

Artifacts of the backend

Sign_up:

#Module – [Github link](#)

BackEnd structure:

Function	Modules	Parameter	Return
Sign up	N/A	Void	Username, Password
Hashing algorithm	Fernet (128bit)	Username, Password	N/A
Verification_email	SMTPlib, random	Username	verification_code
User_verification	N/A	Username, password, Verification_code	True/Flase
New_user	N/A	Void	Username, Password

User manual –

- Choose 'n'.
- Input email address and preferred password.
- Input the verification code sent to the user email

```

Login as: (g)Guest      (u)Regular user      (n)New user      (x)Exit
::n
Welcome. PLease sign up with your email.
|-Please enter your email:suraim1998@gmail.com
|-Please enter a password:testrun
|-Wait.....
|-----|
|-----|
|-----|
|-Email sent successfully!
-----
Please check your email for the varification code.
Once received please input the varification code here:254904
-----
User varified.
Login as: (g)Guest      (u)Regular user      (n)New user      (x)Exit
::
  
```

User signed in using email, password and verification code

(no subject) Inbox

testparkd4 5:59 PM to

Hi,
This is a verification email.
Your verification code is 254904

Reply Forward

An email with verification code is sent to user

pass_vault

Share View

Assignment > RMIT Asignments > Intro to IT > Assignment Program > ParKd > pass_vault

Name	Date modified	Type
suraim1998@gmail.com.txt	21/08/2021 6:00 PM	Text Document

A new file is created with user login

suraim1998@gmail.com.txt - Notepad

File Edit Format View Help

```

gAAAAABhILKhr2aYJ1h5ilfb8cPxAertHn8s7p8aFCXI_GPdS1KDtVbhs
y2BcC30tXkU1L9fs-bwZBA4qPCY0Ww7WJqe74h3BA==
  
```

Ln 1, Col 1 100% Windows (CRLF) UTF-8

The password is encrypted to a cyphertext

Log_in:

#Module – [Github link](#)

BackEnd structure:

Function	Modules	Parameter	Return
Produce key	Fernet (128bit)	Void	Master key
Key load	Fernet (128bit)	Void	Hash_key
Encp	Fernet (128bit)	Username, password	N/A
Decp	Fernet (128bit)	Username	Raw(password)/exception-true
Class – UI.__init__	N/A	self	N/A
Class – UI.pass_check	N/A	self	True/None
Class – UI.guest	N/A	Void (@staticmethod)	N/A
User_access	Fernet (128bit)	Void	True

User manual –

- g – Guest login (Beta version)
- u – User login
- n – New User (Calls the Sign_up module)
- x – Exit (Exits program)

Guest Login:

```
C:\Windows\system32\cmd.exe - "C:\Users\suraime\Anaconda3\python.exe" "C:\Users\suraime\Google Drive\Assignment\RMIT Assignments\Intro to IT\Assignment
Login as: (g)Guest      (u)User login      (n)New user      (x)Exit
::g
Please enter username:guest
Please enter password:password
Login successful.
This is just a test.
```

This will ideally be used for people who rather to skip the signup for the time being and rather to just watch the interface and see the functions of the application.

User login:

Right credentials:

```
C:\Windows\system32\cmd.exe - "C:\Users\suraime\Anaconda3\python.exe" "C:\Users\suraime\Google Drive\Assignment\RMIT Assignments\Intro to IT\Assignment Program\ParKd\log_in.py"
Login as: (g)Guest      (u)User login      (n)New user      (x)Exit
::u
Please enter username:suraime1998@gmail.com
Please enter password:testrun
login successful
```

New User:

Allows users to sign up.

```
C:\Windows\system32\cmd.exe - "C:\Users\suraime\Anaconda3\python.exe" "C:\Users\suraime\Google Drive
Login as: (g)Guest      (u)User login      (n)New user      (x)Exit
::n
Welcome. Please sign up with your email.
|-Please enter your email: _
```

Map:

#Module – [Github Link](#)

BackEnd structure:

Function	Modules	Parameter	Return
location_finder	Geopy.geocoders.Nominatim	Void	Latitude, longitude
general_map	Folium	Void	N/A
custom_location	Folium	Latitude, Longitude	N/A
Free_Parking	Folium	Latitude, Longitude	N/A
paid_parking	Folium	Latitude, Longitude	N/A
show_map	Webbrowser, pyautogui, Time	username	N/A

User manual –

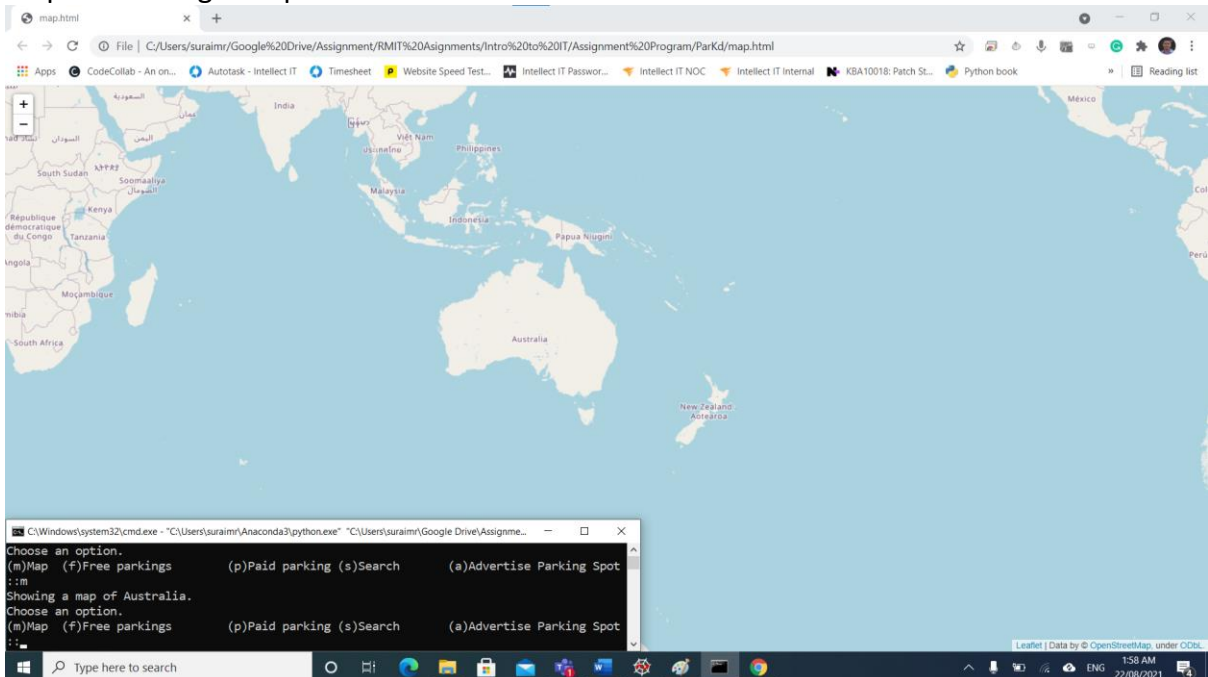
- Input a username
- m – Map (Shows a map of Australia)

- c. f – Free Parking (User can specify where they are going, and the app will show them nearby free parking spot)
- d. p – Paid Parking (User can specify where they are going, and the app will show them nearby paid parking spot)
- e. s – Search (Shows a pointer on the location, the user is going)
- f. a – Advertise parking spot (Host can advertise their parking spot and choose if it is paid or free.)

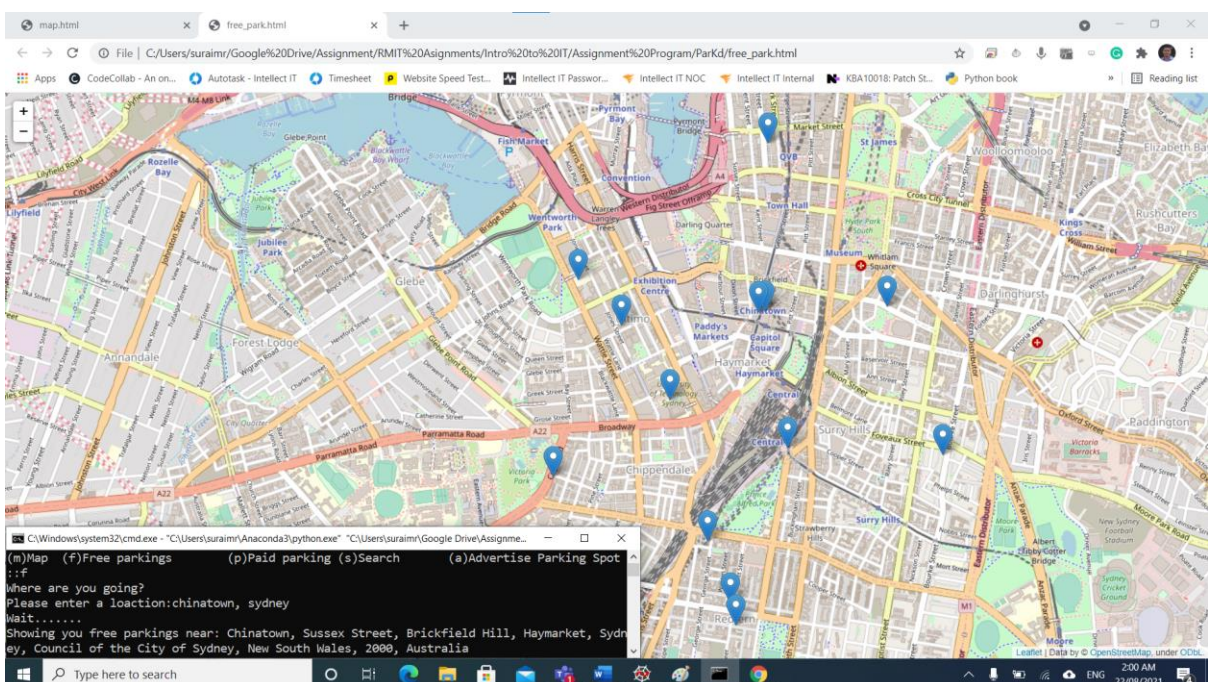
Step 1.

```
C:\Windows\system32\cmd.exe - "C:\Users\sura\Anaconda3\python.exe" "C:\Users\sura\G
Please enter username:Tess
```

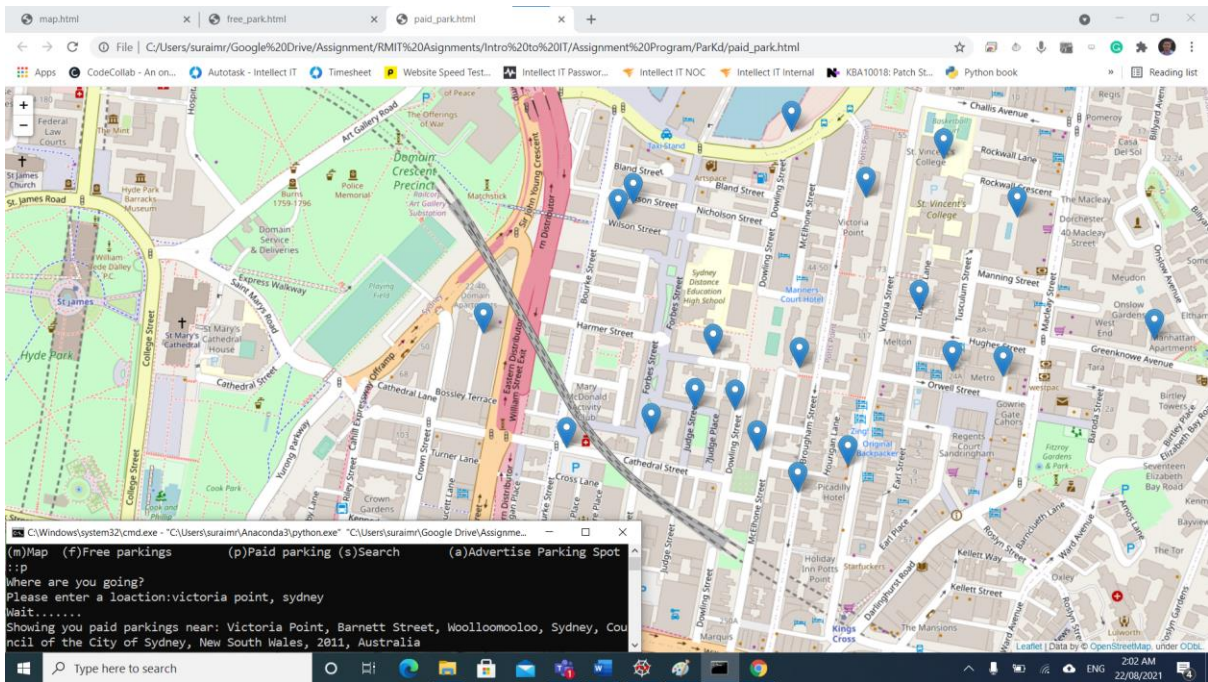
Step 2. Showing a map of Australia



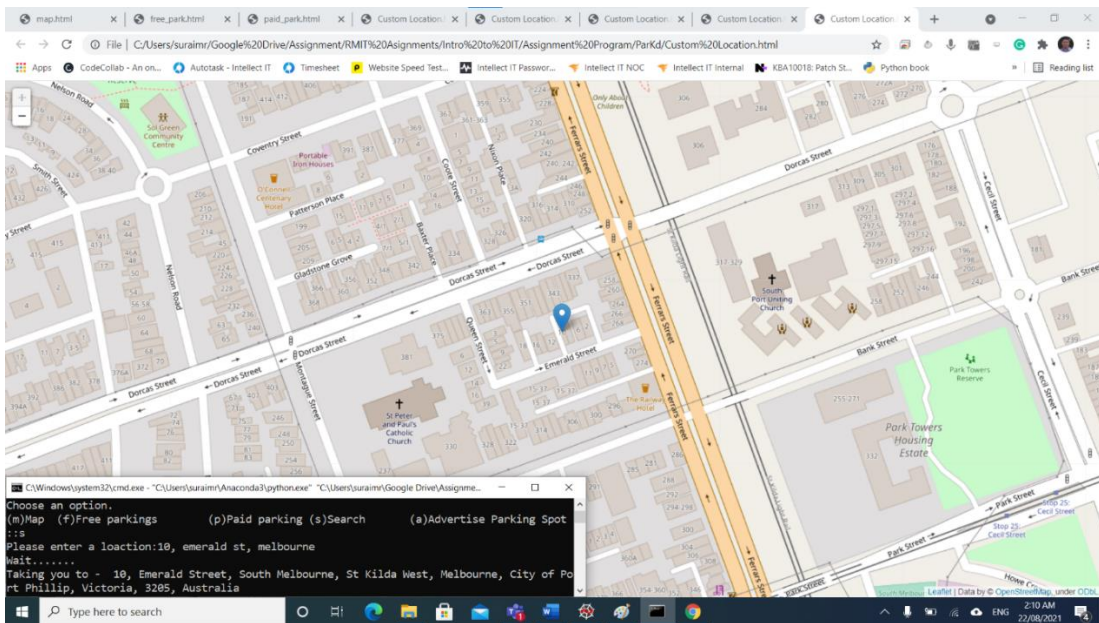
Step 3. Free parking near the specified location.



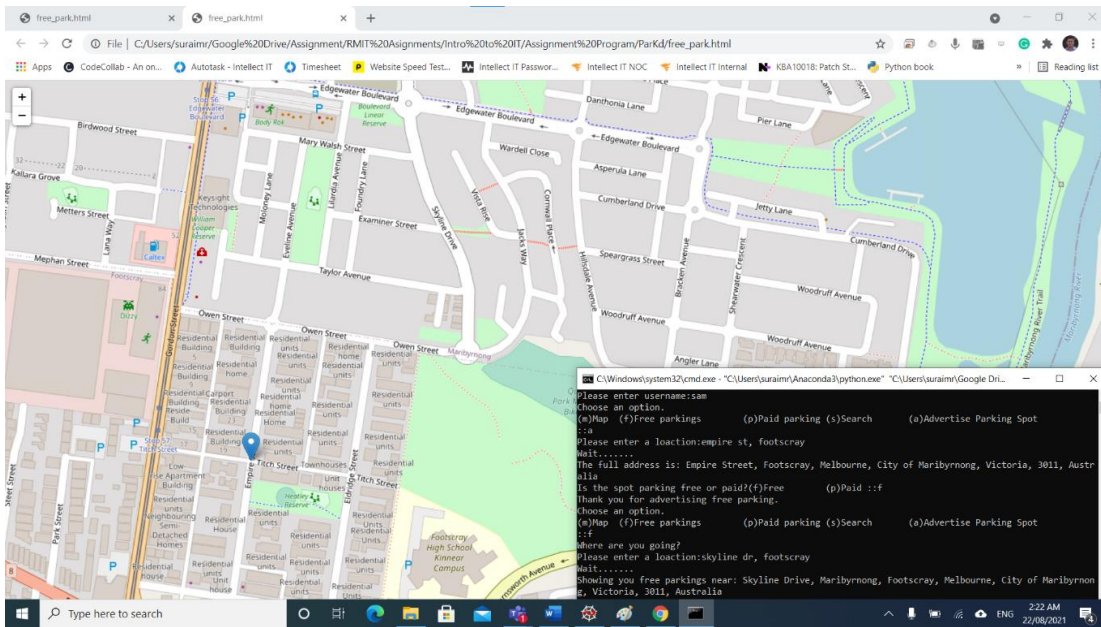
Step 4. Paid parking near the specified location.



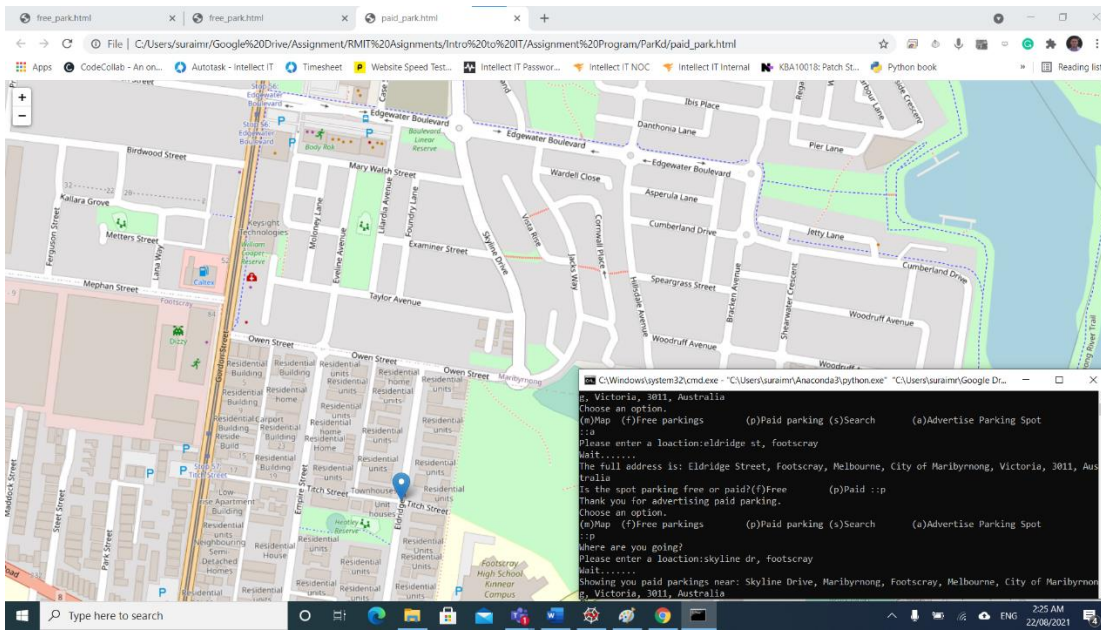
Step 5. A pointer of the address where user is going. This can be used for confirming the address by visual representation. User can check the address in this way, before they advertise their parking spot. Or user can simply just see the location.



Step 6. Advertise a free parking spot



Step 7. Advertising a paid parking spot



QR_code:

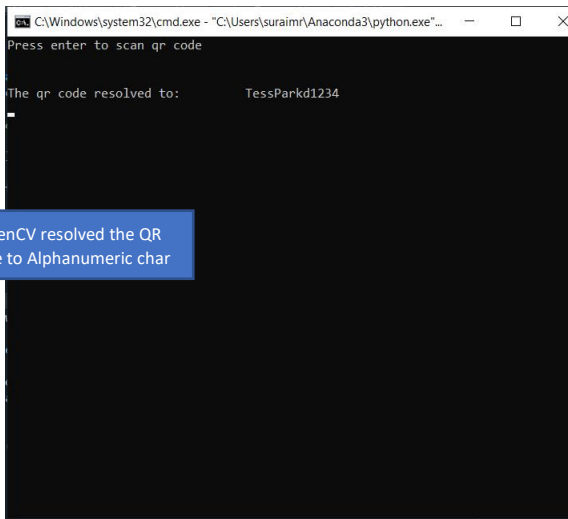
#Module – [Github Link](#)

BackEnd structure:

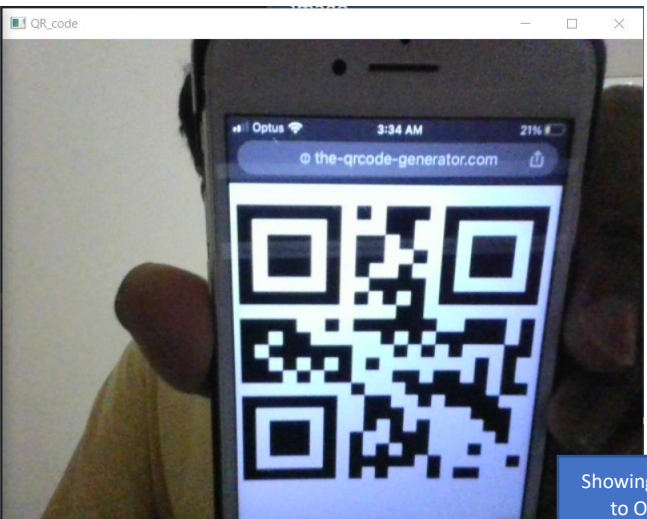
Function	Modules	Parameter	Return
Qrcode_reader	Opencv-python, msvcrt	Void	N/A

User manual –

- Bring the QR_code near the camera or vice versa
- Press the enter button to scan the QR code.
- A photo will be shown back to you as a confirmation
- The user ID will be resolved from the QR code.
- This user ID will be used for keeping a record. Eg. The user ID of the host will be associated with latitude and longitude in the free_parking.csv or paid_parking.csv. Upon scanning that record will be moved to app essentials folder or archive file. When, a rider scans the QR code, that free/paid parking will not be advertised anymore. Once, rider checks out, then the user ID, which was associated with the latitude and longitude of the map, will be advertised again.



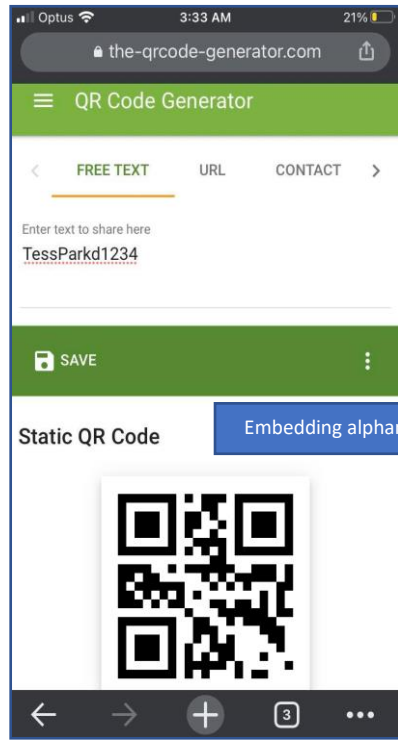
OpenCV resolved the QR code to Alphanumeric char



Showing QR code to OpenCV



Generated a QR code



Embedding alphanumeric code

Save_info:
 #Module – [Github Link](#)

BackEnd structure:

Function	Modules	Parameter	Return
Vehicle info	N/A	Void	N/A
Payment info	N/A	Username	N/A
Host rating	N/A	Username	N/A
Choose mode	N/A	N/A	N/A

User manual –

- a. Enter username.
- b. h/r – Host/Rider mode
- c. Host mode – Answer questions to get a rating out of 5 to boost their advertisement.
- d. Rider mode – Save payment or vehicle info

Enter username: (If implemented the username will be collected from log_in_final.py module, when the user logs in) For prototype we just use a temporary user.

```
C:\Windows\system32\cmd.exe - "C:\Users\suraime\Anaconda3\python.exe" "C:\Users\suraime\Gc
```

```
Please enter the user name:suraime
```

Choose mode: (Host)

```
Choose mode.
(h)Host      (r)Rider
::h
Host mode activated.
Do you have a ParKd verified or any security camera? #2 points (y/n)::y
Is your spot available minimum 4 hours a day or 20 hours a week? #1 point (y/n)::y
Is your parking spot an off-road parking? #1 point (y/n)::y
Do you live in or within 5km of the CBD? #1 point (y/n)::y
Your current rating is 5
```

(Host) Answer questions to get ranking

Choose mode: (Rider)

```
Choose mode.
(h)Host      (r)Rider
::r
Rider mode activated.
Options: (s)Save payment Info  (v)Save vehicle info
::s
Please enter the name on the card:Tess LTD
Please enter the Card number:5555222211113333
Please enter the expiry month: mm/yy:09/12
Please enter the CCV:111
```

(Rider) Save payment info

```
C:\Users\suraime\Google Drive\Assignment\RMIT Assignments\Intro to IT\Assignment Program\ParKd\pay_info.csv - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
New Text Document.txt ferrarimon20@gmail.com.txt BackEnd.py pass.py free_parking.csv paid_parking.csv credentials.csv
1 tess,Md Suraim,222233335555,9/22,223
2 suraim,Tess LTD,5555222211113333,09/12,111
3
```

Payment info saved

```
Please enter the user name:Tess
Choose mode.
(h)Host      (r)Rider
::r
Rider mode activated.
Options: (s)Save payment Info  (v)Save vehicle info
::v
Please enter your vehicle registration number:1111111111111111
Vehicle info saved.
```

(Rider) Save vehicle info

The screenshot shows a text editor window with the following content:

```
1 suraim, 1234567890
2 Tess, 1111111111111111
3
```

Vehicle info saved