



Testing

Computer Science NEA

21HeffernaJN42



Contents

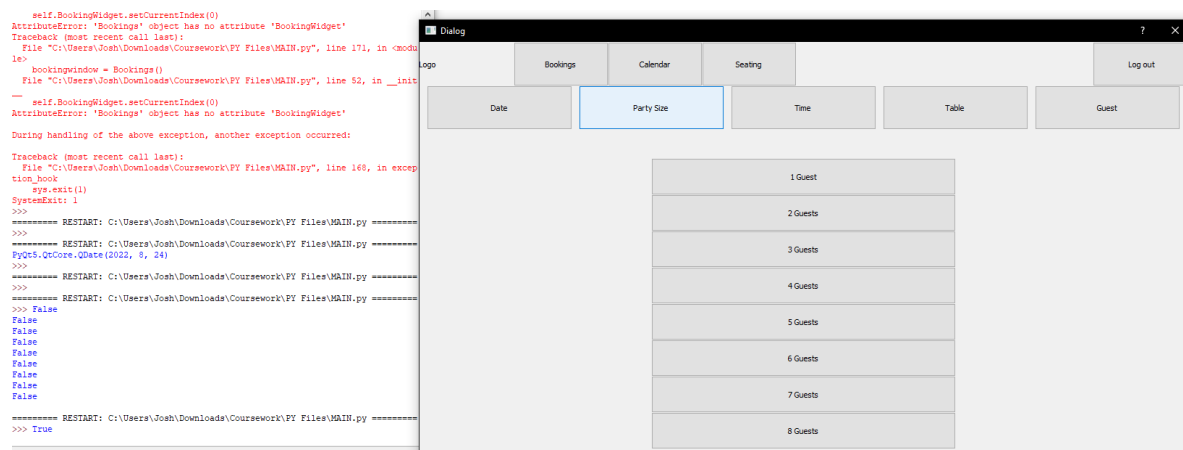
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```
class Bookings(QDialog):
    def __init__(self):
        super(QDialog, self).__init__()
        self.ui = Ui_Booking()
        self.ui.setupUi(self)
        self.datepage()
        global dateselectd; dateselectd = False
        self.ui.pbDate.clicked.connect(self.datepage)
        self.ui.pbSize.clicked.connect(self.sizepage)
        self.ui.pbTime.clicked.connect(self.timepage)
        self.ui.pbTable.clicked.connect(self.tablepage)
        self.ui.pbGuest.clicked.connect(self.guestpage)
        self.ui.cwCalendar.clicked.connect(self.getdate)

    def getdate(self):
        date = self.ui.cwCalendar.selectedDate()
        date = date.toPyDate()
        dateselectd = True

    def datepage(self):
        self.ui.BookingWidget.setCurrentIndex(0)
    def sizepage(self):
        print(dateselectd)
        if dateselectd == True:
            self.ui.BookingWidget.setCurrentIndex(1)
        else:
            pass
    def timepage(self):
        self.ui.BookingWidget.setCurrentIndex(2)
    def tablepage(self):
        self.ui.BookingWidget.setCurrentIndex(3)
    def guestpage(self):
        self.ui.BookingWidget.setCurrentIndex(4)
    s
```

Solution:



```
def getdate(self):
    date = self.ui.cwCalendar.selectedDate()
    date = date.toPyDate()
    global dateselectd
    dateselectd = True
```

Commentary:

As the variable 'dateselectd' could not be accessed/alterd from other classes, the system was not able to set it to true. In order to fix this, I set it as a global variable making it accessible throughout the program.

Error Message:

```
===== RESTART: C:\Users\Josh\Downloads\Coursework\PY Files\MAIN.py =====
>>> True
<class 'AttributeError'> 'builtin_function_or_method' object has no attribute 'text' <traceback object at 0x000001ABD962CC00>
Traceback (most recent call last):
  File "C:\Users\Josh\Downloads\Coursework\PY Files\MAIN.py", line 70, in getpartysize
    partysize = re.findall(r'\d+', self.ui.lwSize.currentItem.text())
AttributeError: 'builtin_function_or_method' object has no attribute 'text'

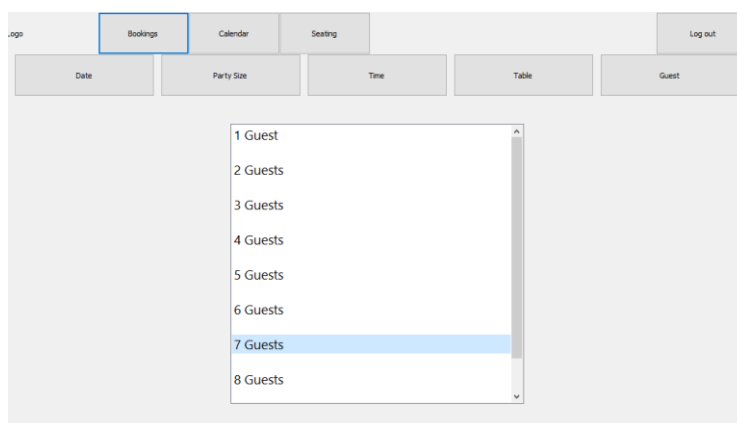
===== RESTART: Shell =====
>>>
===== RESTART: C:\Users\Josh\Downloads\Coursework\PY Files\MAIN.py =====
>>> True
<class 'AttributeError'> 'builtin_function_or_method' object has no attribute 'text' <traceback object at 0x000001D3C03574C0>
Traceback (most recent call last):
  File "C:\Users\Josh\Downloads\Coursework\PY Files\MAIN.py", line 70, in getpartysize
    partysize = self.ui.lwSize.currentItem.text()
AttributeError: 'builtin_function_or_method' object has no attribute 'text'

===== RESTART: Shell =====
>>>
```

Code:

```
def getpartysize(self):
    partysize = self.ui.lwSize.currentItem.text()
    partysize = re.findall(r'\d+', self.ui.lwSize.currentItem.text())
    print(partysize)
```

Solution:



```
def getpartysize(self):
    row = self.ui.lwSize.currentRow()
    partysize = self.ui.lwSize.item(row).text()
    partysize = int(re.search(r'\d+', partysize).group())
    print(partysize)
```

1

Commentary:

As you cannot use the currentItem.text on a list widget, I had to obtain the index of the selected item. Then I had to get the text of the item with the index obtained. Then I got the numerical value of the text, which is the number of guests.

Error Message:

```
<class 'TypeError'> minimumDate(self): too many arguments <traceback object at 0
x00000232B42A7A40>
Traceback (most recent call last):
  File "C:\Users\Josh\AppData\Local\Programs\Python\Python39\lib\idlelib\run.py",
, line 566, in runcode
    exec(code, self.locals)
  File "C:\Users\Josh\Downloads\Coursework\PY Files\MAIN.py", line 399, in <modu
le>
    dateselectionwindow = DateSelection()
  File "C:\Users\Josh\Downloads\Coursework\PY Files\MAIN.py", line 60, in __init
__
    self.ui.cwCalendar.minimumDate(date.today())
TypeError: minimumDate(self): too many arguments
Traceback (most recent call last):
  File "C:\Users\Josh\Downloads\Coursework\PY Files\MAIN.py", line 399, in <modu
le>
    dateselectionwindow = DateSelection()
  File "C:\Users\Josh\Downloads\Coursework\PY Files\MAIN.py", line 60, in __init
__
    self.ui.cwCalendar.minimumDate(date.today())
TypeError: minimumDate(self): too many arguments

During handling of the above exception, another exception occurred:

Traceback (most recent call last):
  File "C:\Users\Josh\Downloads\Coursework\PY Files\MAIN.py", line 392, in excep
tion_hook
    sys.exit(1)
SystemExit: 1
>>>
```

Code:

```
class DateSelection(QDialog):
    def __init__(self):
        super(QDialog, self).__init__()
        self.ui = Ui_Date()
        self.ui.setupUi(self)
        self.ui.cwCalendar.clicked.connect(self.getdate)
        self.ui.cwCalendar.clicked.connect(self.enablesizebutton)
        self.ui.cwCalendar.minimumDate(date.today())
```

Solution:

```
def __init__(self):
    super(QDialog, self).__init__()
    self.ui = Ui_Date()
    self.ui.setupUi(self)
    self.ui.cwCalendar.clicked.connect(self.getdate)
    self.ui.cwCalendar.clicked.connect(self.enablesizebutton)
    self.setminimumdate()

def setminimumdate(self):
    today = date.today()
    self.ui.cwCalendar.setMinimumDate(today)
    self.ui.cwCalendar.setSelectedDate(today)

def enablesizebutton(self):
    exec("bookingwindow.ui.pbSize.setEnabled(True)")

def getdate(self):
    date = self.ui.cwCalendar.selectedDate()
    date = date.toPyDate()
    return date
```

#####

Commentary:

As using date.today() as an argument causes the minimumDate feature to output an error saying there are too many arguments, I created a separate function which will store the value of the current date in a variable. Then, the system will execute the minimumDate features, etc. using the variable instead of the function.

Error Message:

```
<class 'NameError'> name 'Ui_ManagementScreen' is not defined <traceback object
at 0x000001B00F11C5C0>
Traceback (most recent call last):
  File "C:\Users\Josh\AppData\Local\Programs\Python\Python39\lib\idlelib\run.py",
    line 566, in runcode
    exec(code, self.locals)
  File "C:\Users\Josh\Downloads\OneDrive_2022-10-03\Coursework (1)\21\PY Files\M
AIN.py", line 545, in <module>
    managementwindow = ManagementScreen()
  File "C:\Users\Josh\Downloads\OneDrive_2022-10-03\Coursework (1)\21\PY Files\M
AIN.py", line 75, in __init__
    self.ui = Ui_ManagementScreen()
NameError: name 'Ui_ManagementScreen' is not defined
Traceback (most recent call last):
  File "C:\Users\Josh\Downloads\OneDrive_2022-10-03\Coursework (1)\21\PY Files\M
AIN.py", line 545, in <module>
    managementwindow = ManagementScreen()
  File "C:\Users\Josh\Downloads\OneDrive_2022-10-03\Coursework (1)\21\PY Files\M
AIN.py", line 75, in __init__
    self.ui = Ui_ManagementScreen()
NameError: name 'Ui_ManagementScreen' is not defined

During handling of the above exception, another exception occurred:

Traceback (most recent call last):
  File "C:\Users\Josh\Downloads\OneDrive_2022-10-03\Coursework (1)\21\PY Files\M
AIN.py", line 536, in exception_hook
    sys.exit(1)
SystemExit: 1
>>>
```

Code:

```
#####
class ManagementScreen(QDialog):
    def __init__(self):
        super(QDialog, self).__init__()
        self.ui = Ui_ManagementScreen()
        self.ui.setupUi(self)
        self.ui.pbEditMenu.clicked.connect(self.editmenu_clicked)

    def editmenu_clicked(self):
        Mainwindow.ui.DisplayWidget.setCurrentIndex(5)
```

Solution:

```
class ManagementScreen(QDialog):
    def __init__(self):
        super(QDialog, self).__init__()
        self.ui = Ui_Management()
        self.ui.setupUi(self)
,
```

Commentary:

This error was caused during the initialisation as the UI was incorrectly stated. This caused the system to not be able to find the correct UI. This was fixed by correctly stating the UI.

Bookings

Calendar

Seating

Management

Log out

Table 3

Total: £39.94

Item Name	Quantity	Price
1 Onion Rings	1	£ 5.99
2 Calamari	3	£ 20.97
3 Lentil Soup	1	£ 5.99
4 Olives	1	£ 6.99
5 Calamari	3	£ 20.97
6 Calamari	3	£ 20.97

Starters

Mains

Desserts

Drinks

Confirm

Print Bill

Exit

Close Table

```
def getordereditems(self):
    cnxn = pyodbc.connect(cs)
    cursor = cnxn.cursor()
    query = f"SELECT MenuItems.ItemName, MenuItems.Price FROM MenuItems INNER JOIN TableOrder ON MenuItems.OrderID = TableOrder.ItemID"
    cursor.execute(query)
    items = cursor.fetchall()
    cnxn.close()
    return items
```

```
def getordereditems(self):
    cnxn = pyodbc.connect(cs)
    cursor = cnxn.cursor()
    query = f"SELECT DISTINCT MenuItems.ItemName, MenuItems.Price FROM MenuItems INNER JOIN Tab"
    cursor.execute(query)
    items = cursor.fetchall()
    cnxn.close()
    return items
```

This logical error outputs duplicates of items that were repeatedly ordered for a table while also increasing the quantity field. However, I fixed this issue by using the 'distinct' feature on SQL which allows users to select unique fields. This caused my program to remove the duplicates while only increasing the quantity.

Error Message:

BookingsCalendarSeatingManagementLog out

Table 3

Exit

Total: £39.94

	Item Name	Quantity	Price
1	Calamari	3	£ 20.97
2	Lentil Soup	1	£ 5.99
3	Olives	1	£ 6.99
4	Onion Rings	1	£ 5.99

StartersMains

DessertsDrinks

ConfirmPrint Bill

Calamari

Lentil Soup

Roasted Stuffed Mushrooms

Sweet Fried Saganaki

Onion Rings

Olives

Buttered Tiger Prawns

Hummus

Close Table

Code:

```
def printitembuttons(self,category,window):
    try:
        self.hideitembuttons(category,window)
    except:
        pass
    numofitems = orderwindow.numofitemsincategory(category)
    menuitems = orderwindow.getmenuitems(category)
    xcoordinate = 20
    for i in range (1,numofitems+1):
        exec("["+str(i)+"].pushButton(0) = QtWidgets.QPushButton('{}').format(i,window)".format(i,window))
        exec("["+str(i)+"].pushButton(0).setGeometry(QtCore.QRect({},{}, 151, 51))".format(i,xcoordinate,window))
        exec("["+str(i)+"].pushButton(0).setEnabled(True)".format(i,window))
        exec("["+str(i)+"].pushButton(0).setText('{}').format(i,menuitems[i-1][0],window))
        exec("["+str(i)+"].pushButton(0).setIconSize(QtCore.QSize(9, 8))".format(i,window))
        exec("["+str(i)+"].pushButton(0).setObjectName('Button[{}]').format(i,window))
        exec("["+str(i)+"].pushButton(0).clicked.connect(lambda: orderwindow.addToorderlist(str('{}'))".format(i,menuitems[i-1][0],window))
        exec("["+str(i)+"].pushButton(0).show()".format(i,window))
        xcoordinate += 151
```

Solution:

BookingsCalendarSeatingManagementLog out

Table 3

Exit

Total: £39.94

	Item Name	Quantity	Price
1	Calamari	3	£ 20.97
2	Lentil Soup	1	£ 5.99
3	Olives	1	£ 6.99
4	Onion Rings	1	£ 5.99

StartersMains

DessertsDrinks

ConfirmPrint Bill

Calamari

Lentil Soup

Roasted Stuffed Mushrooms

Sweet Fried Saganaki

Onion Rings

Olives

Buttered Tiger Prawns

Hummus

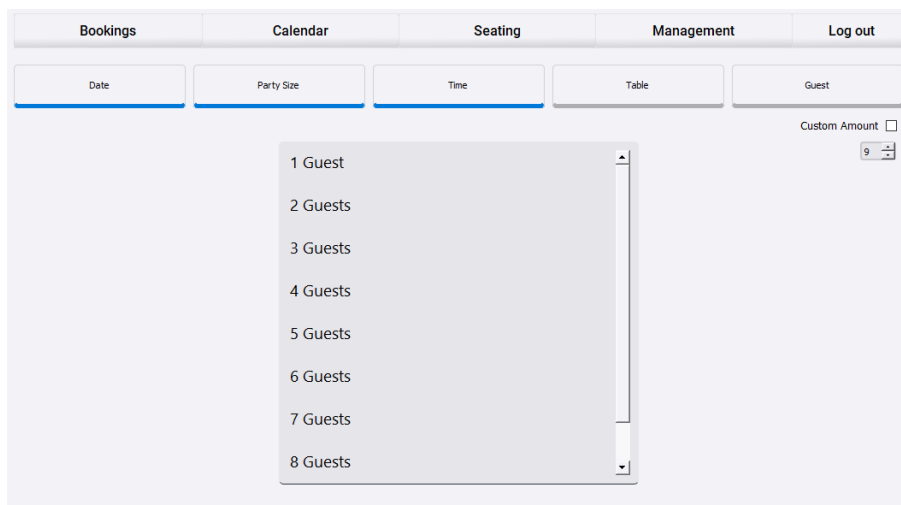
Close Table

```
def printitembuttons(self,category,window):
    try:
        self.hideitembuttons(category,window)
    except:
        pass
    numofitems = orderwindow.numofitemsincategory(category)
    menuitems = orderwindow.getmenuitems(category)
    xcoordinate = 20
    for i in range (1,numofitems+1):
        if i%4 == 1:
            xcoordinate = 20
            y = 0 + 51*((i-1)//4)
            exec("["+str(i)+"].pushButton(0) = QtWidgets.QPushButton('{}').format(i,window)".format(i,window))
            exec("["+str(i)+"].pushButton(0).setGeometry(QtCore.QRect({},{}, 151, 51))".format(i,xcoordinate,window,y))
            exec("["+str(i)+"].pushButton(0).setEnabled(True)".format(i,window))
            exec("["+str(i)+"].pushButton(0).setText('{}').format(i,menuitems[i-1][0],window))
            exec("["+str(i)+"].pushButton(0).setIconSize(QtCore.QSize(9, 8))".format(i,window))
            exec("["+str(i)+"].pushButton(0).setObjectName('Button[{}]').format(i,window))
            exec("["+str(i)+"].pushButton(0).clicked.connect(lambda: orderwindow.addToorderlist(str('{}'))".format(i,menuitems[i-1][0],window))
            exec("["+str(i)+"].pushButton(0).show()".format(i,window))
            xcoordinate += 151
```

Commentary:

As a row only has only space for 4 buttons, I used to modulus function to determine the starting position and divided I (counter in loop) by 4 to gain the y coordinate.

Error Message:



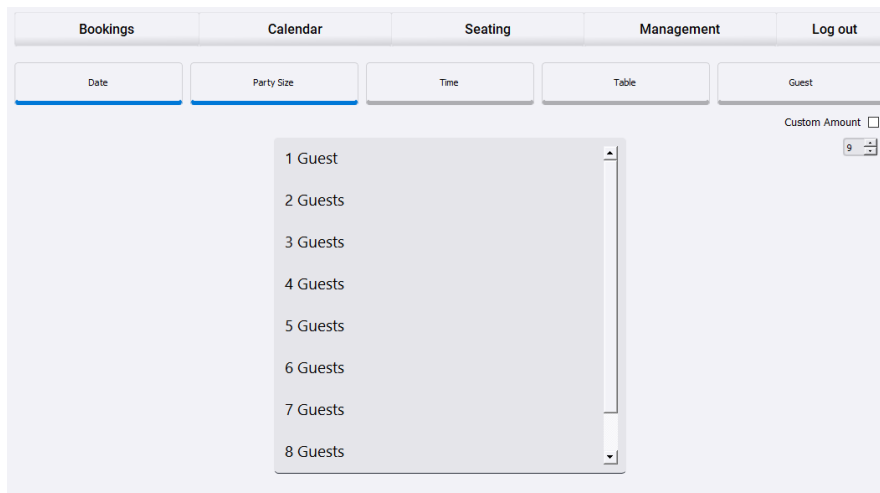
Code:

```
class PartySizeSelection(QDialog):
    def __init__(self):
        super(QDialog, self).__init__()
        self.ui = Ui_PartySize()
        self.ui.setupUi(self)
        self.ui.lwSize.itemClicked.connect(self.enabletimebutton)
        self.ui.cbCustom.stateChanged.connect(self.checkstate)

    def enabletimebutton(self):
        tableselectionwindow.cleartables()
        exec("bookingwindow.ui.pbTime.setEnabled(True)")

    def checkstate(self):
        if self.ui.cbCustom.isChecked():
            self.enabletimebutton()
```

Solution:



```
class PartySizeSelection(QDialog):
    def __init__(self):
        super(QDialog, self).__init__()
        self.ui = Ui_PartySize()
        self.ui.setupUi(self)
        self.ui.lwSize.itemClicked.connect(self.enabletimebutton)
        self.ui.cbCustom.stateChanged.connect(self.checkstate)

    def enabletimebutton(self):
        tableselectionwindow.cleartables()
        exec("bookingwindow.ui.pbTime.setEnabled(True)")

    def checkstate(self):
        if self.ui.cbCustom.isChecked():
            self.enabletimebutton()
        else:
            if self.ui.lwSize.currentRow() == -1:
                exec("bookingwindow.ui.pbTime.setEnabled(False)")
```

Commentary:

The problem arose as once I selected the custom guest amount and deselected it, it allowed the user to proceed to the time selection without selecting a guest amount in the list widget. In order to fix this, I made a function that would run every time the checkbox is clicked. When the checkbox is clicked, it will determine whether it is selected or deselected. If it is deselected and the user has not selected a guest amount in the list widget, the time button will be disabled.

Error Message:

```
>>> 2022-08-09 4 13:00 2 2 khjk hjkhjk hjkhjk 1.0 1.0
<class 'pyodbc.ProgrammingError'> ('42S22', "[42S22] [Microsoft][ODBC SQL Server Driver][SQL Server]Invalid column name
QL Server Driver][SQL Server]Invalid column name 'hjkhjk'. (207)") <traceback object at 0x0000019514793500>
Traceback (most recent call last):
  File "C:\Users\Josh\Downloads\Coursework\PY Files\MAIN.py", line 91, in createbooking
    cursor.execute(customerquery)
pyodbc.ProgrammingError: ('42S22', "[42S22] [Microsoft][ODBC SQL Server Driver][SQL Server]Invalid column name 'khjk'. (
Driver)[SQL Server]Invalid column name 'hjkhjk'. (207)")
```

Code:

```
def createbooking(self):
    date = dateselectionwindow.getdate()
    partysize = partyselectionwindow.getpartysize()
    bookingtime = timeselectionwindow.gettime()
    customerid = self.getcustomerid()
    reservationid = self.getreservationid()
    firstname = self.ui.leFName.text()
    lastname = self.ui.leLName.text()
    email = (self.ui.leEmail.text()).lower()
    accountid = loginpage.accountid
    tables = tableselectionwindow.selectedtables

    customerquery = "INSERT INTO Customer (Customer.CustomerID, Customer.FirstName, Customer.LastName, Customer.EmailAddress) VALUES ({0},{1},{2},{3});".format(customerid,firstname,lastname,email)
```

Solution:

```
VALUES ({0},' {1}', ' {2}', ' {3}');".format(customerid,firstname,lastname,email)
```

Commentary:

As the data being entered into the database was of string/varchar format, SQL could not interpret this as there was no identification that the values were string. This caused the error to occur. In order to fix this error, I put apostrophes which open and close the string values that are going to inputted.

Testing

Use the testing table to fully test your system. You MUST include a wide range of tests, this includes valid, invalid, extreme and erroneous data. Every test that fails must have some commentary explaining how you will fix it.

Login Page

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Function of keypad buttons	Valid	1433	1433 will be registered as an input	1433 was registered as an input	Login	0:00
Function of clear button on keypad	Valid	'Clear' Push Button	The input entered by the user will clear	The input entered by the user was cleared	Login	0:05
Function of Confirm Button	Valid	'Confirm' Push Button	The system will either give or deny access to the system	If the system denies access, an error message will appear. But if given access, the user can proceed.	Login	0:04
Input correct passcode (registered passcode)	Valid	123	The system will give access and the main page will appear, while closing the login page.	The main page appeared, while closing the login page.	Login	0:35
Input incorrect passcode (unregistered passcode)	Invalid	1433	The system will output error message 'Incorrect Passcode Entered'	An error message saying 'Incorrect Passcode Entered' appeared	Login	0:00
Input passcode exceeding maximum length (6 digits)	Invalid	1234567	The system will output error message 'Please enter a valid passcode'	An error message saying 'Please enter a valid passcode' appeared	Login	0:14

Input passcode left blank	Invalid	''	The system will output error message 'Please enter a valid passcode'	The system will output error message 'Please enter a valid passcode'	Login	0:22
Input passcode with length 6 digits	Extreme	123456	The system will either give or deny access to the system depending on if passcode is registered	If the system denies access, an error message will appear. But if given access, the user can proceed.	Login	0:28
Input passcode with length 3 digits	Extreme	123	The system will either give or deny access to the system depending on if passcode is registered	If the system denies access, an error message will appear. But if given access, the user can proceed.	Login	0:35

Main Window

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Function of Taskbar buttons	Valid	'Bookings' Push Button	The window will switch to the Booking main page	The window has switched its screen to the Booking Main Page	Main Window	0:04
	Valid	'Calendar' Push Button	The window will switch to the Calendar page	The window has switched its screen to the Calendar page where staff can view bookings	Main Window	0:00
	Valid	'Seating' Push Button	The window will switch to the Customer Seating Page	The window has switched its screen to the Seating page where staff can	Main Window	0:01

				make orders for customers		
	Valid	'Management' Push Button	The window will switch to the Management Page	The window has switched to the management page where managers can make alterations to the system	Main Window	0:02
	Valid	'Log Out' Push Button	The Main window should close and open the Log in Window	The Main window closed, and the Log in Window has opened	Main Window	0:05
Different Access Levels on Management Button	Valid	User has logged in as a manager	The 'Management' Push Button should be enabled and able to press	The 'Management' Push Button is enabled and able to use	Main Window	0:02
	Invalid	User has not logged in as a manager	The 'Management' Push Button should be disabled and not able to press	The 'Management' Push Button is disabled, and the user cannot press it	Main Window	0:06

Bookings Page/Subpages

Date Selection

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Function to select date	Valid	User clicks the date '11/03/2023' on the calendar	The calendar will highlight the selected date and register that as the user's input	The calendar has highlighted the selected date '11/02/2023' and	Date Selection	0:00

				registered that as the user's input		
	Valid	User clicks the date '11/03/2023' on the calendar	The 'Party Size' Push Button in the taskbar should be enabled	As '11/02/2023' is a valid input, the 'Party Size' Push Button is now enabled which allows the user to proceed to select the party size	Date Selection	0:00
	Invalid	User clicks a date in the past on the calendar	The calendar will not allow a date in the past to be selected	The calendar did not allow the date in the past to be selected, therefore not registering it as an input	Date Selection	0:06
	Valid	User tries to press the button on the Calendar to forward one month	The calendar will move forward one month	The calendar moved forward one month	Date Selection	0:10
	Invalid	User tries to select a date one year in advance on the calendar	The calendar will not allow the date one year in the future to be selected	The calendar will not allow the user to select a date one year in advance, therefore not registering it as an input	Date Selection	0:12
	Extreme	User selects date that it one day before exceeding one year in advance on the calendar	The calendar will allow the date to be selected	The calendar selected the date and registered it as an input	Date Selection	0:17

Party Size Selection

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Function to select Party Size	Valid	User selects the party size by selecting it in the List Widget	The List Widget will highlight the selected party size	The List Widget highlighted party size, therefore registering it as an input	Party Size Selection	0:19
	Valid	User selects the party size by selecting it in the List Widget	The 'Time' Push Button in the taskbar should be enabled	The 'Time' Push Button is now enabled, as the input is valid, which allows the user to proceed to select the Time for the reservation	Party Size Selection	0:19
Function of 'Custom Amount' Checkbox when selecting Party Size	Valid	User clicks the 'Custom Amount' Checkbox	The checkbox will either deselect or select	The checkbox has either deselected or selected, depending on the previous state	Party Size Selection	0:00
	Valid	User clicks the 'Custom Amount' Checkbox	The 'Time' Push Button in the taskbar should be enabled	The 'Time' Push Button is now enabled which allows the user to proceed to select the Time for the reservation	Party Size Selection	0:00
	Invalid	User selects then deselects the checkbox without selecting a party	The 'Time' Push Button in the taskbar will be disabled	The 'Time' Push Button is disabled as no input has been registered	Party Size Selection	0:02

		size in the List Widget				
Function of 'Custom Amount' Spin Box	Invalid	User tries to select a value less than 9 on the Spin Box	The Spin Box will not allow the value to go below 9	The Spin Box did not allow the value to go below 9, as the List widget is used to select values 1 to 8	Party Size Selection	0:13
	Invalid	User tries to select a value more than 20 on the Spin Box	The Spin Box will not allow the value to go above 20	The Spin Box did not allow the value to go above 20, as the maximum party size is 20 guests	Party Size Selection	0:05
	Extreme	User tries to select value 20	The system will register this as a valid input and enable 'Time' Push Button	As the input is valid (on the limit), the system will accept this input and enable the 'Time' Push Button	Party Size Selection	0:10
	Extreme	User tries to select value 9	The system will register this as a valid input and enable 'Time' Push Button	As the input is valid (on the limit), the system will accept this input and enable the 'Time' Push Button	Party Size Selection	0:16

Time Selection

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Function to select Reservation Time	Valid	User selects the time by selecting it in the List Widget	The List Widget will highlight the selected Reservation Time	The List Widget highlighted Reservation Time,	Time Selection	0:00

				therefore registering it as the user's input		
	Valid	User selects the time by selecting it in the List Widget	The 'Table' Push Button in the taskbar should be enabled	The 'Table' Push Button is now enabled, which allows the user to proceed to select the Table(s) for the reservation	Time Selection	0:00

Table Selection

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Function to assign correct table images	Valid	'Table' Push Button is selected in the taskbar	Each group of tables (2, 4, 5, 8 seats) will be assigned a unique, identifiable image	Each group of tables were assigned images depending on their capacity	Table Selection	0:00
Function to Disable Unavailable tables	Valid	'Table' Push Button is selected in the taskbar	All tables within 2 hours of the selected time will be disabled	All tables within 2 hours of the selected time are disabled to avoid double bookings, etc.	Table Selection	0:00
	Invalid	User tries to select a table that is disabled	The system will not register this input	As the button is disabled, the system did not recognise this input, and therefore did not register this input	Table Selection	0:07

Function to select tables	Valid	User selects a table that corresponds to the party size that they have previously selected	The system will recognise this as the selected table(s)	The system stored the TableID of the selected table	Table Selection	0:00
	Valid	User selects a table that corresponds to the party size that they have previously selected	The image of the selected table will change to a darkened version of the image to highlight the selected table(s)	The image of the selected table darkened to highlight that as selected	Table Selection	0:00
	Valid	User selects a table that corresponds to the party size that they have previously selected	The 'Guest' Push Button in the taskbar should be enabled	The 'Guest' Push Button is now enabled, which means the user can now input the Customers Details	Table Selection	0:00
	Invalid	User tries to select a table with less capacity than the party size (selected party size is <6) that was previously selected	The table will not be selected, and the system will disregard this input	The input was not registered	Table Selection	0:12
	Valid	User tries to select multiple tables with less capacity than the party size (selected party size is >6) that was previously selected	The system will allow the user to select multiple tables until the sum of the capacity of the tables is similar to the party size of the reservation	The system stored the TableIDs of the multiple tables that have been selected	Table Selection	0:30

	Invalid	User tries to select a table where its capacity is much higher than the selected party size	The system will not allow the table to be selected	The system will not select the table and will disregard this input	Table Selection	0:14
	Extreme	User tries to select a table where its capacity is higher, but similar to the selected party size (e.g. party size 6 and table capacity 8)	The system will view this input as valid and allow the table to be selected	The system stores the TableID of the table(s)	Table Selection	0:34
	Valid	After selecting a table, user goes back and alters the party size, time or date	The system will deselect all of the tables so that the user has to reselect the wanted tables again	The system deselected all tables to make user reselect the tables	Table Selection	0:20

Guest Details

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Reservation Details	Valid		Reservation details obtained previously will appear	Reservation details obtained previously appeared	Guest Details	0:00
First Name Validation	Valid	'Joshua'	System will allow this input and proceed booking	The system has proceeded with booking	Guest Details	2:01
	Invalid	'9878'	Output error message 'Please	Outputted error message 'Please	Guest Details	0:10

			enter a valid first name'	enter a valid first name'		
	Erroneous	'😊😘♥'	Output error message 'No Special Characters allowed'	Outputted error message 'No Special Characters allowed'	Guest Details	0:24
	Invalid	' '	Output Error message 'Please enter the First Name'	Outputted Error message 'Please enter the First Name'	Guest Details	0:34
	Invalid	'jihdfjkhsdjkhfsd ... asdf' (over 64 characters)	Output Error Message 'First Name exceeded maximum character length'	Outputted Error Message 'First Name exceeded maximum character length'	Guest Details	0:54
		'dfasdasda... dasd' (64 characters)	System will allow this input and proceed booking	The system has proceeded with booking	Guest Details	1:12
	Extreme	"Ka'May"	System will allow this input and proceed booking	The system has proceeded with booking	Guest Details	1:29
Last Name Validation	Valid	'Heffernan'	System will allow this input and proceed booking	The system has proceeded with booking	Guest Details	2:01
	Invalid	'9832734'	Output error message 'Please enter a valid last name'	Outputted error message 'Please enter a valid last name'	Guest Details	0:10
	Erroneous	'😊@@@♥'	Output error message 'No Special Characters allowed'	Outputted error message 'No Special Characters allowed'	Guest Details	0:24

	Invalid	‘ ‘	Output Error message ‘Please enter the Last Name’	Outputted Error message ‘Please enter the Last Name’	Guest Details	0:34
	Invalid	‘dfasdasda... dasd’ (over 64 characters)	Output Error Message ‘Last Name exceeded maximum character length’	Outputted Error Message ‘Last Name exceeded maximum character length’	Guest Details	0:54
		‘dfasdasda... dasd’ (64 characters)	System will allow this input and proceed booking	The system has proceeded with booking	Guest Details	1:12
	Extreme	“O’Neil”	System will allow this input and proceed booking	The system has proceeded with booking	Guest Details	1:29
Email Address Validation	Valid	‘joshheff@collyers.ac.uk’	System will allow this input and proceed booking	The system has proceeded with booking, storing this as the customer’s email	Guest Details	2:01
	Invalid	‘joshheffcollyers.ac.uk’	Output error message ‘Incorrect Email Address Format Entered’	Outputted error message ‘Incorrect Email Address Format Entered’	Guest Details	0:10
	Invalid	‘joshheff@collyers’	Output error message ‘Incorrect Email Address Format Entered’	Outputted error message ‘Incorrect Email Address Format Entered’	Guest Details	0:34
	Invalid	‘@collyers.ac.uk’	Output error message ‘Incorrect Email Address Format Entered’	Outputted error message ‘Incorrect Email Address Format Entered’	Guest Details	0:54

	Invalid	'joshheff@.ac.uk'	Output error message 'Incorrect Email Address Format Entered'	Outputted error message 'Incorrect Email Address Format Entered'	Guest Details	1:12
	Erroneous	'😊@@@♥'	Output error message 'Incorrect Email Address Format Entered'	Outputted error message 'Incorrect Email Address Format Entered'	Guest Details	1:29
	Invalid	' '	Output Error Message 'Please enter an Email Address'	Outputted Error Message 'Please enter an Email Address'	Guest Details	0:38
	Invalid	'joshheff@@collyers.ac.uk'	Output error message 'Incorrect Email Address Format Entered'	Outputted error message 'Incorrect Email Address Format Entered'	Guest Details	1:37
	Invalid	'joshheff@collyers..ac.uk'	Output error message 'Incorrect Email Address Format Entered'	Outputted error message 'Incorrect Email Address Format Entered'	Guest Details	1:42
Function to Create Booking	Valid	'Joshua' 'Heffernan' 'joshheff@collyers.ac.uk'	Booking Confirmation Screen will appear	Booking Confirmation Screen appeared	Guest Details	2:01

Calendar Page

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Function to Select Date	Valid	Select date '10/12/2022' in the calendar widget	All reservations, if any, will be outputted into the table beside the calendar	The reservations for December 10 th were outputted into the table	Calendar Page	0:00

	Valid	Select date in the past in the calendar widget	All reservations, if any, will be outputted into the table beside the calendar	The reservations for the selected date were outputted into the table	Calendar Page	0:03
	Invalid	User tries to select date more than one year into the future	The system will not allow the user to select a date one year into the future	The system did not allow the user to select the date, therefore disregarding the input	Calendar Page	0:11
	Extreme	User tries to select date one day before one year into the future	All reservations, if any, will be outputted into the table beside the calendar	The reservations for the selected date were outputted into the table	Calendar Page	0:18
	Valid	User tries to press the button on the Calendar to forward/backward one month	The calendar will move forward/backward one month	The calendar moved forward/backward one month	Calendar Page	0:24

Seating Page

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Function to Display Active Tables	Valid	'Seating' Push Button in taskbar is pushed	All tables that are currently in use will have colour, while the others will be grey.	The tables currently in use have colour, while the inactive ones are grey	Seating Page	0:00
Function to Select Table	Valid	Select any Push Button	The order screen will appear	The order screen appeared, passing	Seating Page	0:04

		representing a table		the TableID of the selected table		
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Order Window

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Toggle between Menu Categories	Valid	Press either Push Button 'Starters', 'Mains', 'Desserts', 'Drinks'	The screen will display the menu items depending on the category the user has chosen	The screen displayed the menu items of the category the user has chosen	Order Window	0:00
Exit Order Screen	Valid	'Exit' Push Button is pressed	The screen will return to the Seating Page	The screen returned to the Seating Page	Order Window	0:09
Close Table	Valid	'Close Table' Push Button is pressed	The screen will return to the Seating Page and set the previously selected table to 'inactive'	The screen returned to the Seating Page and previously selected table is colour grey	Order Window	0:13
Total Price	Valid	Select any Push Button representing a table in the Seating Page	The total amount due for the table is displayed in the corner	The Amount due for the table is displayed in the corner	Order Window	0:12
Function to make orders	Valid	Any Push Button representing a menu item is clicked	The selected menu item will be added onto the table as a new row	The selected menu item is added onto the table as a new row	Order Window	0:05
	Valid	'Confirm' Push Button is clicked	All new orders will be confirmed, and any duplicates of menu items will combine	All new orders are confirmed, and all duplicates of menu items were	Order Window	0:07

			and increment the quantity column	combined and while incrementing the quantity column		
	Valid	User double clicks any menu item on the table widget, that has been ordered	A new window will appear which will allow the user to enter the quantity of the item	A new window appeared which allows the user to enter the quantity of the item	Change Quantity Window	0:00

Change Quantity Window

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Cancel Change Quantity	Valid	'Cancel' Push Button is clicked	The window will close, and the screen will return to the order screen	The change quantity window closed and returned to the order screen	Change Quantity Window	0:04
Function to Change Quantity of Ordered Item	Valid	User selects a valid quantity in the spin box between 0 and 30 inclusive	The system will allow the user to use these values	The system registered the input as valid	Change Quantity Window	0:11
	Invalid	User tries to select value less than 0 in the spin box	The Spin Box will not allow the user to select a value below 0	The Spin Box did not allow the user to select a value below 0	Change Quantity Window	0:24
	Invalid	User tries to select value greater than 30 in the spin box	The Spin Box will not allow the user to select a value above 30	The Spin Box will not allow the user to select a value above 30	Change Quantity Window	0:15
	Valid	'Change Quantity' Push Button is clicked	As the Spin Box only allows valid inputs, the system will close the change quantity page	The system closed the change quantity page and returned to the order screen. A	Change Quantity Window	0:30

			and return to the order screen.	SQL query is run which updates the quantity of the ordered item		
	Extreme	User tries to select value 0 in the spin box	The system will allow the user to use these values	The system registered the input as valid	Change Quantity Window	0:26
	Extreme	User tries to select value 30 in the spin box	The system will allow the user to use these values	The system registered the input as valid	Change Quantity Window	0:18

Management Page

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Add Item	Valid	Add Item Button is clicked	The screen will show the Add Item screen	The Add item Screen appeared	Menu Management Window	0:00
Remove Item	Valid	Remove Item Button is clicked	The screen will show the Remove Item screen	The Remove Item Screen has showed	Menu Management Window	0:03
Alter item	Valid	Alter Item Button is clicked	The screen will show the Alter Item screen	The Alter Item Screen has showed	Menu Management Window	0:07

Add Item Window

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Exit Add Item Screen	Valid	Back Button is clicked	Screen will return to the management screen	Screen has returned to the management screen	Menu Management Window	0:01
Item Name Validation	Valid	'Olives'	System will allow this input and proceed adding the menu item	The system has proceeded with	Add Item Window	0:46

				adding the menu item		
	Erroneous	'😊😞❤'	Output error message 'No Special Characters allowed'	Outputted error message 'No Special Characters allowed'	Add Item Window	0:03
	Invalid	' '	Output Error message 'Please enter the Item Name'	Outputted Error message 'Please enter the Item Name'	Add Item Window	0:09
	Invalid	'dsfdfsfsdg ... fdsaf' (over 64 characters)	Output Error Message 'Item Name exceeded maximum character length'	Outputted Error Message 'Item Name exceeded maximum character length'	Add Item Window	0:16
	Extreme	'Emilious... san' (64 Characters)	System will allow this input and proceed adding the menu item	The system has proceeded with adding the menu item	Add Item Window	0:46
Category Validation	Valid	User has selected either 'Starter', 'Main', 'Dessert', or 'Drink' in the Combo Box	System will allow this input and proceed adding the menu item	System will allow this input and proceed adding the menu item	Add Item Window	0:09
	Invalid	The user has left the Combo Box in the default selection ("Category:")	Output Error message 'Please select the Item Category'	Outputted Error message 'Please select the Item Category'	Add Item Window	0:03
Item Price Validation	Valid	User has inputted a valid price	System will allow this input and proceed adding the menu item	The system has proceeded with adding the menu item	Add Item Window	0:03

	Invalid	User has tried to input a value below £0	The Spin Box will prevent the user from selecting a value below 0	The Spin Box prevented the user from selecting a value below 0	Add Item Window	0:32
	Invalid	User has tried to input a value above £250	The Spin Box will prevent the user from selecting a value above 250	The Spin Box prevented the user from selecting a value above 250	Add Item Window	0:24
	Extreme	User has tried to input value £0	System will allow this input and proceed adding the menu item	The system has proceeded with adding the menu item	Add Item Window	0:46
	Extreme	User has tried to input value £250	System will allow this input and proceed adding the menu item	The system has proceeded with adding the menu item	Add Item Window	0:28
Function to Add Menu Item	Valid	Confirm Button is clicked	A confirmation Window will appear with all of the item details	A confirmation Window appeared with all of the item details	Add Item Window	0:46
	Valid	Cancel Button is clicked on the confirmation screen	The confirmation screen will close and return to the add item screen	The Confirmation screen has closed, and the screen has returned to the Add item screen	Add Item Window	0:49
	Valid	Confirm Button is clicked on the Confirmation Screen	The confirmation screen will close and return to the Management Page	The menu item has been added to the system. The confirmation window has closed, and the screen has returned to the Management Page	Add Item Window	0:54

Remove Item Window

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Exit Remove Item Screen	Valid	Back Button is clicked	Screen will return to the management screen	Screen has returned to the management screen	Menu Management Window	0:04
Function to Remove Menu Items	Valid	Menu Item in the table is clicked	The table will highlight the selected menu item	The Menu item is highlighted	Remove Item Window	0:02
	Invalid	User has pressed Remove without selecting a Menu item in the table	Output Error Message 'Please select an item to remove'	Outputted Error Message 'Please select an item to remove'	Remove Item Window	0:00
	Valid	User has pressed Remove	Confirmation window will appear asking the user if they want to remove the selected item	The confirmation window has appeared confirms with the user on their decision	Remove Item Window	0:03
	Valid	Cancel Button is clicked on the Confirmation Screen	The Confirmation window will close, and the Remove Item page will appear	The Confirmation window has closed, and the Remove Item Window has appeared	Remove Item Window	0:05
	Valid	Remove Item Button is clicked	The Confirmation window will close and return to the	The confirmation window has closed, and the system has	Remove Item Window	0:10

			Management page. The system will remove the selected Menu item from the system.	returned to the Management Screen. The system has removed the selected item from the database.		
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Alter Item Window

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Exit Alter Item Screen	Valid	Back Button is clicked	Screen will return to the management screen	Screen has returned to the management screen	Menu Management Window	0:08
Function to Alter Menu Item	Valid	Menu Item in the table is double clicked	A window will appear to allow the user to make alterations to the Menu Item	Window appeared which allows the user to make alterations	Alter Item Window	0:01
Function to pre- fill Menu Item Inputs	Valid	Menu Item in the table is double clicked	In the window that will appear, the system will auto-fill the input fields with the information of the menu item that was double clicked	The input field in the window are auto filled with the menu item that was double clicked	Alter Item Window	0:02
Function to make alterations to Menu Item (Item Name Validation)	Erroneous	'😊💩❤'	Output error message 'No Special Characters allowed'	Outputted error message 'No Special Characters allowed'	Alter Item Window	0:04
	Invalid	'dsfdsfdsfdg ... fdsaf' (over 64 characters)	Output Error Message 'Item Name exceeded maximum character length'	Outputted Error Message 'Item Name exceeded maximum character length'	Alter Item Window	0:13

	Invalid	‘ ‘	Output Error message ‘Please enter the Item Name’	Outputted Error message ‘Please enter the Item Name’	Alter Item Window	0:07
	Extreme	‘Georig... sagn’ (64 Characters)	System will allow this input and proceed altering the menu item	The system has proceeded with altering the menu item	Alter Item Window	0:43
	Valid	‘Hummus’	System will allow this input and proceed altering the menu item	The system has proceeded with altering the menu item	Alter Item Window	0:43
Category Validation	Valid	User has selected either ‘Starter’, ‘Main’, ‘Dessert’, or ‘Drink’ in the Category Combo Box	System will allow this input and proceed altering the menu item	System will allow this input and proceed altering the menu item	Alter Item Window	0:43
Item Price Validation	Valid	User has inputted a valid price for the menu item	System will allow this input and proceed altering the menu item	The system has proceeded with altering the menu item	Alter Item Window	0:07
	Invalid	User has tried to input a value below £0	The Spin Box will prevent the user from selecting a value below 0	The Spin Box prevented the user from selecting a value below 0	Alter Item Window	0:21
	Extreme	User has tried to input value £0	System will allow this input and proceed altering the menu item	The system has proceeded with altering the menu item	Alter Item Window	0:24
	Invalid	User has tried to input a value above £250	The Spin Box will prevent the user from	The Spin Box prevented the user	Alter Item Window	0:28

			selecting a value above 250	from selecting a value above 250		
	Extreme	User has tried to input value £250	System will allow this input and proceed altering the menu item	The system has proceeded with altering the menu item	Alter Item Window	0:26
Close Confirmation Screen	Valid	Cancel Push Button is clicked	The confirmation window will close and return to the Alter Item Page	The Confirmation window has closed, and the system has returned to the Alter Item Page	Alter Item Window	
Alteration Confirmed	Valid	Alter Item Push Button is clicked	The system will alter the selected item in the database, then the confirmation window will close and return to the Management Page	The system has altered the selected item, the confirmation window then closed and returned to the Management page	Alter Item Window	0:43

Remove Booking Window

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Reservation is Double Clicked	Valid	Reservation in table is double clicked	A confirmation screen will appear which will ask the user to confirm their decision	A confirmation screen appeared	Remove Booking Window	0:04
	Valid	Reservation in table is double clicked	The details of the reservation will appear on the confirmation screen	The reservation details appeared on the confirmation screen	Remove Booking Window	0:04
Confirmation Screen	Valid	'Cancel' Push Button is clicked	The confirmation screen will close and	The Confirmation Screen closed,	Menu Management Window	0:06

			return to the calendar page	leaving the calendar page open		
	Valid	'Remove Booking' Push Button is clicked	The confirmation screen will close and return to the calendar page	The Confirmation Screen closed, leaving the calendar page open	Menu Management Window	0:10
	Valid	'Remove Booking' Push Button is clicked	The system will remove the reservation by running an SQL Query	The system removed the reservation by running an SQL Query, showed by the reservation table	Menu Management Window	0:10

Staff Page

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Function to alter staff details	Valid	'Confirm' Push Button is clicked	The system will update the staff details, while updating the staff details table	The system updated the details and updated the staff details table	Staff Page	0:54
	Invalid	'Confirm' Push Button is clicked without selecting staff record in the table	Output Error Message 'Please Select a User to alter'	Outputted Error Message 'Please Select a User to alter'	Staff Page	0:07
Username (First Name) Validation	Invalid	' '	Output Error Message 'Please Enter First Name'	Outputted Error Message 'Please Enter First Name'	Staff Page	0:12
	Invalid	'9876'	Output Error Message 'No Numbers Allowed'	Outputted Error Message 'No Numbers Allowed'	Staff Page	0:18

	Erroneous	'☺☹♥'	Output Error Message 'No Special Characters Allowed'	Outputted Error Message 'No Special Characters Allowed'	Staff Page	0:27
	Invalid	'dsfdsfdsfdg ... fdsaf' (over 64 characters)	Output Error Message 'Name exceeded maximum character length'	Outputted Error Message 'Name exceeded maximum character length'	Staff Page	0:39
	Extreme	'Emilious... san' (64 Characters)	The system will allow this value to be inputted into the system	The system allowed this value to be inputted into the system	Staff Page	0:54
	Valid	A suitable name has been inputted	The system will allow this value to be inputted into the system	The system allowed this value to be inputted into the system	Staff Page	0:54
Password Validation	Invalid	' '	Output Error Message 'Please Enter a Password'	Outputted Error Message 'Please Enter a Password'	Staff Page	0:18
	Invalid	'1234567'	Output Error Message 'Maximum of 6 Digits Allowed'	Outputted Error Message 'Maximum of 6 Digits Allowed'	Staff Page	0:27
	Extreme	'123456' / '123'	The system will allow this value to be inputted into the system	The system allowed this value to be inputted into the system	Staff Page	0:39
Manager Validation	Valid	Either 'Yes' or 'No' has been selected in the combo box	The system will allow this value to be inputted into the system	The system allowed this value to be inputted into the system	Staff Page	0:54

Statistics Page

Test description	Test Type	Test Data	Expected Outcome	Actual Outcome	Video File	Time Stamp
Importing all Menu Items	Valid	'Statistics' Push Button is clicked	All of the menu items will be displayed on a table, stating their name, number of orders, etc.	All of the menu items were displayed on a table, stating their name, number of orders, etc.	Statistics Page	0:00
	Valid	Combo box is set to 'Popularity (Ascending)'	All the menu items in the table will be sorted in ascending order	All the menu items in the table were sorted into ascending order	Statistics Page	0:02
	Valid	Combo box is set to 'Popularity (Descending)'	All the menu items in the table will be sorted in descending order	All the menu items in the table were sorted into descending order	Statistics Page	0:08