COMPUTER SCIENCE PROJECT

ON

Car Rental System

Using PYTHON

Done By:

Team –Wolfpack

- S.Sarvesh

ACKNOWLEDGEMENT

We hereby acknowledge all those people, who have helped for the successful completion of our project to a great extent

We would also like to convey our sincere gratitude to our principal Smt. J.Geetha and the D.A.V School management for having provided us with the complete access to all materials and information sources available in the computer laboratory.

We express our deepest gratitude to our Computer Science teachers for their encouragement during the course of the project titled ‘Car Rental System’.

We would also like to extent our thanks to other members of the computer department for their cooperation

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INTRODUCTION:

The use of technology has greatly increased in the past few decades, and this is especially evident in the way we access and use transportation. One such example of this is the car rental system, which has become a popular choice for individuals and companies alike.

The car rental system is a comprehensive application that aims to streamline and improve the process of renting vehicles. It is built using PyQt5, a powerful toolkit for creating graphical user interfaces with Python, and offers a user-friendly experience for both customers and the car rental company.

Customers can easily browse through a wide range of available vehicles and make reservations with just a few clicks. The system also allows customers to easily search for and compare different rental options, ensuring that they can find the best possible deal.

On the company side, the system allows for the easy management and tracking of vehicles, including the ability to add and remove cars from the inventory. It also keeps track of rental history and customer data, providing valuable insights and enabling better decision making.

The main objective of the car rental system is to provide a convenient and efficient solution for those who require a temporary vehicle. This includes individuals who do not own a car, those with a damaged or destroyed vehicle that is awaiting repair or insurance compensation, and travellers who are out of town.

Overall, the car rental system developed with PyQt5 offers a number of benefits for both customers and the car rental company. It allows for easy and efficient access to transportation, making it a convenient and hassle-free option for those in need of a temporary vehicle. It also provides valuable insights and data for the car rental company, enabling them to make informed decisions and improve their operations.

Software Used:

Python

Modules:

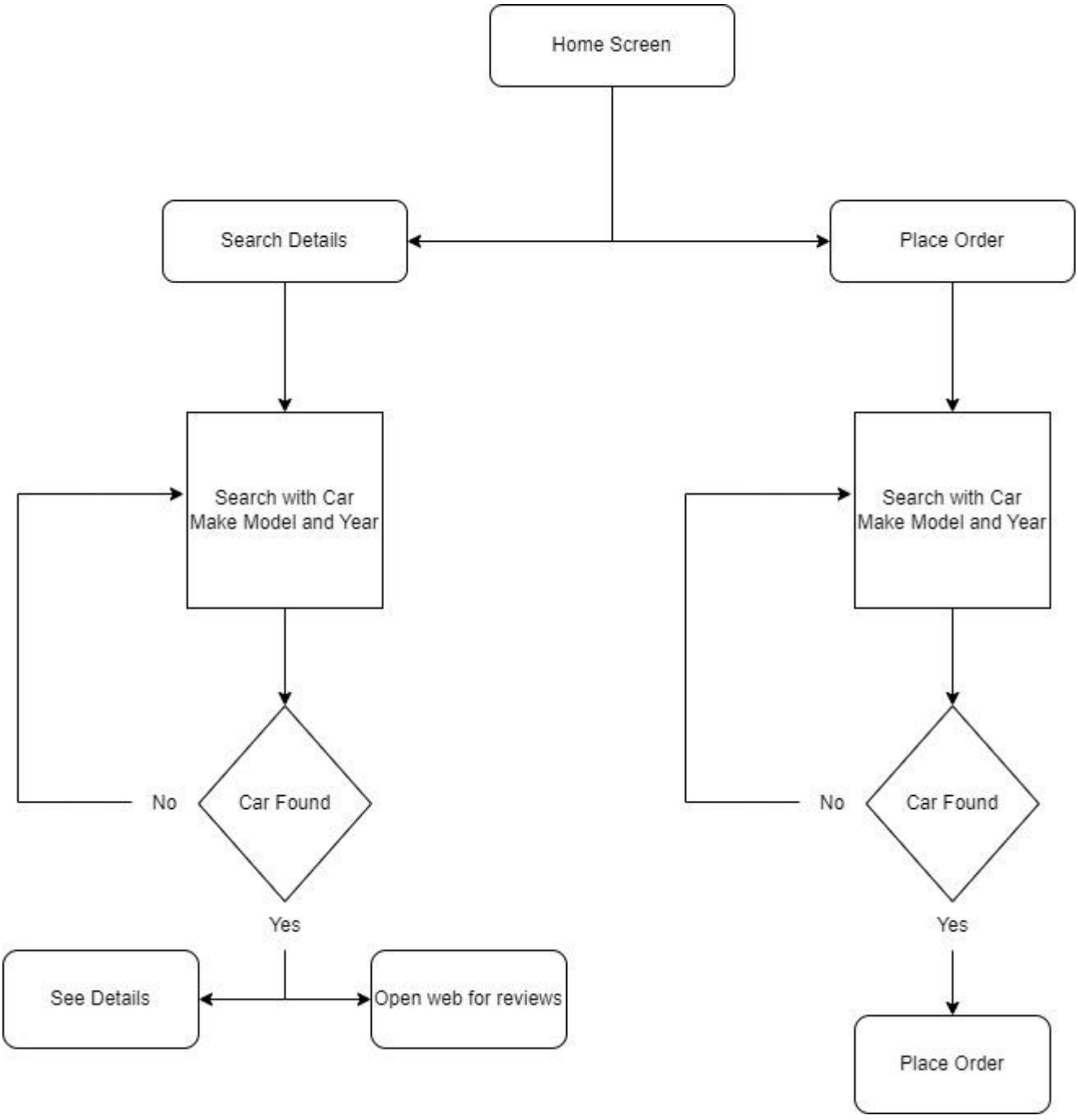
- PyQt5
- Webbrowser
- CSV

PyQT5: PyQt5 is a powerful toolkit for creating graphical user interfaces with Python. It provides a wide range of widgets, or pre-designed elements, that you can use to build your user interface, as well as a variety of tools for handling events, managing layouts, and interacting with data. PyQt5 is widely used in the development of desktop applications, as well as scientific and engineering software.

Webbrowser: The Python Standard Library includes a module called webbrowser that allows you to open a web browser from your Python code. You can use the webbrowser module to open a webpage in the user's default web browser, or you can specify a specific browser.

CSV: The CSV (Comma Separated Values) module is a built-in Python library for reading and writing CSV files. It provides a number of functions for working with CSV data, including reading and writing CSV files, iterating over rows, and accessing rows and fields by index or name.

FLOW DIAGRAM:



SOURCE CODE:

- Home Window:

```
import sys
from PyQt5 import QtCore, QtGui, QtWidgets
from PyQt5.QtGui import *
from PyQt5.QtWidgets import (QApplication, QMainWindow)
class Ui_HomeWindow(QMainWindow):
    def __init__(self):
        super().__init__()
        self.title = 'AutoShack'
        self.left = 0
        self.top = 0
        self.width = 1366
        self.height = 768
        self.setupUI()

    def setupUI(self):
        self.setWindowTitle(self.title)
        self.setGeometry(self.left, self.top, self.width, self.height)
        self.setObjectName("HomeWindow")

        self.bgimg = QtWidgets.QLabel(self)
        self.bgimg.setGeometry(QtCore.QRect(0, 0, 1366, 768))

self.bgimg.setPixmap(QtGui.QPixmap("C:/Users/haran/Desktop/FinalProject/Imgs/Backgrounds_Car_on_black_wall
paper_078512_.jpg"))
        self.bgimg.setObjectName("bgimg")

        self.extras = QtWidgets.QLabel(self)
        self.extras.setGeometry(QtCore.QRect(20, 740, 421, 16))
        self.extras.setObjectName("extras")
        self.extras.setText('For Support : luxcarrentals@gmail.com | Website : luxcars.com')
        self.extras.setStyleSheet('color: red')
```

```
        self.Return = QtWidgets.QPushButton(self)
        self.Return.setGeometry(QtCore.QRect(530, 300, 211, 211))
        self.Return.setObjectName("Return")
        self.Return.setText("Place Order")
        self.Return.setStyleSheet('background-color : cyan')
        self.Return.setFont(QFont('Cambria', 12))
        self.Return.pressed.connect(self.toggle_show_book)

        self.Rent = QtWidgets.QPushButton(self)
        self.Rent.setGeometry(QtCore.QRect(220, 300, 211, 211))
        self.Rent.setObjectName("Rent")
        self.Rent.setText("Search Car Details")
        self.Rent.setStyleSheet('background-color : cyan')
        self.Rent.setFont(QFont('Cambria', 12))
        self.Rent.pressed.connect(self.toggle_show_details)

        self.Name = QtWidgets.QLabel(self)
        self.Name.setGeometry(QtCore.QRect(240, 100, 481, 111))
        self.Name.setStyleSheet("font: 75 8pt \"Tahoma\";")
        self.Name.setObjectName("Name")
        self.Name.setText("AutoShack Car Rentals")
        self.Name.setAlignment(QtCore.Qt.AlignCenter)
        self.Name.setStyleSheet('color: cyan')
        self.Name.setFont(QFont('Cambria', 30))
        self.show()

    def toggle_show_details(self):
        from Details import Ui_DetailsWindow
        self.DetailswindowWidget = Ui_DetailsWindow()
        self.DetailswindowWidget.set_parent(self)
        self.DetailswindowWidget.show()

    def close_details(self):
        self.DetailswindowWidget.hide()
```

```
    def toggle_show_book(self):
        from Book import Ui_BookWindow
        self.BookCarWidget = Ui_BookWindow()
        self.BookCarWidget.set_parent(self)
        self.BookCarWidget.show()

    def close_book(self):
        self.BookCarWidget.hide()
if __name__ == '__main__':
    app = QApplication(sys.argv)
    ex = Ui_HomeWindow()
    sys.exit(app.exec_())
```

- Search Details Window:

```
import sys
import csv
from PyQt5 import QtCore, QtGui, QtWidgets
from PyQt5.QtGui import *
from PyQt5.QtWidgets import (QApplication, QMainWindow)
from datetime import date
import random

class Ui_DetailsWindow(QMainWindow):
    def __init__(self):
        super().__init__()
        self.title = 'AutoShack'
        self.left = 0
        self.top = 0
        self.width = 1366
        self.height = 768
        self.setupUI()

    def set_parent(self,_parent):
        self.parent = _parent

    def setupUI(self):
        self.setWindowTitle(self.title)
        self.setGeometry(self.left, self.top, self.width, self.height)
        self.setObjectName("RentWindow")

        self.bgimg = QtWidgets.QLabel(self)
        self.bgimg.setGeometry(QtCore.QRect(0, 0, 1366, 768))
        self.bgimg.setText("")
        self.bgimg.setPixmap(QtGui.QPixmap("Imgs/la-ferrari-4k-rear-lights.jpg"))
        self.bgimg.setObjectName("bgimg")

        self.extras = QtWidgets.QLabel(self)
```

```
self.extras.setGeometry(QtCore.QRect(20, 740, 421, 16))
self.extras.setObjectName("extras")
self.extras.setText('For Support : luxcarrentals@gmail.com | Website : luxcars.com')
self.extras.setStyleSheet('color: red')

self.title = QtWidgets.QLabel(self)
self.title.setGeometry(QtCore.QRect(420, 0, 551, 131))
self.title.setObjectName("title")

self.back = QtWidgets.QPushButton(self)
self.back.setGeometry(QtCore.QRect(1260, 30, 81, 41))
self.back.setObjectName("back")
self.back.pressed.connect(self.GoBack)

self.aboutcar = QtWidgets.QLabel(self)
self.aboutcar.setGeometry(QtCore.QRect(210, 160, 791, 591))
self.aboutcar.setObjectName("aboutcar")

self.reviews = QtWidgets.QPushButton(self)

self.textBrowser = QtWidgets.QTextBrowser(self)

self.MakeOptions = QtWidgets.QComboBox(self)
self.MakeOptions.setGeometry(QtCore.QRect(550, 175, 300, 31))
self.MakeOptions.setObjectName("MakeOptions")
self.MakeOptions.addItem("Select an Option")
self.MakeOptions.setFont(QtGui.QFont("Bahnschrift SemiBold SemiConden", weight=QtGui.QFont.Bold))
fh = open('data.csv', 'r')
r = csv.reader(fh)
header = next(r)
ml = ()
for i in r:
    self.MakeOptions.addItem((i[0] + ' ' + i[1] + ' ' + i[2]))
fh.close()
self.MakeOptions.activated[str].connect(self.listouter)
```

```
        _translate = QtCore.QCoreApplication.translate
        self.setWindowTitle(_translate("MainWindow", "MainWindow"))
        self.title.setText(_translate("MainWindow",
                                      "<html><head/><body><p align=\"center\"><span style=\" font-size:18pt; font-weight:600; color:#55ffff;\">Welcome To</span></p><p align=\"center"
                                      "\"><span style=\" font-size:18pt; font-weight:600; color:#55ffff;\">AutoShack Car Rentals</span></p><p align=\"center\"><span style=\" font-size:12pt; "
                                      "text-decoration: underline; color:#55ffff;"
                                      "\">Please Chooose A Car to See its details</span></p></body></html>"))
        self.back.setText(_translate("MainWindow", "Back"))
        self.aboutcar.setText(_translate("MainWindow", "<html><head/><body><p>about car</p></body></html>"))
        self.show()

    def GoBack(self):
        self.parent.close_details()

    def listouter(self, textt):
        self.textBrowser.setGeometry(QtCore.QRect(310, 330, 761, 411))
        self.textBrowser.setObjectName("textBrowser")
        self.textBrowser.setStyleSheet("background-color: cyan;")

        self.reviews.setGeometry(QtCore.QRect(1090, 550, 171, 100))
        self.reviews.setObjectName("reviews")
        self.reviews.setText("See More [Opens Browser]")
        self.reviews.pressed.connect(self.reviewopen)
        fh=open('data.csv','r')
        r=csv.reader(fh)
        hdr=next(r)
        for i in r:
            if (i[0]+' '+i[1]+' '+i[2]) == textt:
                make = i[0]
                mdl=i[1]
                year=i[2]
                eft=i[3]
                hp=i[4]
```

```
            ec=i[5]
            trt=i[6]
            dw=i[7]
            drs=i[8]
            ctg=i[9]
            sz=i[10]
            styl=i[11]
            hmg=i[12]
            cmg=i[13]
            pop=i[14]
            msrp=i[15]
            break
        s='''Make : {}   Model : {}  Year : {} \n\nFuel Type : {}  Engine Horsepower : {}  Cylinders : {}\n\n Transmission : {}  Driven Wheels : {}
        \n\nNo.Of Doors : {}  Vehicle Category : {} Vehicle Size : {}  Vehicle Style : {}\n\nHighway Mileage : {}  City Mileage : {}
        \n\nPopularity : {}  MSRP : {} '''.format(make,mdl,year,eft,hp,ec,trt,dw,drs,ctg,sz,styl,hmg,cmg,pop,msrp)
        self.textBrowser.setText(s)
        self.textBrowser.setFont(QFont('Cambria', 18))
    def reviewopen(self):
        textt=self.MakeOptions.currentText()
        fh = open('data.csv', 'r')
        r = csv.reader(fh)
        hdr = next(r)
        for i in r:
            if (i[0] + ' ' + i[1] + ' ' + i[2]) == textt:
                link = i[16]
        webbrowser.open_new_tab(link)
        fh.close()


if __name__ == '__main__':
    app = QApplication(sys.argv)
ex = Ui_DetailsWindow()
    sys.exit(app.exec_())
```

- Place Order Window:

```
import sys
import csv
from PyQt5 import QtCore, QtGui, QtWidgets
from PyQt5.QtGui import *
from PyQt5.QtWidgets import (QApplication, QMainWindow)
from datetime import date
import random

class Ui_BookWindow(QMainWindow):
    def __init__(self):
        super().__init__()
        self.title = 'MainWindow'
        self.left = 0
        self.top = 0
        self.width = 1366
        self.height = 768
        self.setupUI()

    def set_parent(self,_parent):
        self.parent = _parent

    def setupUI(self):
        _translate = QtCore.QCoreApplication.translate
        self.setWindowTitle(self.title)
        self.setGeometry(self.left, self.top, self.width, self.height)
        self.setObjectName("MainWindow")

        self.bgimg = QtWidgets.QLabel(self)
        self.bgimg.setGeometry(QtCore.QRect(0, 0, 1366, 768))
        self.bgimg.setPixmap(QtGui.QPixmap("Imgs/la-ferrari-4k-rear-lights.jpg"))
        self.bgimg.setObjectName("bgimg")

        self.extras = QtWidgets.QLabel(self)
```

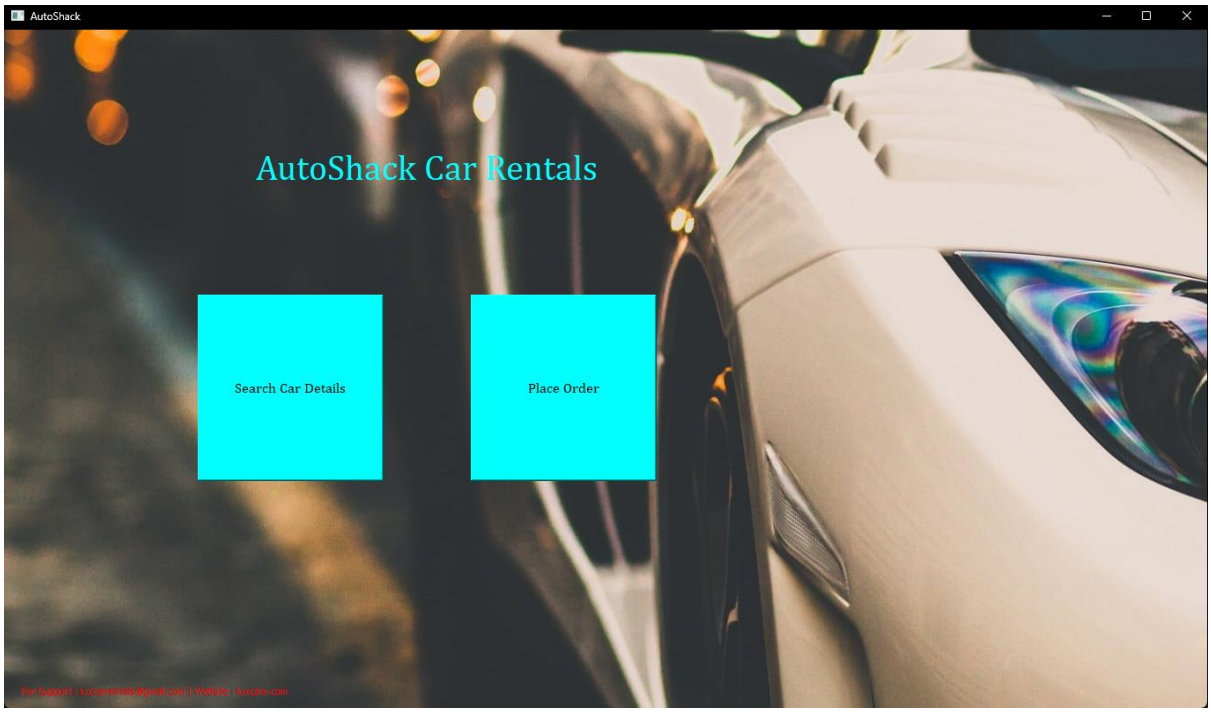
```
        self.extras.setGeometry(QtCore.QRect(20, 740, 421, 16))
        self.extras.setObjectName("extras")
        self.extras.setText('For Support : luxcarrentals@gmail.com | Website : luxcars.com')
        self.extras.setStyleSheet('color: red')

        self.back = QtWidgets.QPushButton(self)
        self.back.setGeometry(QtCore.QRect(1260, 30, 81, 41))
        self.back.setObjectName("back")
        self.back.pressed.connect(self.GoBack)
        self.back.setText(_translate("MainWindow", "Back"))

        self.textBrowser = QtWidgets.QTextBrowser(self)

        self.MakeOptions = QtWidgets.QComboBox(self)
        self.MakeOptions.setGeometry(QtCore.QRect(550, 175, 300, 31))
        self.MakeOptions.setObjectName("MakeOptions")
        self.MakeOptions.addItem("Select an Option")
        self.MakeOptions.setFont(QtGui.QFont("Bahnschrift SemiBold SemiConden", weight=QtGui.QFont.Bold))
        fh = open('data.csv', 'r')
        r = csv.reader(fh)
        header = next(r)
        ml = ()
        for i in r:
            self.MakeOptions.addItem((i[0] + ' ' + i[1] + ' ' + i[2]))
        fh.close()
        self.MakeOptions.activated[str].connect(self.booker)
        self.title = QtWidgets.QLabel(self)
        self.title.setGeometry(QtCore.QRect(420, 0, 551, 131))
        self.title.setObjectName("title")
        self.title.setText(_translate("MainWindow",
                                      "<html><head/><body><p align=\"center\"><span style=\" font-size:18pt; font-weight:600; color:#55ffff;\">Welcome To</span></p><p align=\"center\"><span style=\" font-size:18pt; font-weight:600; color:#55ffff;\">AutoShack Car Rentals</span></p><p align=\"center\"><span style=\" font-size:12pt; text-decoration: underline; color:#55ffff;\">Please Chooose A Car to purchase</span></p></body></html>"))
        self.book = QtWidgets.QPushButton(self)
        self.show()
```

```
def booker(self):
    self.book.setGeometry(QtCore.QRect(870, 690, 200, 50))
    self.book.setObjectName("book")
    self.book.setText("Place ORDER")
    self.book.pressed.connect(self.rentthis)
    self.book.setStyleSheet("background-color: yellow;")
    self.book.setFont(QFont('Cambria'))
    self.book.show()
    textt = self.MakeOptions.currentText()
    fh = open('data.csv', 'r')
    r = csv.reader(fh)
    hdr = next(r)
    for i in r:
        if (i[0] + ' ' + i[1] + ' ' + i[2]) == textt:
            make = i[0]
            mdl = i[1]
            year = i[2]
            msrp = i[15]
    fh.close()

    self.textBrowser.setGeometry(QtCore.QRect(310, 330, 761, 411))
    self.textBrowser.setObjectName("textBrowser")
    self.textBrowser.setStyleSheet("background-color: cyan;")
    self.textBrowser.setFont(QFont('Cambria', 18))
    s='\t\t\t\tConfirm Order \n\nMake : {}\n\nModel : {}\n\nYear : {}\n\nPrice : ${}'.format(make, mdl, year, msrp)
    self.textBrowser.setText(s)

def GoBack(self):
    self.parent.close_book()

def rentthis(self):
    textt = self.MakeOptions.currentText()
    fh = open('data.csv', 'r')
    r = csv.reader(fh)
```

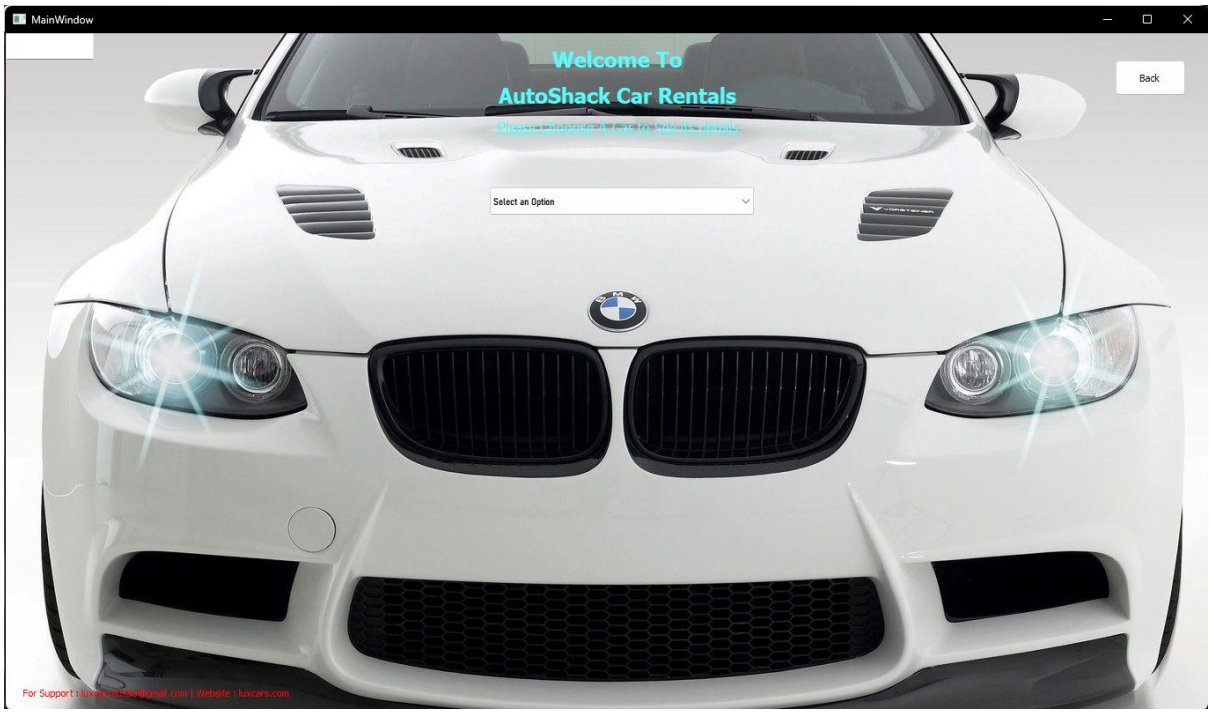
```
        hdr = next(r)
        today = date.today()
        bid = random.randint(1000, 9999)
        for i in r:
            if (i[0] + ' ' + i[1] + ' ' + i[2]) == textt:
                print(textt)
                make = i[0]
                mdl = i[1]
                year = i[2]
                msrp = i[15]


                l=[i[0],i[1],i[2],i[15],bid]
                print(l)
        fh.close()
        s = '''RENT SUCCESSFUL!\n\n\nBooking ID {} \n\nORDER SUMMARY \n\n\n\nDate Of Purchase {} \n\nMake : {}\n\nModel : {}\n\nYear : {}\n\nPrice : ${}
        \n\nYour Order has been confirmed\nVisit any of our showroom to pick-up your vehicle'''.format(bid,today,make, mdl, year, msrp)
        self.textBrowser.setText(s)
        self.textBrowser.setFont(QFont('Cambria', 16))
        self.book.hide()


if __name__ == '__main__':
    app = QApplication(sys.argv)


    ex = Ui_BookWindow()
    sys.exit(app.exec_())
```

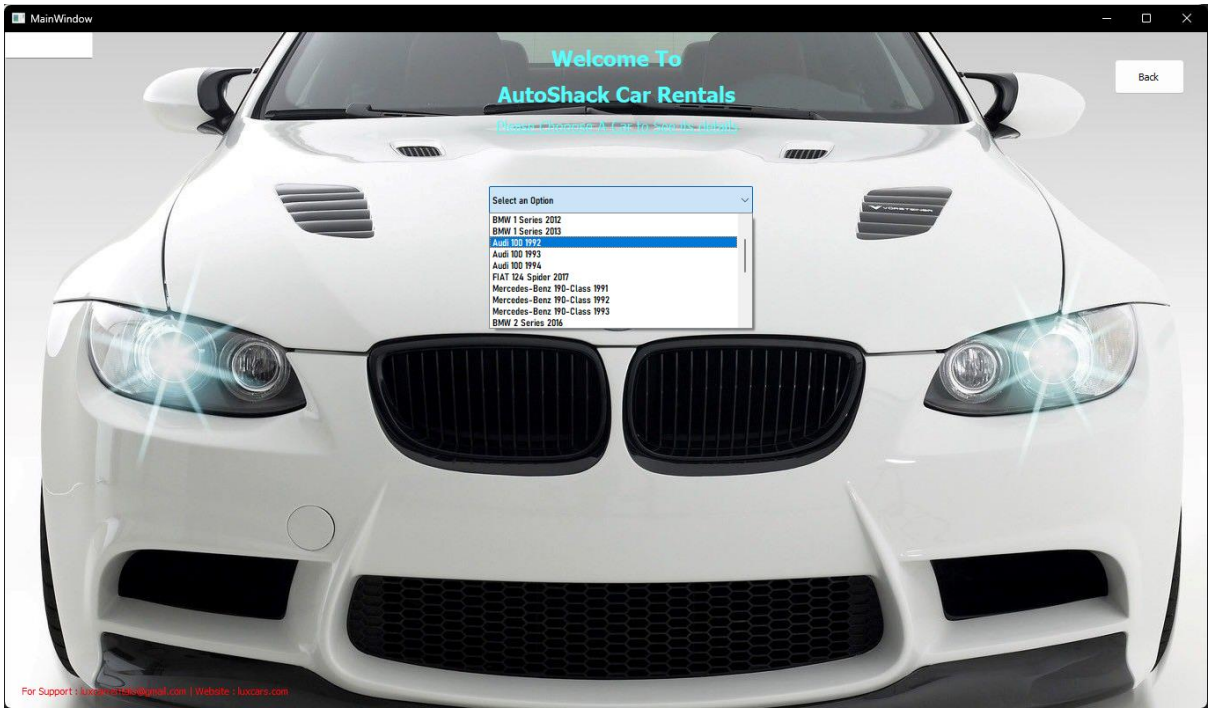
APPLICATION FLOW:

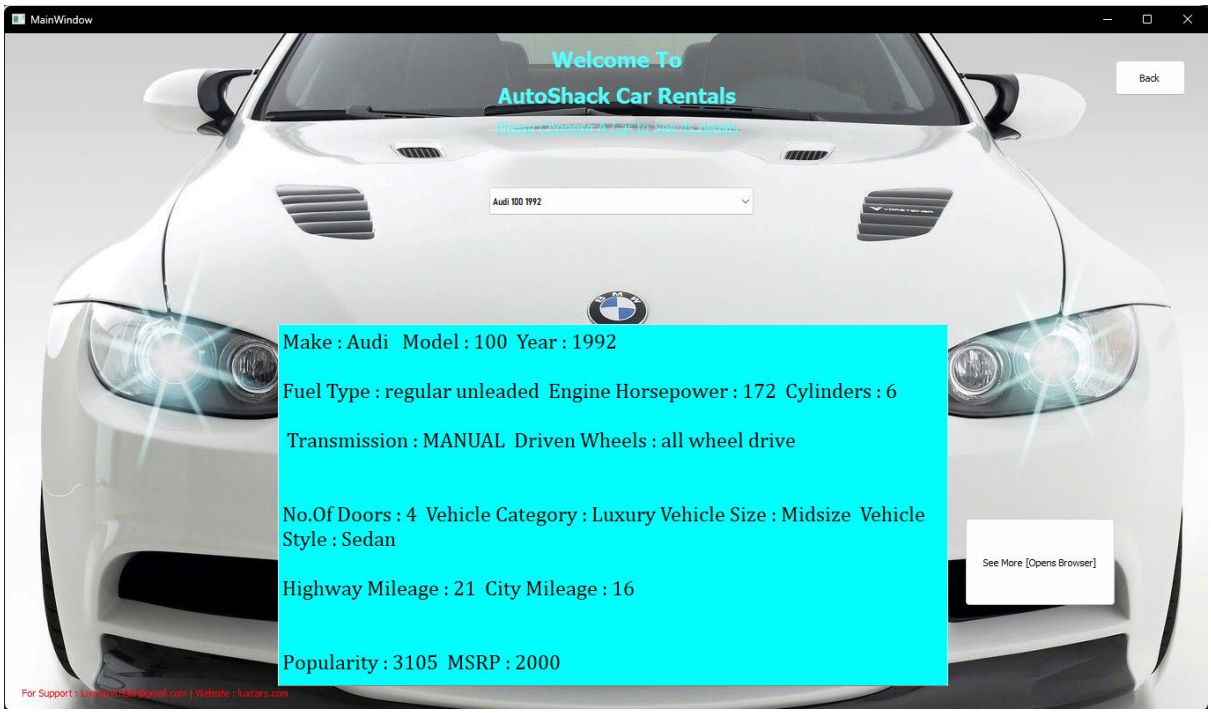
- Home Window:

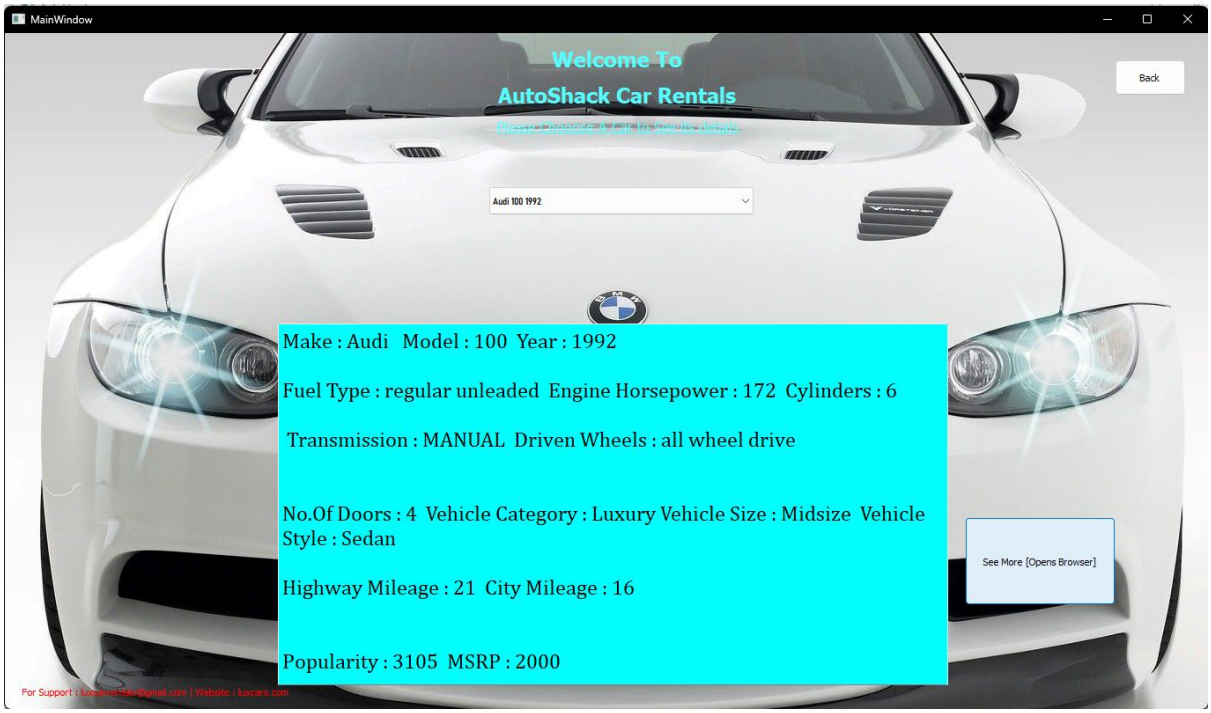


- Search Details Window:






MainWindow
Welcome To
AutoShack Car Rentals
Back
Audi 100 1992
Make : Audi Model : 100 Year : 1992
Fuel Type : regular unleaded Engine Horsepower : 172 Cylinders : 6
Transmission : MANUAL Driven Wheels : all wheel drive
No.Of Doors : 4 Vehicle Category : Luxury Vehicle Size : Midsize Vehicle Style : Sedan
Highway Mileage : 21 City Mileage : 16
Popularity : 3105 MSRP : 2000
See More [Opens Browser]


MainWindow
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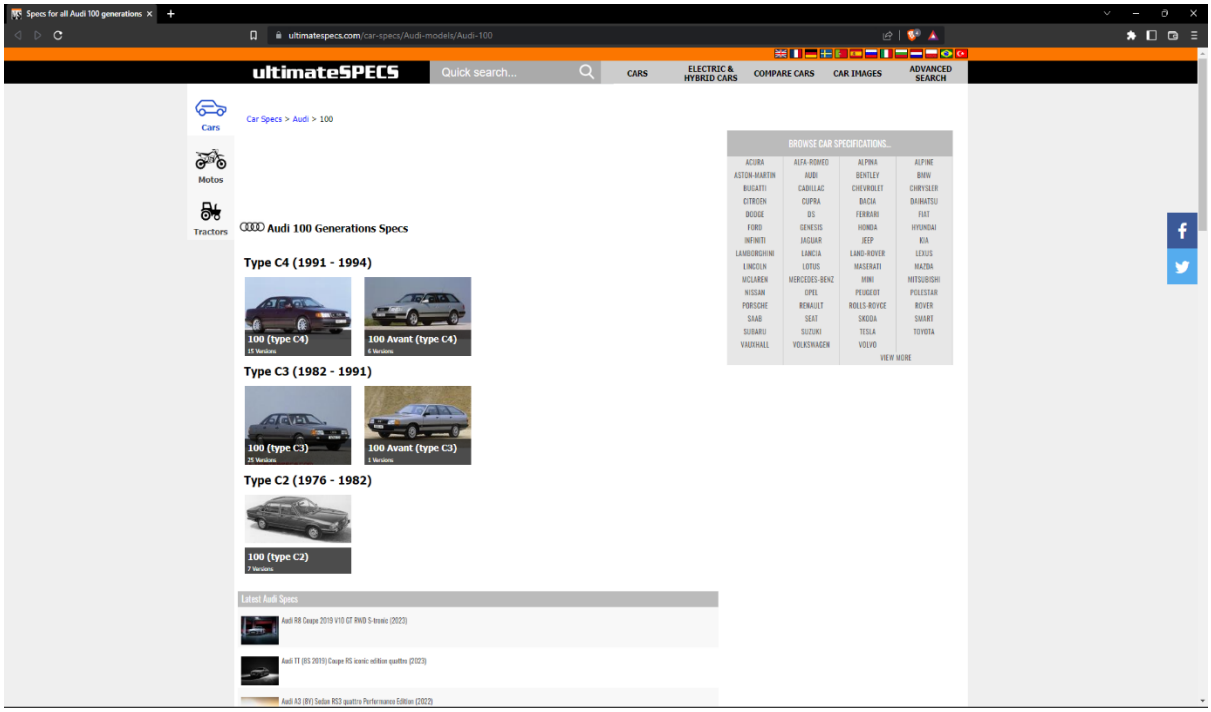
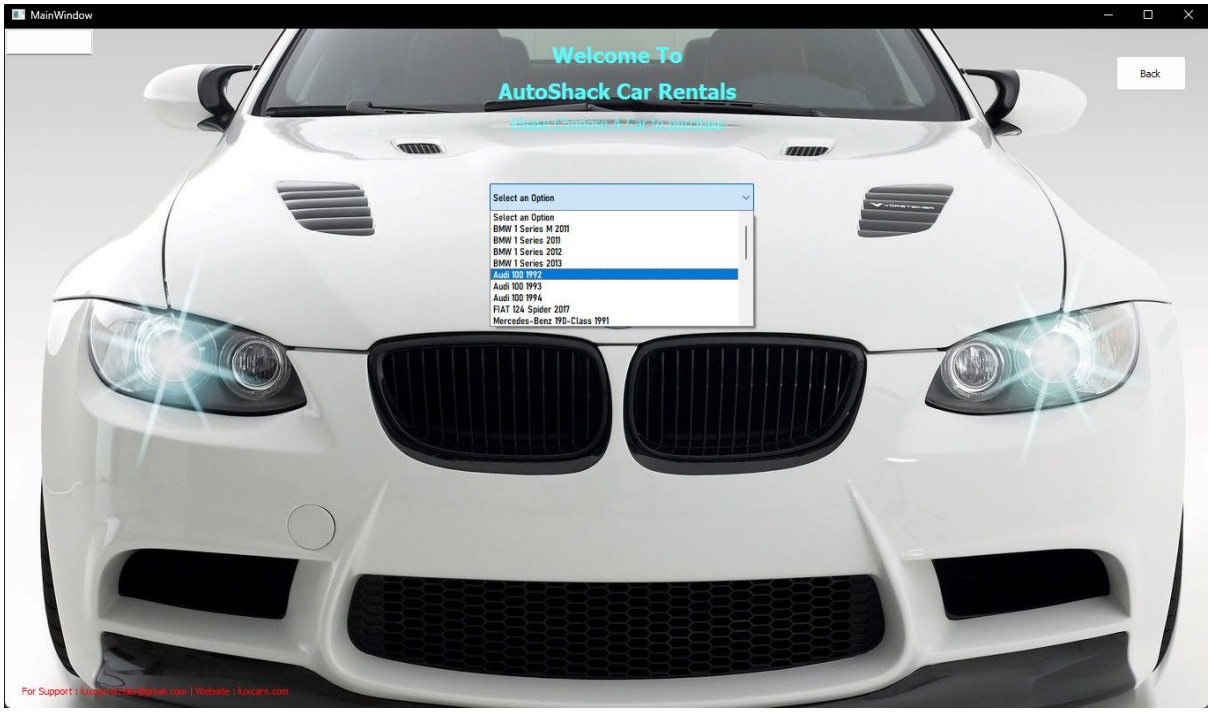
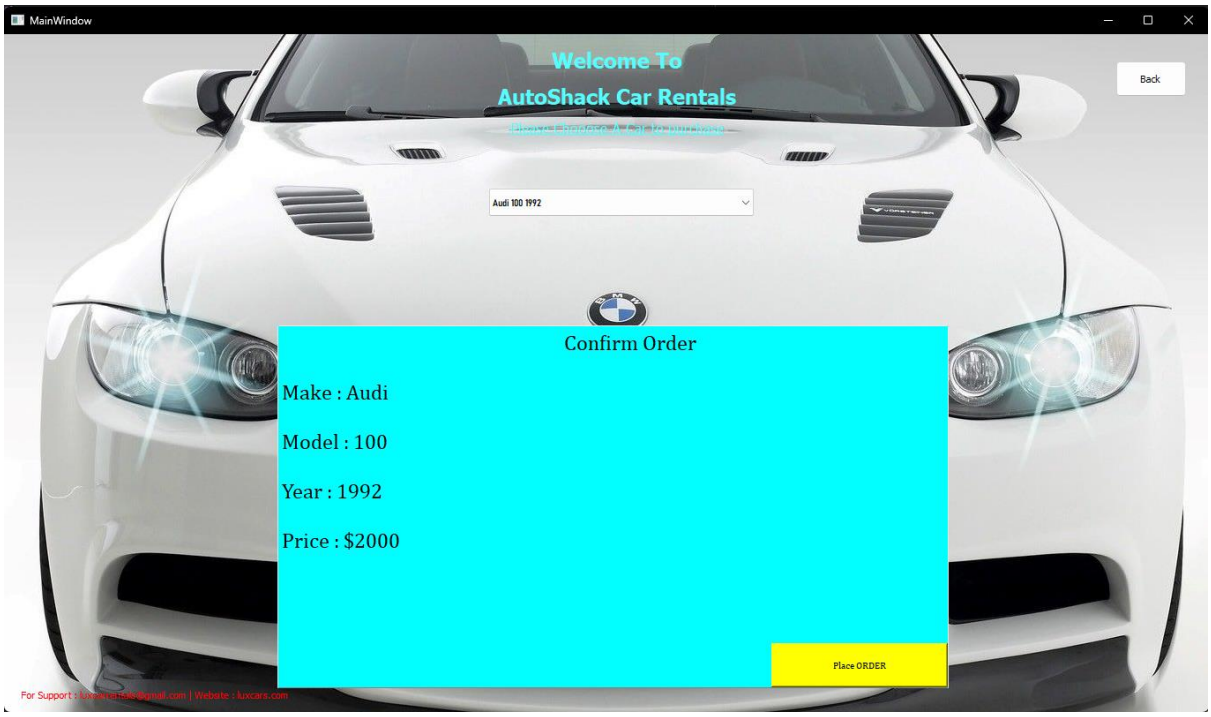
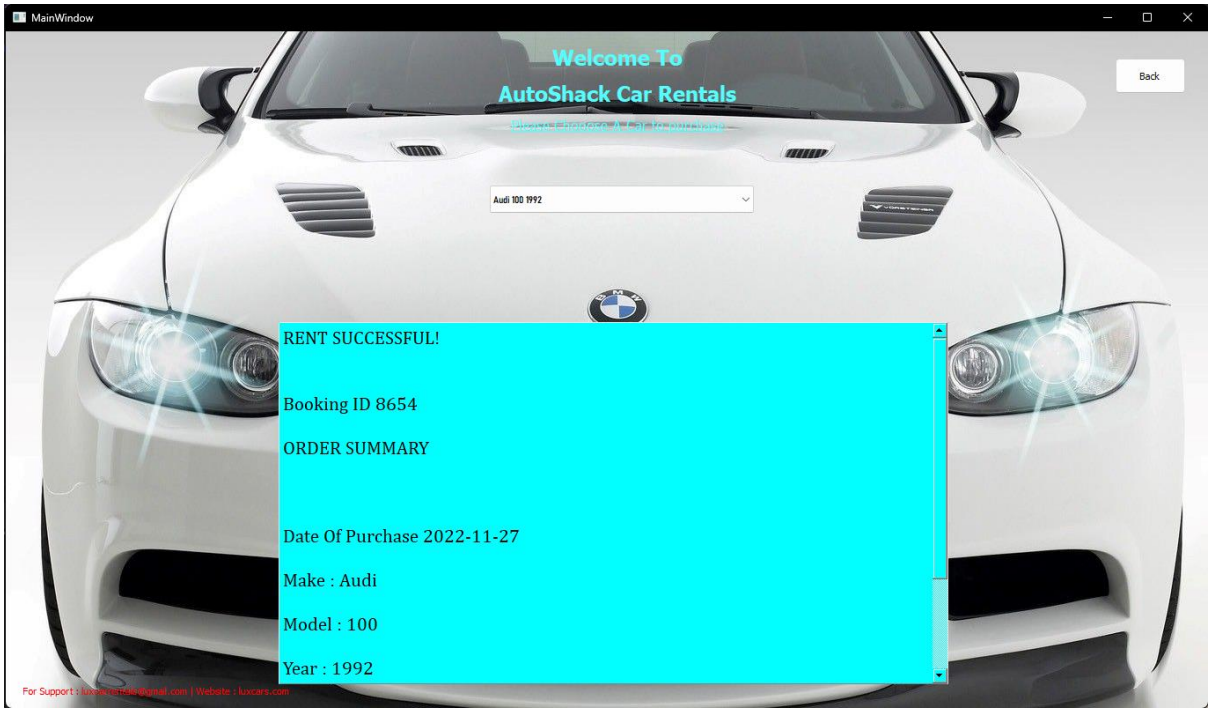
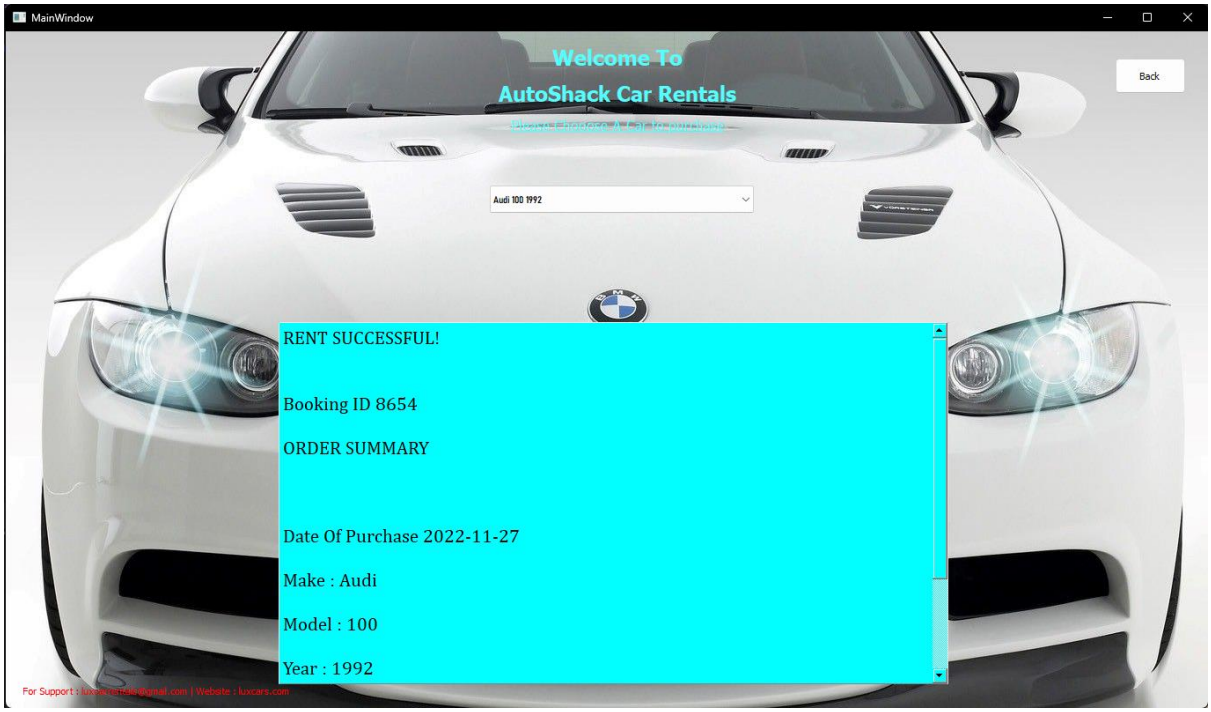

Specs for all Audi 100 generations
ultimatespecs.com/car-specs/Audi-models/Audi-100
ultimateSPECS
Quick search...
CARS
ELECTRIC & HYBRID CARS
COMPARE CARS
CAR IMAGES
ADVANCED SEARCH
Cars
Motos
Tractors
Car Specs > Audi > 100
Audi 100 Generations Specs
Type C4 (1991 - 1994)
100 (type C4)
15 Versions
100 Avant (type C4)
6 Versions
Type C3 (1982 - 1991)
100 (type C3)
25 Versions
100 Avant (type C3)
3 Versions
Type C2 (1976 - 1982)
100 (type C2)
7 Versions
Latest Audi Specs
Audi R8 Coupe 2019 V10 GT RWD S-tronic (2023)
Audi TT (8S 2019) Coupe RS iconic edition quattro (2023)
Audi A3 (8Y) Sedan RS3 quattro Performance Edition (2022)
BROWSE CAR SPECIFICATIONS...
ACURA
ALFA-ROMEO
ALPINA
ALPINE
ASTON-MARTIN
AUDI
BENTLEY
BMW
BUGATTI
CADILLAC
CHEVROLET
CHRYSLER
CITROEN
CUPRA
DACIA
DAIHATSU
DODGE
DS
FERRARI
FIAT
FORD
GENESIS
HONDA
HYUNDAI
INFINITI
JAGUAR
JEEP
KIA
LAMBORGHINI
LANCIA
LAND-ROVER
LEXUS
LINCOLN
LOTUS
MASERATI
MAZDA
MCLAREN
MERCEDES-BENZ
MINI
MITSUBISHI
NISSAN
OPEL
PEUGEOT
POLESTAR
PORSCHE
RENAULT
ROLLS-ROYCE
ROVER
SAAB
SEAT
SKODA
SMART
SUBARU
SUZUKI
TESLA
TOYOTA
VAUXHALL
VOLKSWAGEN
VOLVO
VIEW MORE

- Place Order Window:



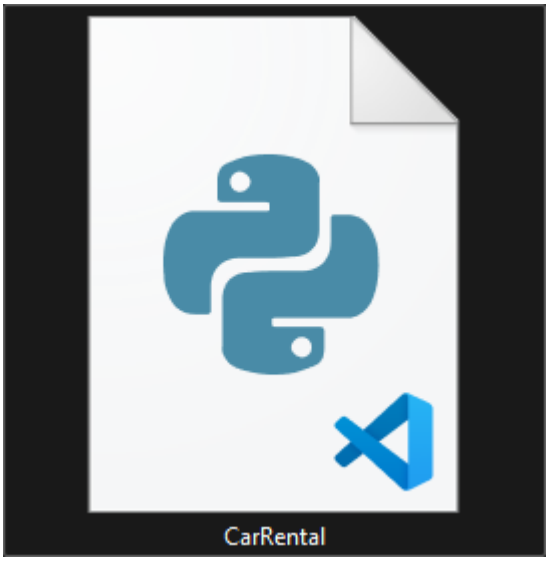

MainWindow
Welcome To
AutoShack Car Rentals
Back
Audi 100 1992
Confirm Order
Make : Audi
Model : 100
Year : 1992
Price : $2000
Place ORDER
For Support : luxcarsrentals@gmail.com | Website : luxcars.com


MainWindow
Welcome To
AutoShack Car Rentals
Back
Audi 100 1992
RENT SUCCESSFUL!
Booking ID 8654
ORDER SUMMARY
Date Of Purchase 2022-11-27
Make : Audi
Model : 100
Year : 1992
For Support : luxcarsrentals@gmail.com | Website : luxcars.com


MainWindow
Welcome To
AutoShack Car Rentals
Back
Audi 100 1992
RENT SUCCESSFUL!
Booking ID 8654
ORDER SUMMARY
Date Of Purchase 2022-11-27
Make : Audi
Model : 100
Year : 1992

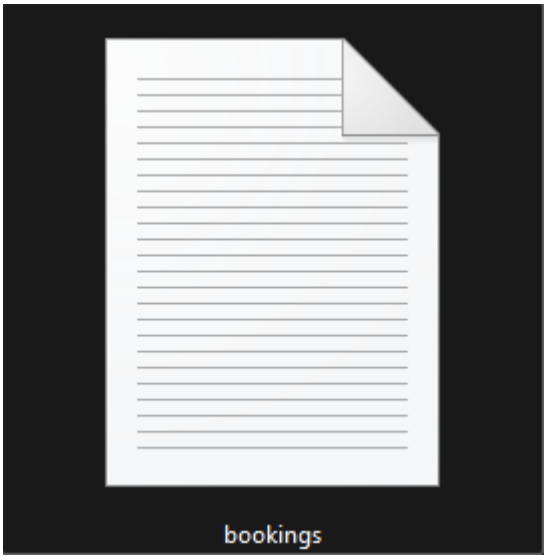
Files Part of this Project:

- Executable Application:



- Images Used:

- CSV Files:



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