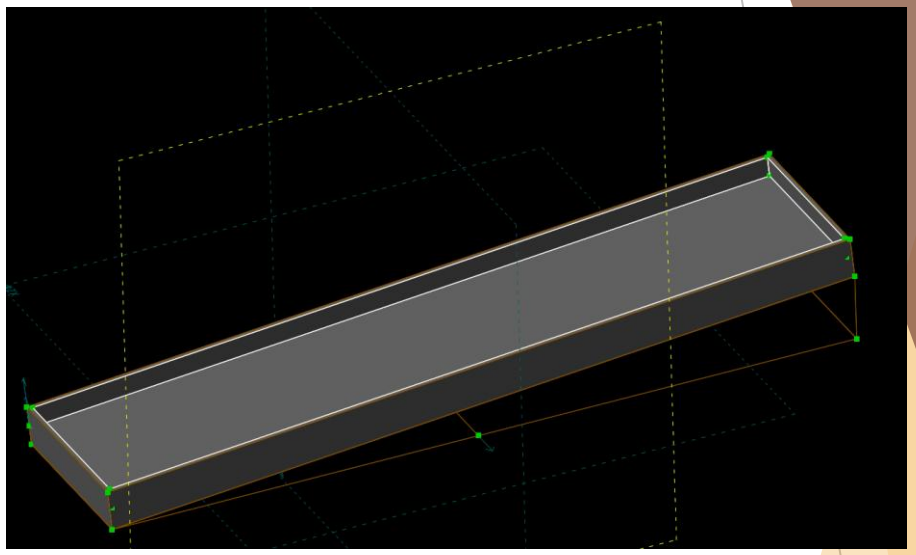
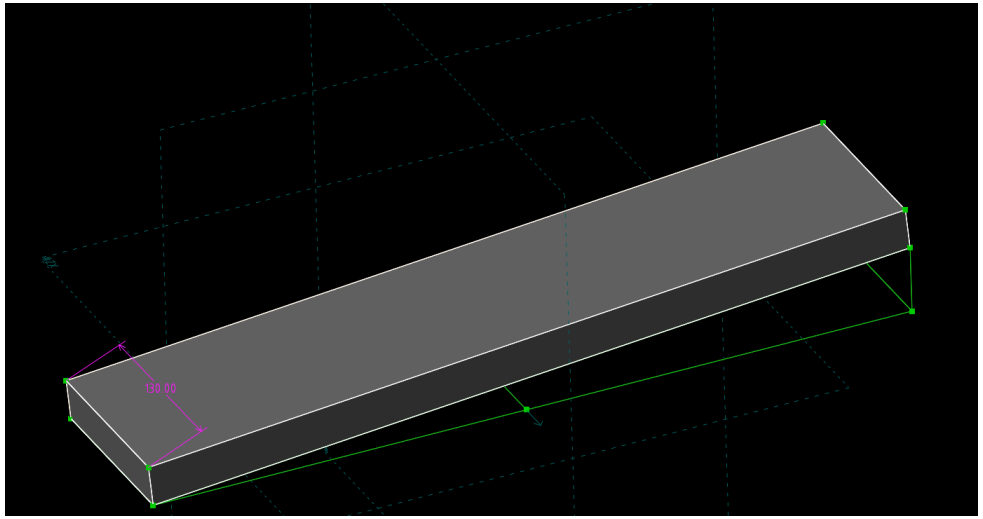
Solvespace 中以 560mm x 130mm x 15mm 繪圖







擊球器組合

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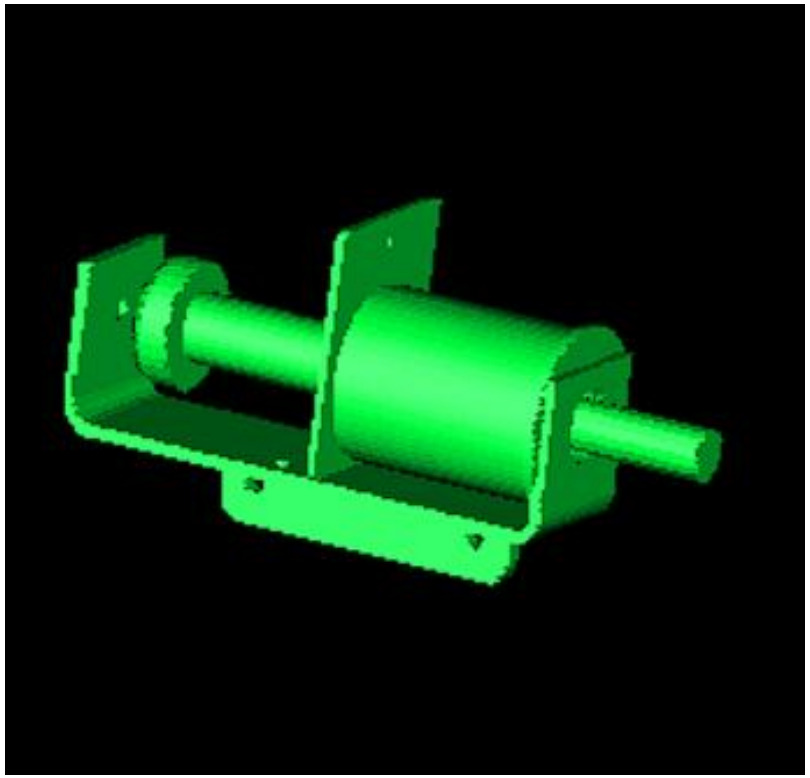


1.開啟Solvespace

2.確認所有零件檔畫完都有開啟輪廓線

3.點選assembling film新增畫好的零件檔

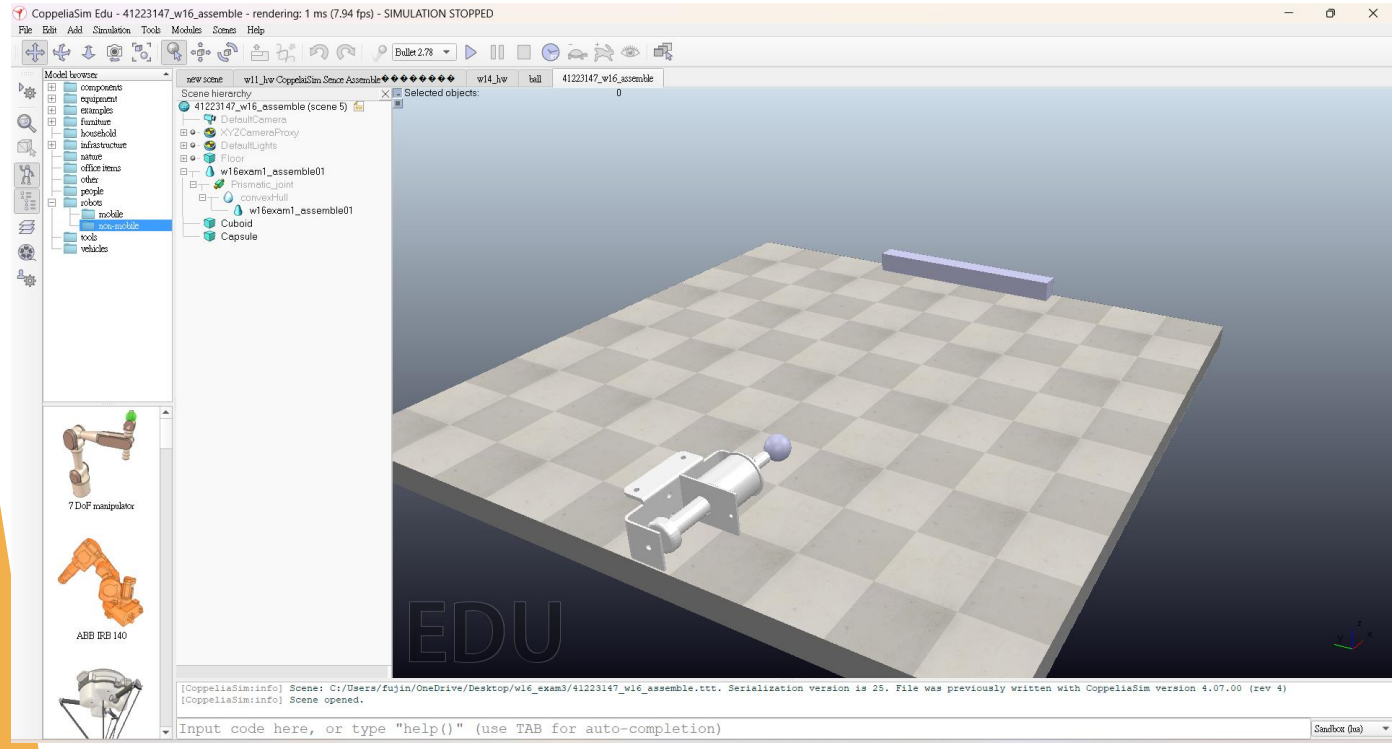
4.拖移零件位置

5.定義零件之間的關係，例如:共點/平行/垂直

6.完成組合

擊球器測試

41223140黃耀韋負責



1.開啟coppeliasim

2.匯入stl組合好的零件

3.調整零件的位置及方向

4.分解零件

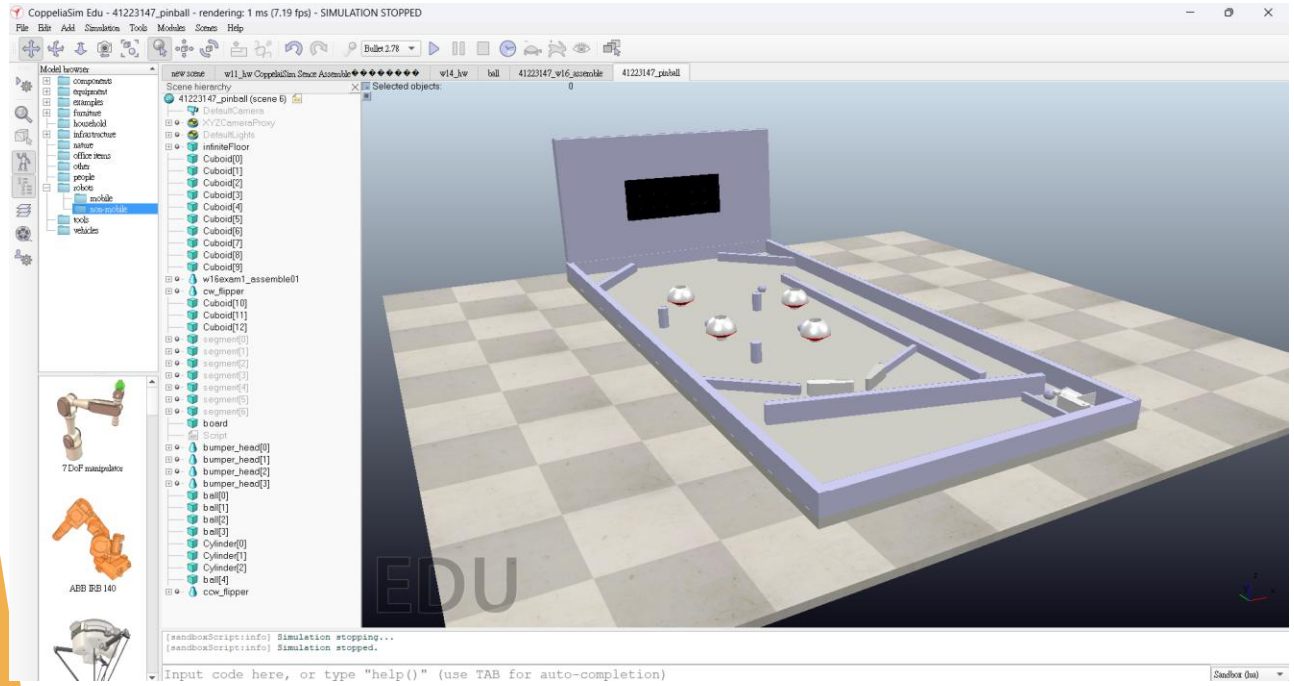
5. 匯入傳動軸(傳動軸的速度、力量可調整)

6.調整順序:外殼-馬達-傳動軸-傳動圓棒-傳動桿件

7.匯入球與方塊

彈珠檯組裝與測試

41223147蔡福璟
41223140黃耀韋 一起討論



1.開啟coppeliasim

2.匯入方框(底板、邊框、記分板背板、阻擋件、引導件)

3.匯入打擊桿並且調整位置與角度

4.匯入碰撞反彈件(位置要分開不要太密集)

5.匯入擊球器拖移至擊球區

6.匯入圓柱障礙物與球

7.將底板、邊框、記分板背板、阻擋件、引導件、圓柱障礙物關閉動態，才不會讓球體虛空或穿越擋板

8.啟動程式讓擊球器與打擊桿作動

彈珠檯程式

```
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')
kicker= sim.getObject('/Prismatic_joint')

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

# Main control loopwswdw
def main():
    # Keep running until simulation is stopped
    while True:
        if keyboard.is_pressed('a'):  # Move slider to -0.15 position
            print("a is pressed")
            sim.setJointTargetPosition(cw, -0.2)

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

        if keyboard.is_pressed('w'):  # Move slider to -0.15 posistion
            print("w is pressed")
            sim.setJointTargetPosition(ccw, -0.2)

        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('r'):  # set kicker to shot
            print("r is pressed")
            sim.setJointTargetPosition(kicker, 0.4)

        if keyboard.is_pressed('f'):  # set kicker to shot
            print("f is pressed")
            sim.setJointTargetPosition(kicker, 0.0)

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

a-右邊撥桿打擊

d-右邊撥桿收回

w-左邊撥桿打擊

s-左邊撥桿收回

r-圓桿擊球

f-收回圓桿

t-停止