Karunya INSTITUTE OF TECHNOLOGY AND SCIENCES

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

A CHRISTIAN MINORITY RESIDENTIAL INSTITUTION

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SCHOOL OF ENGINEERING AND TECHNOLOGY

A SKILL BASED EVALUATION REPORT

SUBMITTED BY

J JENOLIN JEBA (URK22CS5026)

COURSE CODE
20CS1002

COURSE NAME

PYTHON PROGRAMMING

APRIL 2023

INDUSTRIAL CERTIFICATION

PYTHON INSTITUTE
Open Education & Development Group

OpenEDG Python Institute Authorized Academy Program

OPENEDG

Statement of Achievement

PCAP: Programming Essentials in Python

The graduate of the *PCAP: Programming Essentials in Python* course, provided by **Cisco Networking Academy®** in collaboration with **OpenEDG Python Institute**:

- knows the universal concepts of computer programming, including variables, data structures, algorithms, control flow, functions, and exceptions;
- can proficiently use the developer tools, the runtime environment, and the syntax and semantics of the Python language;
- can use fundamental programming techniques, best practices, customs, and vocabulary, including the most common standard library functions in Python 3;
- can write Python programs using standard language infrastructure, and knows the means by which to resolve typical implementation problems;
- knows how to work with modules and packages, process text and binary files, and use generators, iterators, and closures;
- understands the fundamentals of object-oriented programming (OOP) and the way they are adopted in Python.

J Jenolin Jeba
Student

Maciek Wichary
VP & CEO, OpenEDG

5 Jan 2023
Date

RESTAURANT MENU AND BILL GENERATION

A REAL TIME APPLICATION REPORT

Submitted by

TEAM MEMBERS

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

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ABSTRACT

A restaurant and billing management system is a comprehensive software solution designed to streamline the processes of managing orders and billing in a restaurant. So, when we enter the restaurant, we can just tell our orders to the person in charge of the counter who can use the application which I have developed to select and give the quantity of the food item and submit it. Then the total cost and a bill is generated. The steps are not complicated and doesn't consume a lot of time. This type of system is widely used by modern restaurants of all sizes, from small family-run businesses to large chains.

A restaurant and billing management system is an essential tool for any modern restaurant looking to improve their operations and provide a better dining experience for their customers. By streamlining processes, reducing errors, and increasing efficiency, these systems help to reduce costs and increase profitability. They also help to ensure that customers have a positive experience, leading to repeat business and positive reviews.

PROBLEM STATEMENT

The problem with manual menu and bill generation in a restaurant is that it can be time-consuming, prone to errors, and lead to inefficiencies in the restaurant's operations. When menu items and prices change, staff must manually update printed menus, which can lead to discrepancies between the menu and what is actually being served. Similarly, manually calculating bills and processing payments can lead to errors in pricing, tipping, and payment processing, which can lead to customer dissatisfaction and lost revenue.

Furthermore, manual menu and bill generation can be inefficient and take up valuable staff time. This can lead to long wait times for customers, which can negatively impact their dining experience and lead to lost revenue for the restaurant.

A restaurant menu and billing management software solution can help to solve these problems by providing a centralized system for managing menus, prices, and bill processing. By automating these processes, staff can spend less time manually updating menus and calculating bills, and more time focused on providing excellent customer service. Additionally, with a digital menu, updates can be made in real-time, ensuring that customers are always aware of the latest menu offerings and prices.

A restaurant menu and billing management software solution can also provide greater accuracy in billing and payment processing, reducing the risk of errors and improving the customer experience. Staff can quickly generate accurate bills, process payments securely, and provide customers with detailed receipts, all within the same system.

Overall, a restaurant menu and billing management software solution can help to improve the efficiency and accuracy of a restaurant's operations, leading to a better customer experience and increased revenue.

So, development of a restaurant menu and billing system can benefit the restaurant.

METHODOLOGY / ARCHITECTURE

Restaurant Menu and Billing System Application is made with the help of the Graphical User Interface. In this application, one can select the desired food by entering the quantity of the item. By clicking the submit button the total cost as well as the bill is generated.

This application has 13 Labels where the first label displays the title as “Restaurant Menu and billing system”. The second Label displays the title “Food items”. The four to twelve labels contain the food items and their price. The last Label is displayed with the title “Total”.

There are a total of 11 Entry boxes from which 10 are allotted for entering the quantity of the customer’s desired food items. In the last Entry box, the total cost of the customer’s ordered food is displayed.

There is also a Button Widget where you have to press “Submit” after selecting the food items that you desire. This will give the customers, the total cost of their purchased items and generates a bill for the customer.

The bill consists of the name of the restaurant, the address of the restaurant, the bill number, the time of order, the food item and the quantity that you ordered and the total cost that is to be paid by the customer. These things are generated in the bill as your orders are confirmed.

Different font style, font size, font colour and background colour can be changed according to the wishes of the user. So, the user interface screen will be attractive to use. The contents can also be placed in the areas that we wish for by modifying the source code. The contents are also maintained in an organised manner.

This Restaurant Menu and Billing system Application contains all these beneficial options which are easy to use and applicable in real life.

IMPLEMENTATION – CODING AND OUTPUT SCREENSHOT

```
import tkinter as tk
from datetime import date,datetime
import random
w=tk.Tk()
w.geometry('1270x690')
w.title("restaurant")
w.resizable(False,False)


def total():

    m=(n1.get())*8+(n2.get())*50+(n3.get())*10+(n4.get())*30+(n5.get())*45+(n6.get())*150+
(n7.get())*100+(n8.get())*150+(n9.get())*150+(n10.get())*20
    sr.delete(0,tk.END)
    sr.insert(0,"Rs "+str(m))

    today = date.today()
    a = str(today)
    spl = a.split('-')
    year = int(spl[0])
    month = int(spl[1])
    day = int(spl[2])

    now = datetime.now()
    current_time = now.strftime("%H:%M")

    print("||.....||")
    print("||                    JJ RESTAURANT                    ||")
    print("||          682,3rd West Street,Thiyagarajanagar          ||")
    print("||                  Tirunelveli,                  ||")
    print("||                   9443002121                    ||")
    print("||                    INVOICE                    || ")
    print("||                                                ||")
    print("|| Bill No : ", random.randint(999, 100000), end="\t\t\t\t\t\t")
    print("Date : ", day, '/', month, '/', year, "     ||")
    print("|| User : Optech", end="\t\t\t\t\t\t")
    print("    Time : ", current_time, "\t\t\t  ||")
    print("||                  Counter : Sales                  ||")

    print("||.....||")
    print("||                      Bill                      ||")
    print("||.....||")
    print("||          Food item          |          Quantity       ||")
    print("||.....||")
```

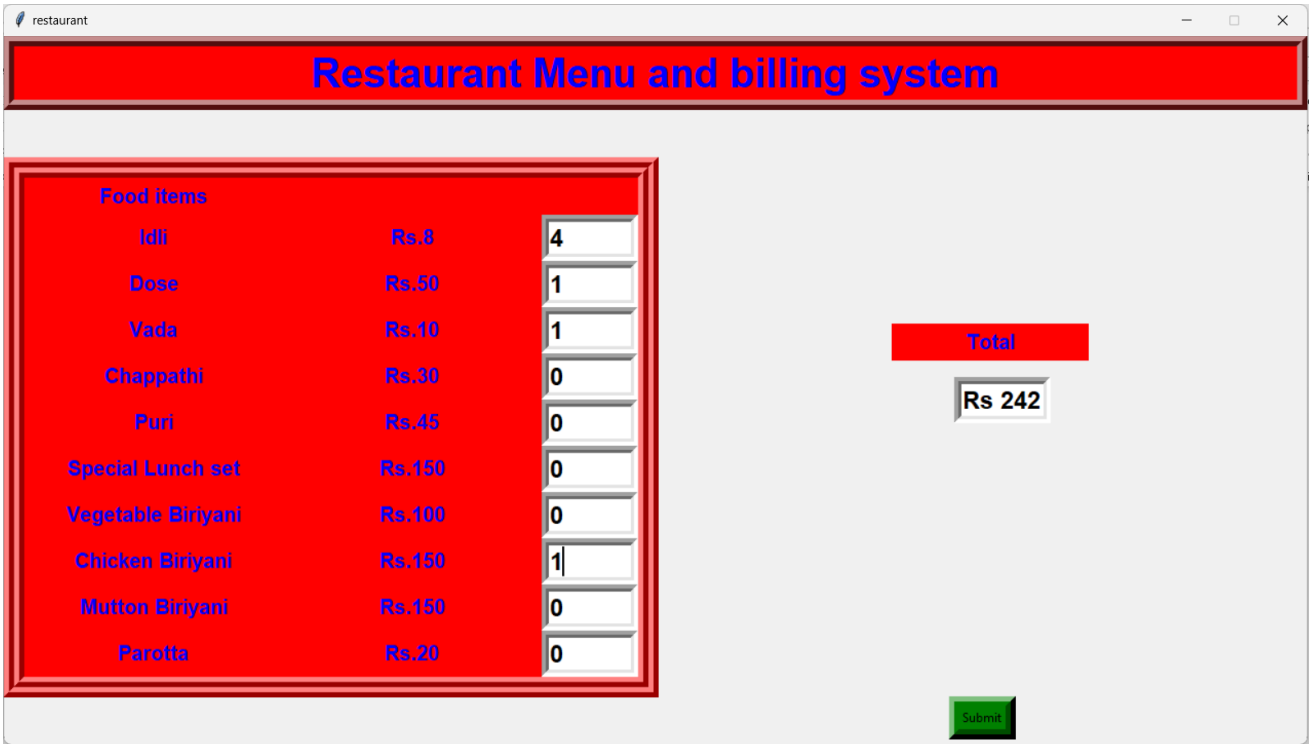
```
    if n1.get()> 0:
        print("||          Idli                    ",n1.get(),"\t\t\t ||")
    if n2.get()>0:
        print("||          Dose                     ",n2.get(),"\t\t\t ||")
    if n3.get()>0:
        print("||          Vada                     ",n3.get(),"\t\t\t ||")
    if n4.get()>0:
        print("||          Chappathi                  ",n4.get(),"\t\t\t ||")
    if n5.get()>0:
        print("||          Puri                    ",n5.get(),"\t\t\t ||")
    if n6.get()>0:
        print("||          Special Lunch set            ",n6.get(),"\t\t\t ||")
    if n7.get()>0:
        print("||          Vegetable Biriyani            ",n7.get(),"\t\t\t ||")
    if n8.get()>0:
        print("||          Chicken Biriyani             ",n8.get(),"\t\t\t ||")
    if n9.get()>0:
        print("||          Mutton Biriyani             ",n9.get(),"\t\t\t ||")
    if n10.get()>0:
        print("||          Parotta                  ",n10.get(),"\t\t\t ||")
    print("||-------------------------------------------------------------------||")
    print("||              Total   : ",str(m),"                          ||")
    print("||-------------------------------------------------------------------||")


t=tk.Frame(w,bd=10,relief='ridge',bg='firebrick4')
t.pack(side='top')

l=tk.Label(t,text="Restaurant Menu and billing system",bg='red',fg='blue',
font=('arial',30,'bold') , width=60)
l.pack(side='top')

#frames

m=tk.Frame(w,bd=10,relief='ridge',bg='red')
m.pack(side='left')

f=tk.LabelFrame(m,bd=10,relief='ridge',bg='red')
f.pack(side='left')

b=tk.Label(w,text="Total",bg='red',fg='blue',font=('arial',15,'bold'),width=15,bd=5)
b.place(x=865,y=280)

s=tk.Button(w,text="Submit",bd=10,bg='green',command=total)
s.pack(side='bottom',padx=50,pady=5)
```

```
sr=tk.Entry(w,font=('arial',18,'bold'),bd=7,width=6)
sr.pack(side='right',padx=250,pady=0)

n1=tk.IntVar()
n2=tk.IntVar()
n3=tk.IntVar()
n4=tk.IntVar()
n5=tk.IntVar()
n6=tk.IntVar()
n7=tk.IntVar()
n8=tk.IntVar()
n9=tk.IntVar()
n10=tk.IntVar()

f1=tk.Label(f,text="Food items",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
f1.grid(row=1,column=0,sticky='W')

l1=tk.Label(f,text="Idli",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
l1.grid(row=2,column=0,sticky='W')

l2=tk.Label(f,text="Dose",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
l2.grid(row=3,column=0,sticky='W')

l3=tk.Label(f,text="Vada",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
l3.grid(row=4,column=0,sticky='W')

l4=tk.Label(f,text="Chappathi",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
l4.grid(row=5,column=0,sticky='W')

l5=tk.Label(f,text="Puri",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
l5.grid(row=6,column=0,sticky='W')

l6=tk.Label(f,text="Special Lunch
set",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
l6.grid(row=7,column=0,sticky='W')

l7=tk.Label(f,text="Vegetable
Biriyani",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
l7.grid(row=8,column=0,sticky='W')

l8=tk.Label(f,text="Chicken
Biriyani",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
l8.grid(row=9,column=0,sticky='W')

l9=tk.Label(f,text="Mutton Biriyani",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
l9.grid(row=10,column=0,sticky='W')
```

```
l10=tk.Label(f,text="Parotta",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
l10.grid(row=11,column=0,sticky='W')

m1=tk.Label(f,text="Rs.8",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
m1.grid(row=2,column=1,sticky='W')

m2=tk.Label(f,text="Rs.50",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
m2.grid(row=3,column=1,sticky='W')

m3=tk.Label(f,text="Rs.10",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
m3.grid(row=4,column=1,sticky='W')

m4=tk.Label(f,text="Rs.30",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
m4.grid(row=5,column=1,sticky='W')

m5=tk.Label(f,text="Rs.45",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
m5.grid(row=6,column=1,sticky='W')

m6=tk.Label(f,text="Rs.150",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
m6.grid(row=7,column=1,sticky='W')

m7=tk.Label(f,text="Rs.100",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
m7.grid(row=8,column=1,sticky='W')

m8=tk.Label(f,text="Rs.150",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
m8.grid(row=9,column=1,sticky='W')

m9=tk.Label(f,text="Rs.150",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
m9.grid(row=10,column=1,sticky='W')

m10=tk.Label(f,text="Rs.20",bg='red',fg='blue',font=('arial',15,'bold'),width=20,bd=5)
m10.grid(row=11,column=1,sticky='W')

e1=tk.Entry(f,font=('arial',18,'bold'),bd=7,width=6,textvariable=n1)
e1.grid(row=2,column=2,sticky='W')

e2=tk.Entry(f,font=('arial',18,'bold'),bd=7,width=6,textvariable=n2)
e2.grid(row=3,column=2,sticky='W')

e3=tk.Entry(f,font=('arial',18,'bold'),bd=7,width=6,textvariable=n3)
e3.grid(row=4,column=2,sticky='W')

e4=tk.Entry(f,font=('arial',18,'bold'),bd=7,width=6,textvariable=n4)
e4.grid(row=5,column=2,sticky='W')
```

```
e5=tk.Entry(f,font=('arial',18,'bold'),bd=7,width=6,textvariable=n5)
e5.grid(row=6,column=2,sticky='W')

e6=tk.Entry(f,font=('arial',18,'bold'),bd=7,width=6,textvariable=n6)
e6.grid(row=7,column=2,sticky='W')

e7=tk.Entry(f,font=('arial',18,'bold'),bd=7,width=6,textvariable=n7)
e7.grid(row=8,column=2,sticky='W')

e8=tk.Entry(f,font=('arial',18,'bold'),bd=7,width=6,textvariable=n8)
e8.grid(row=9,column=2,sticky='W')

e9=tk.Entry(f,font=('arial',18,'bold'),bd=7,width=6,textvariable=n9)
e9.grid(row=10,column=2,sticky='W')

e10=tk.Entry(f,font=('arial',18,'bold'),bd=7,width=6,textvariable=n10)
e10.grid(row=11,column=2,sticky='W')

w.mainloop()
```

OUTPUT



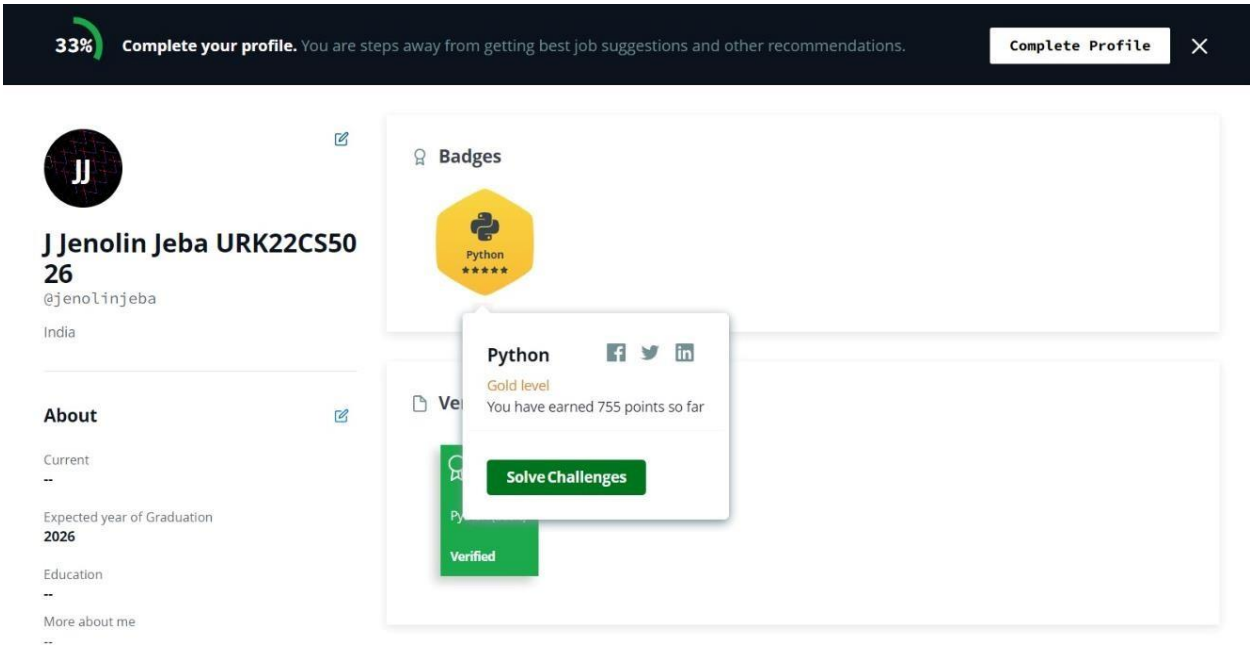

```
||-------------------------------------------------------------------||
||                          JJ RESTAURANT                            ||
||                682,3rd West Street,Thiyagarajanagar               ||
||                          Tirunelveli,                             ||
||                           9443002121                              ||
||                             INVOICE                               ||
||                                                                   ||
||   Bill No :  66069                     Date :  16 / 4 / 2023      ||
||   User : Optech                        Time :  15:09              ||
||                          Counter : Sales                          ||
||-------------------------------------------------------------------||
||                              Bill                                 ||
||-------------------------------------------------------------------||
||            Food item            |              Quantity           ||
||-------------------------------------------------------------------||
||              Idli                                 4               ||
||              Dose                                 1               ||
||              Vada                                 1               ||
||              Chicken Biriyani                     1               ||
||-------------------------------------------------------------------||
||                      Total   :  242                               ||
||-------------------------------------------------------------------||
```

CONCLUSION

A restaurant menu and billing management system is a critical tool for any restaurant looking to streamline operations, reduce costs, and improve the customer experience. These systems can help restaurants manage their menus, orders, billing, and other aspects of their operations, and are suitable for all types of restaurants, from small cafes to large chains.

Furthermore, these systems can help to improve the accuracy of billing and payment processing, reduce wait times, and increase customer satisfaction, leading to a positive impact on the restaurant's reputation and customer loyalty. Overall, a restaurant menu and billing management system is an essential investment for any restaurant looking to stay competitive in today's fast-paced, technology-driven marketplace.

CHALLENGES / CODING CONTEST



EVALUATION SHEET

Reg.No : URK22CS5026

Name: J Jenolin Jeba

Course code: 20CS1002

Course Name: Python Programming

S.No	Rubrics	Maximum Marks	Marks Obtained
1	Industrial Certification	10	
2	Real - Time Applications Design	15	
3	Challenges / Coding Contest	15	
Total		40	

Signature of the Faculty-in-charge

Signature of the Examiner1 **Signature of the Examiner2**