

# 國立虎尾科技大學 機械設計工程系

課程:協同產品設計實習

指導老師:嚴家銘教授

組別:stage2-bg1

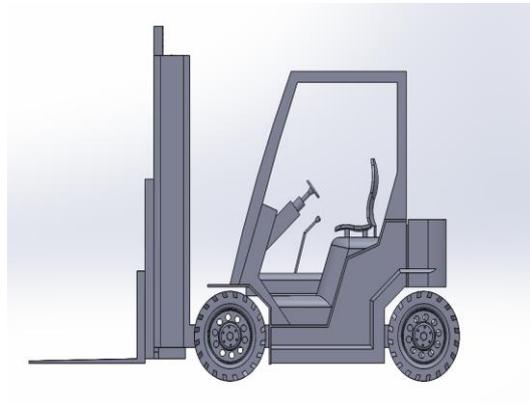
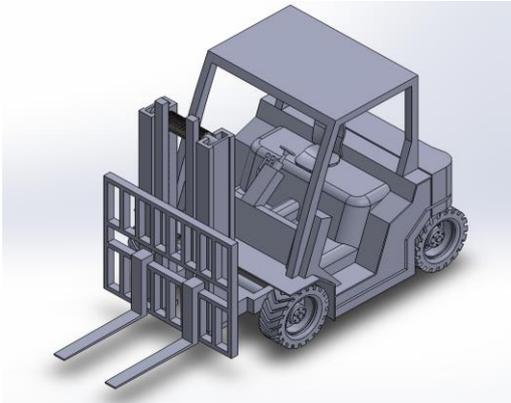
組員資料:

40823208	李翊帆	組員
倉儲: <a href="https://github.com/40823208/cd2021">https://github.com/40823208/cd2021</a>		
網誌: <a href="https://40823208.github.io/cd2021/content/index.html">https://40823208.github.io/cd2021/content/index.html</a>		
40823245	林浩瑋	組長
倉儲: <a href="https://github.com/40823245/cd2021">https://github.com/40823245/cd2021</a>		
網誌: <a href="https://40823245.github.io/cd2021/content/index.html">https://40823245.github.io/cd2021/content/index.html</a>		
40823246	朱晉賢	組員
倉儲: <a href="https://github.com/40823246/cd2021">https://github.com/40823246/cd2021</a>		
網誌: <a href="https://40823246.github.io/cd2021/content/index.html">https://40823246.github.io/cd2021/content/index.html</a>		
40823251	林進益	組員
倉儲: <a href="https://github.com/40823251/cd2021">https://github.com/40823251/cd2021</a>		
網誌: <a href="https://40823251.github.io/cd2021/content/index.html">https://40823251.github.io/cd2021/content/index.html</a>		

小組資料:

倉儲: <a href="https://github.com/40823208/stage2-bg1">https://github.com/40823208/stage2-bg1</a> <a href="https://github.com/40823245/stage2-bg1">https://github.com/40823245/stage2-bg1</a> <a href="https://github.com/40823246/stage2-bg1">https://github.com/40823246/stage2-bg1</a> <a href="https://github.com/40823251/stage2-bg1">https://github.com/40823251/stage2-bg1</a>
網誌: <a href="https://40823208.github.io/stage2-bg1/content/index.html">https://40823208.github.io/stage2-bg1/content/index.html</a> <a href="https://40823245.github.io/stage2-bg1/content/index.html">https://40823245.github.io/stage2-bg1/content/index.html</a> <a href="https://40823246.github.io/stage2-bg1/content/index.html">https://40823246.github.io/stage2-bg1/content/index.html</a> <a href="https://40823251.github.io/stage2-bg1/content/index.html">https://40823251.github.io/stage2-bg1/content/index.html</a>

## 主題:堆高機



動機:

(1.)Why 為何設計此產品:

可以幫助人將重物搬到定位；希望物品實現量產時能**快速且準確的**  
**將產品運送到各個有需求的地方。**

(2.)What 產品設計時想實現甚麼功能:

是一台可以實現遠端控制方向及前桿臂可舉起重物之堆高機。

(3.)How 如何完成產品設計:

透過每一位組員分工採取**協同的方式對產品進行修正與補償**，如果  
遇到問題將其寫進個人網誌中並與組員討論使其解決。

(4.)When 什麼時候進行:

利用每個禮拜五上課的時間如有問題互相幫助，平日則利用**群組聯**  
**絡**的方式實現討論及修正。

(5.)Where 在哪裡討論:

- 1. 8 樓電腦教室
- 2. Line 群組:stage2-bgl 討論
- 3. gitter:stage2-bgl

(6.)Who 組員分工:

40823208:網頁編輯、revel 設計

40823245:CoppeliaSim 模擬

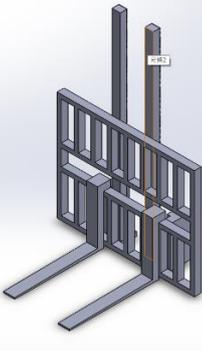
40823246:機構設計、CoppeliaSim 模擬

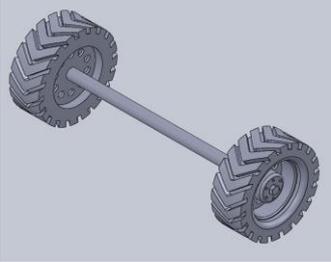
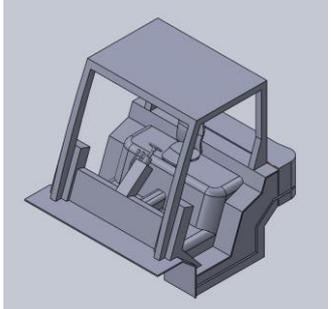
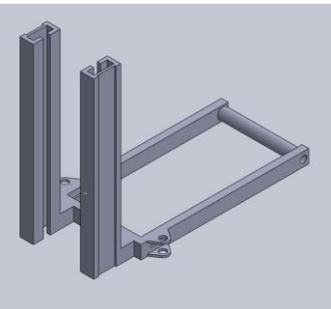
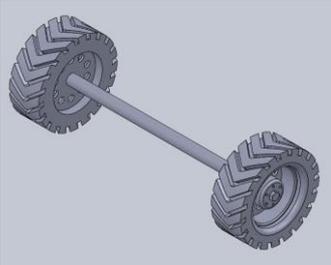
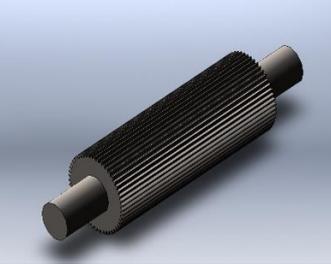
40823251:網頁編輯、PDF 製作

結構構思:

透過前方兩支支撐桿載運物品，並利用滑軌裝置實現抬升及下降的動作，輪子可轉向用以達到目的地。

結構繪製:

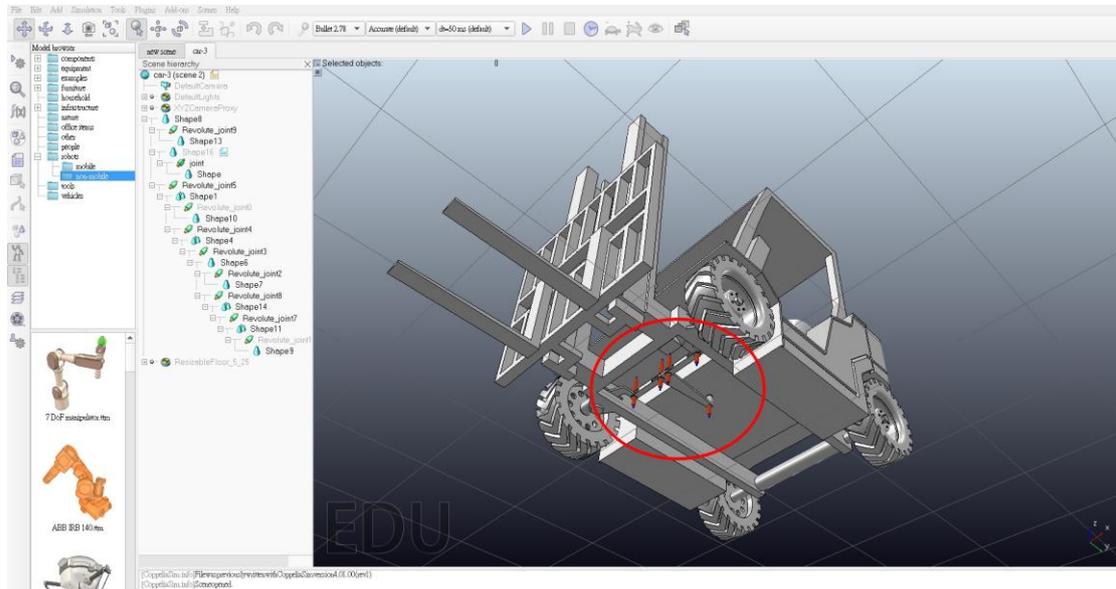
零件圖	說明
	<p>載貨支撐架</p> <p>透過前方支撐架將物品做抬升及下降的動作。</p> <hr/> <p>2021/04/22 更新:</p> <p>新增雙滑軌使其與零件齒輪發生轉動，解決上升搖晃問題。</p>

	<p>車輪</p> <p>可進行轉彎及前進的動作。</p>
	<p>外車殼</p> <p>推桿及控制方向彙整在此車殼中。</p>
	<p>底盤車架</p> <p>提供前方滑軌剛性之支撐架。</p>
	<p>後輪</p> <p>帶動整部機械的核心轉軸。</p>
	<p>齒輪轉軸 2021/04/22 更新加入</p> <p>為了使支撐架能產生更加平穩的作動故新增齒輪使其相互咬合。</p>

# CoppeliaSim 模擬:

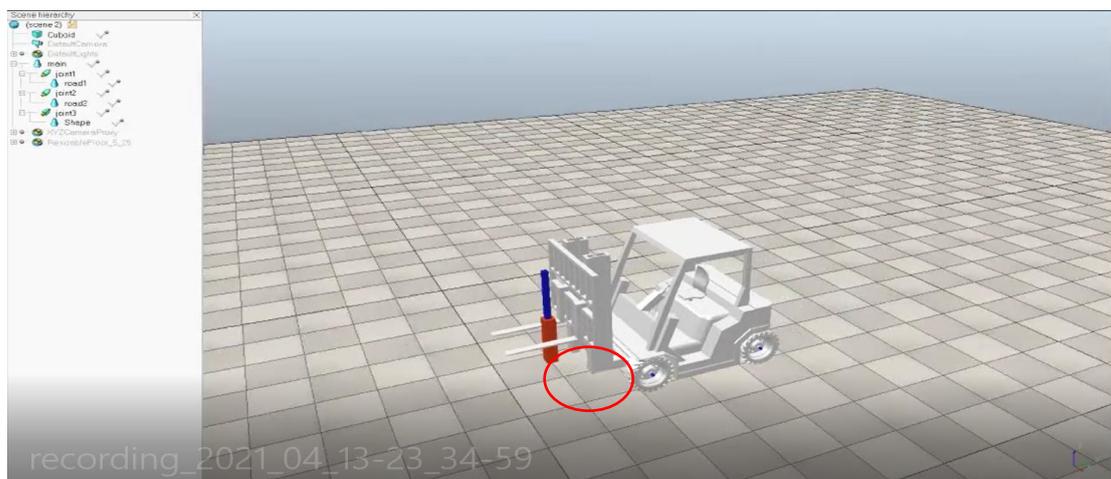
4/12 模擬測試

第一版 最初版本



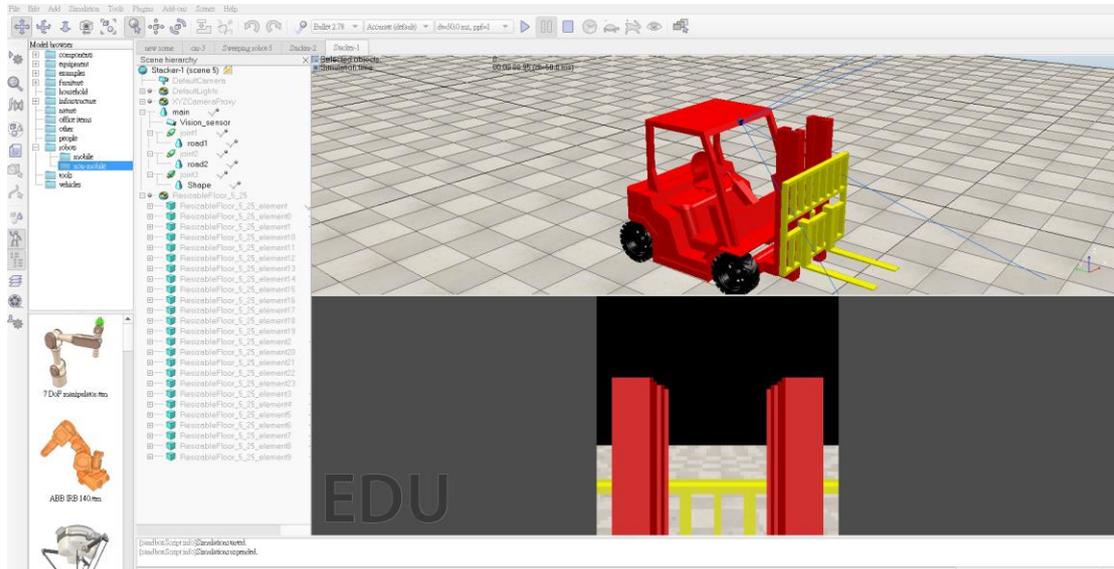
問題:由於前輪之連動轉彎機構無法正確同步走位，故其改之。

第二版 修正內容:前輪簡化設計為連桿機構



問題:支撐桿升降卡頓，且測試旋轉軸設置在外。

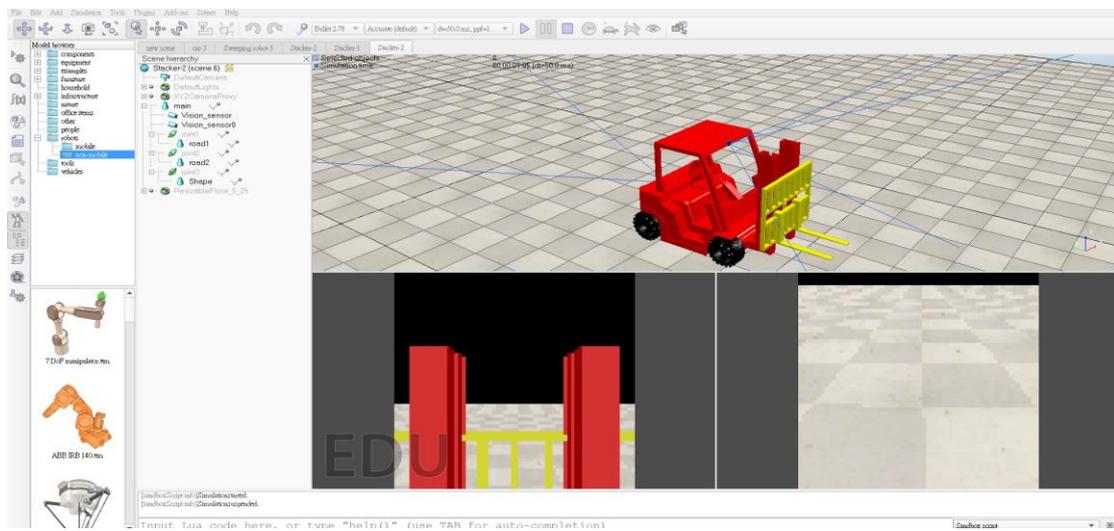
第三版 修正內容:修正圖檔，添加攝像機。



問題:單一攝像模組無法環顧四方，故需添加其他攝像模組。

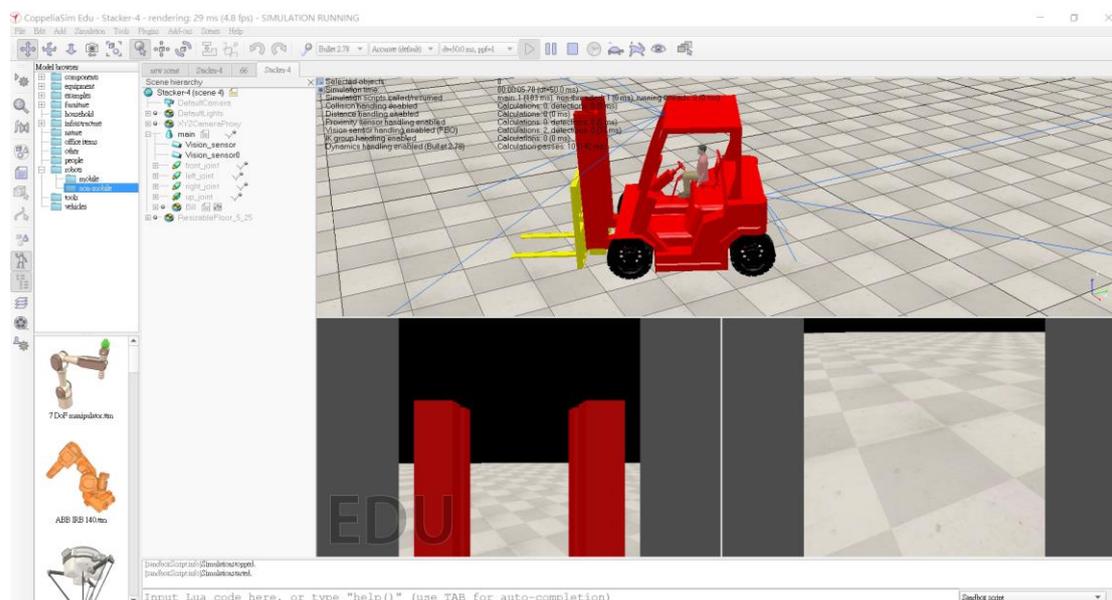
4/15 模擬測試

第四版 雙攝像頭



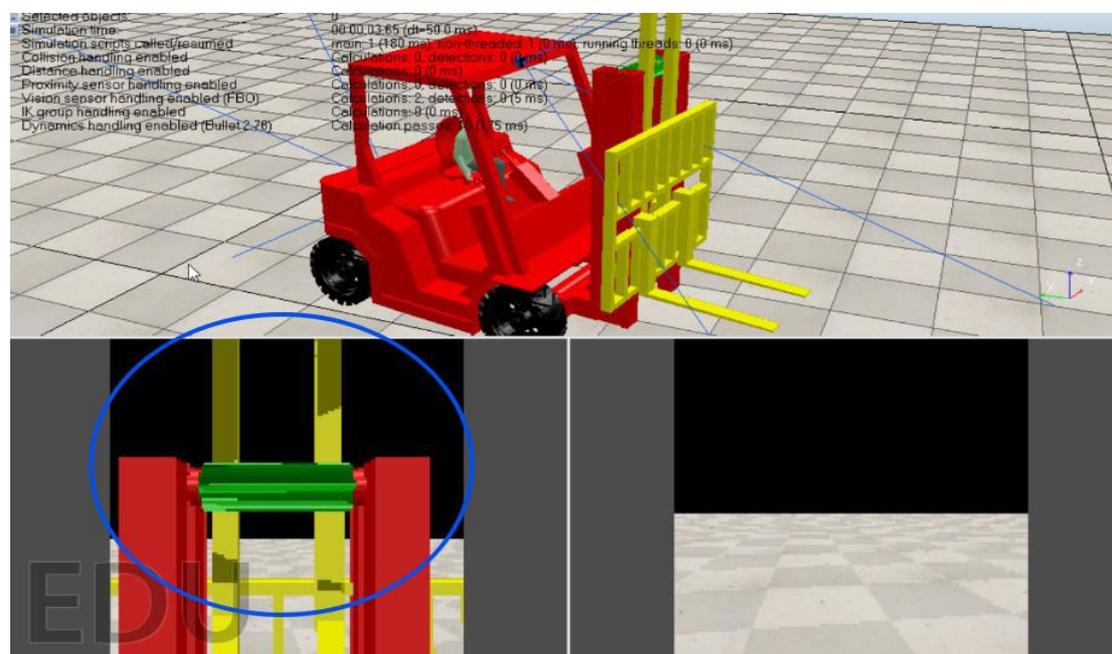
4/16 模擬測試

## 第五版 新增可遙控裝置



4/22 修正測試

## 第六版 (最終版) 新增雙滑軌設計



目的:由於原先為一滑軌作動，故支撐架抬升時會導致無法固定在定點位，此次改版新增了雙滑軌加上齒輪作咬合使其控制時更加平穩

結論：

原先我們所選擇要做的主題為轉子引擎，但由於始終無法找到有效的解決辦法去改善轉子滑動的問題，經過小組會議決定透過引擎的想法去做延伸；故聯想到堆高機，可做抬升及下降運動且可模擬輪子的移動；測試時也遇到了許多大大小小的問題，但經過和組員的協同去對作品進行改善使其完成式一件非常開心的事。

## Heroku 建立

測試人員:40823245

1. 登入 heroku，以 s 學號辦 app，建立第一個 app

([https://s 學號.herokuapp.com](https://s學號.herokuapp.com))

2. 載 heroku，放置 data 裡

3. 將 start 丟入白窗修改路徑

```
start_ipsv4.bat - SciTE
File Edit Search View Tools Options Language Buffers Help
1 start_ipsv4.bat
@echo off
set Disk=y
subst %Disk%: "data"

%Disk%:

set HomePath=%Disk%:\home_ipsv4
set HomeDrive=%Disk%:\home_ipsv4
set Home=%Disk%:\home_ipsv4
set USERPROFILE=%Disk%:\home_ipsv4
set GIT_HOME=%Disk%:\Portablegit\bin\
set GIT_SSH=%Disk%:\putty\plink.exe

REM 將系統 Python 程式的 io 設為 utf-8
set PYTHONIOENCODING="utf-8"

set PYTHONPATH=%Disk%:\Python39\DLLs;%Disk%:\Python39\Lib;%Disk%
:\Python39\Lib\site-packages;
set PYTHONHOME=%Disk%:\Python39

REM 設定跟 Python 有關的命令搜尋路徑
set path_python=%Disk%:\Python39;%Disk%:\Python39\Scripts;
set path_portablegit=%Disk%:\Portablegit\bin;
set path_heroku=%Local%\heroku\bin;

path=%Disk%:;%path_python%;%path_portablegit%;%path_heroku%;
%path%;
start /MIN cmd.exe
start /MIN cmd.exe
start /MIN cmd.exe
start /MIN cmd.exe

start /MIN %Disk%:\wScite\SciTE.exe
start /MIN %Disk%:\wScite\SciTE.exe

Exit
```

程式

1 set path\_heroku=%Local%\heroku\bin;

2

3 %path\_heroku%;

4. 重啟後測試是否能執行 heroku.exe

5. 到小黑窗輸入 heroku version

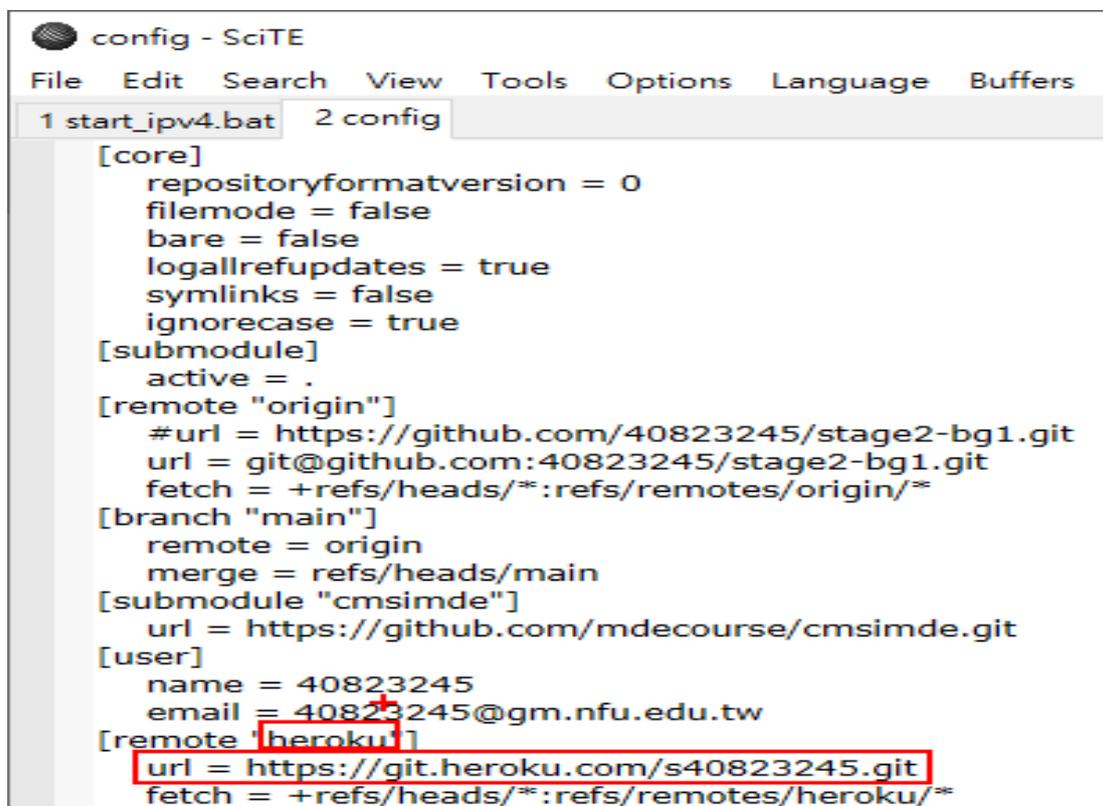
```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [版本 10.0.19041.867
(c) 2020 Microsoft Corporation。著作權
Y:\>heroku version
heroku/7.52.0 win32-x64 node-v12.21.0
```

有上面回應就是可以

6. 進到 tmp>stage2-bg1(自己組)

7. 輸入 git remote add heroku https://git.heroku.com/s40823245.git

可以在.git裡面的config看到



```
config - SciTE
File Edit Search View Tools Options Language Buffers
1 start_ipv4.bat 2 config
[core]
  repositoryformatversion = 0
  filemode = false
  bare = false
  logallrefupdates = true
  symlinks = false
  ignorecase = true
[submodule]
  active = .
[remote "origin"]
  #url = https://github.com/40823245/stage2-bg1.git
  url = git@github.com:40823245/stage2-bg1.git
  fetch = +refs/heads/*:refs/remotes/origin/*
[branch "main"]
  remote = origin
  merge = refs/heads/main
[submodule "cmsimde"]
  url = https://github.com/mdecourse/cmsimde.git
[user]
  name = 40823245
  email = 40823245@gm.nfu.edu.tw
[remote "heroku"]
  url = https://git.heroku.com/s40823245.git
  fetch = +refs/heads/*:refs/remotes/heroku/*
```

8. 若資料夾裡不是最新的版本要先 git pull

```

Y:\>cd tmp\stage2-bgl
Y:\tmp\stage2-bgl>git pull
hint: Pulling without specifying how to reconcile divergent branches is
hint: discouraged. You can squelch this message by running one of the following
hint: commands sometime before your next pull:
hint:
hint:   git config pull.rebase false # merge (the default strategy)
hint:   git config pull.rebase true  # rebase
hint:   git config pull.ff only      # fast-forward only
hint:
hint: You can replace "git config" with "git config --global" to set a default
hint: preference for all repositories. You can also pass --rebase, --no-rebase,
hint: or --ff-only on the command line to override the configured default per
hint: invocation.
remote: Enumerating objects: 39, done.
Unpacking objects: 100% (27/27), 4.57 KiB | 4.00 KiB/s, done.
remote: Counting objects: 100% (39/39), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 27 (delta 23), reused 24 (delta 20), pack-reused 0
From github.com:40823245/stage2-bgl
   bab47e9..818807d  main    -> origin/main
Updating bab47e9..818807d
Fast-forward
 config/content.htm | 11 +-
 config/content_backup.htm | 9 +-
 content/About.html | 2 +-
 ...0\217\347\265\204\350\250\216\350\253\226.html" | 6 +-
 ...0\217\347\265\204\351\200\262\345\272\246.html" | 193 ++++++
 content/index.html | 1 +-
 content/sitemap.html | 4 +-
 content/tipusearch_content.js | 2 +-
 ...7\203\350\200\203\350\263\207\346\226\231.html" | 8 +-
 ...0\217\347\265\204\344\275\234\346\245\255.html" | 2 +-
 ...0\217\347\265\204\345\275\261\347\211\207.html" | 7 +-
 11 files changed, 223 insertions(+), 23 deletions(-)
 create mode 100644 "content/W6\345\260\217\347\265\204\350\250\216\350\253\226&\345\260\217\347\265\204\351\200\262\345\272\246.html"
 rename "content/W6\345\260\217\347\265\204\350\250\216\350\253\226.html" => "content/\345\217\203\350\200\203\350\263\207\346\226\231.html" (92%)

```

## 9. 然後打 git push heroku

```

Y:\tmp\stage2-bgl>git push heroku
Enumerating objects: 39, done.
Counting objects: 100% (39/39), done.
Delta compression using up to 12 threads
Compressing objects: 100% (27/27), done.
Writing objects: 100% (27/27), 4.67 KiB | 1.56 MiB/s, done.
Total 27 (delta 22), reused 0 (delta 0), pack-reused 0
remote: Git submodules detected, installing:
remote: Submodule 'cmsimde' (https://github.com/mdcourse/cmsimde.git) registered for path 'cmsimde'
remote: Cloning into 'cmsimde'...
remote: Submodule path 'cmsimde': checked out 'f23202c132926aeddea38ac715c574e00c24dddb'
remote:
remote: Compressing source files... done.
remote: Building source:
remote:
remote: -----> Building on the Heroku-20 stack
remote: -----> Using buildpack: heroku/php
remote: -----> PHP app detected
remote: -----> Bootstrapping...
remote: -----> Installing platform packages...
remote: NOTICE: No runtime required in composer.lock; using PHP ^7.0.0 | ^8.0.0
remote: - apache (2.4.46)
remote: - nginx (1.18.0)
remote: - php (8.0.3)
remote: - composer (1.10.20)
remote: -----> Installing dependencies...
remote: Composer version 1.10.20 2021-01-27 15:41:06
remote: -----> Preparing runtime environment...
remote: NOTICE: No Procfile, using 'web: heroku-php-apache2'.
remote: -----> Checking for additional extensions to install...
remote: -----> Discovering process types
remote: Procfile declares types -> web
remote:
remote: -----> Compressing...
remote: Done: 32.7M
remote: -----> Launching...
remote: Released v6
remote: https://s40823245.herokuapp.com/ deployed to Heroku
remote:

```

```
remote: |  
remote: | ## Warning - The same version of this code has already been built: 818807d30e6bd9539d4d78a88717902c15d32c9b  
remote: |  
remote: | We have detected that you have triggered a build from source code with version 818807d30e6bd9539d4d78a8871790  
2c15d32c9b  
remote: | at least twice. One common cause of this behavior is attempting to deploy code from a different branch.  
remote: |  
remote: | If you are developing on a branch and deploying via git you must run:  
remote: |  
remote: |     git push heroku <branchname>:main  
remote: |  
remote: | This article goes into details on the behavior:  
remote: |     https://devcenter.heroku.com/articles/duplicate-build-version  
remote: |  
remote: | Verifying deploy... done.  
To https://git.heroku.com/s40823245.git  
   bab47e9..818807d  main -> main
```

就能在 [https://s 學號.herokuapp.com](https://s學號.herokuapp.com) 看到 stage2-bg1 的網站

## heroku 指令

在黑窗打指令登錄 heroku

heroku login -i

輸入剛剛創 heroku 帳號的 email

輸入 heroku 密碼

## 參考資料

堆高機

1. <https://www.taifork.com.tw/product/category1>
2. <https://static.iyp.tw/39646/products/photooriginal-1756552-BKkBY.jpg>
3. [http://www.taiwankomatsu.tw/web/about/about.jsp?cp\\_no=CP1543769191951](http://www.taiwankomatsu.tw/web/about/about.jsp?cp_no=CP1543769191951)

Heroku

4. <http://mde.tw/wcm2021/content/Heroku-%E5%AF%A6%E4%BD%9C.html>