LOVELY PROFESSIONAL UNIVERSITY

INTELLIGENT SEAT ALLOCATION SYSTEM

GROUP PROJECT

BY

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Introduction

The main aim of the project is to provide a comfortable seating to the people. As we know different aged people needs to be seated comfortably in order to have a good journey without facing any issues.

As we know the physically handicapped people or the elder people should be given the first priority of seating so that they don't face any issues in their journey. And the next should be the young aged people who face less issues than the elder people. In present there are no such kind of systems which provide the seating based on age. Therefore it's very important to provide a seating based on age so that people are seated comfortably and travel happily.

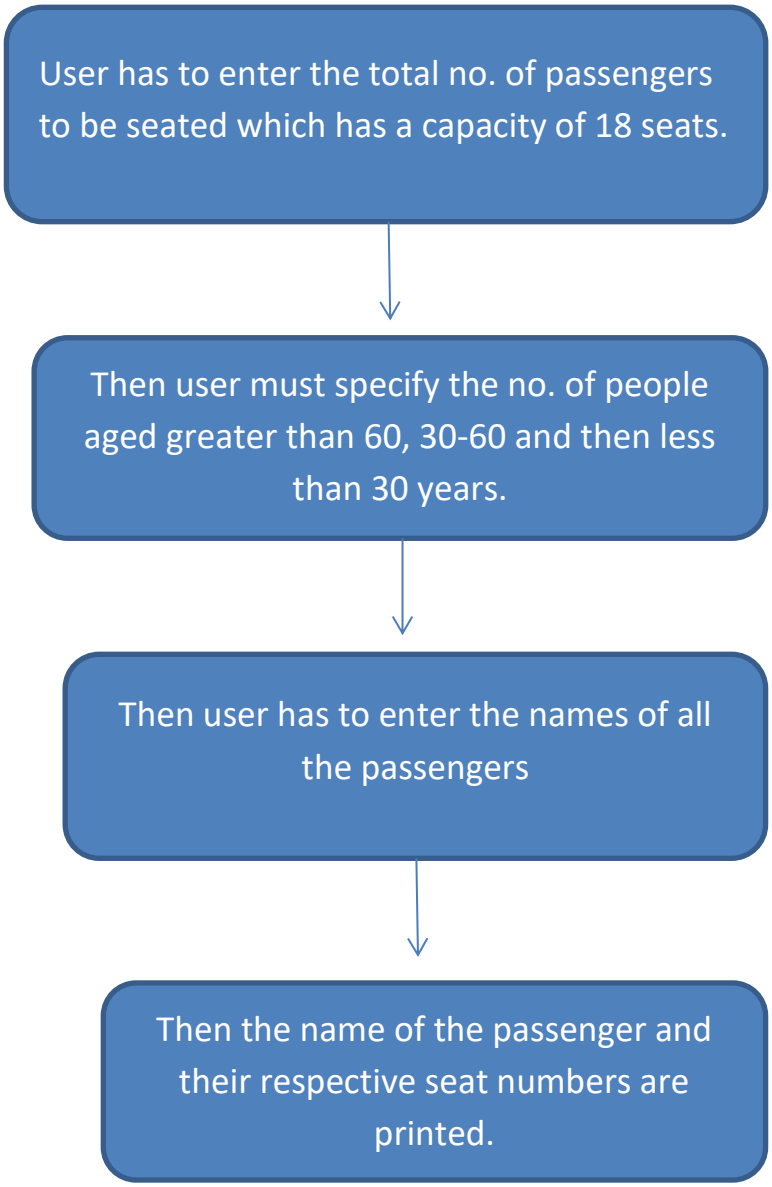
Objectives

The main goal of the project is to provide a perfect seating to the people based on their age. The physically handicapped people and the elder people are given the first and foremost seating which is then followed by middle aged people and then the young people. The intelligent seat allocation is done by a GUI application where customers enter their details and are given a perfect seating plan so that they don't face any issue.

Outcome

We have successfully created an intelligent seat allocation system that allocates the seats to the user in a perfect way according to the information entered by them.

Pictorial Flow of Project



Work Division

Roll no 6 and 5 made the code for all the logic of the program.

Roll no 7 and 8 made the report and layout of the front page of gui.

Code

```
from tkinter import *    #Importing modules
from PIL import ImageTk,Image
from tkinter import messagebox
def seatallocation():
    global seat
    seat = Toplevel(info)
    seat.title("Seat Allocation")
    #seat.configure(bg = "yellow")
    #win.iconbitmap("ap.ico")
    global width
    global height
    width = seat.winfo_screenwidth()
    height = seat.winfo_screenheight()
    seat.geometry(f'{width}x{height}')
    canvas = Canvas(seat,width = width,height = height)
    image = ImageTk.PhotoImage(Image.open("pic.jpg"))
    canvas.create_image(0,0,anchor = "nw",image = image)
    canvas.place(relx = 0,rely = 0)
    #==============================================Passenger
Of Age above
60==========================================================
====================
```

```
    for i in range(len(namelist1)):
        namelist1[i] = namelist1[i].get()
        print(namelist1[i])
    Label(seat,text = "Name",bg = 'black',fg = 'white',width = 8,font =('comic sans ms','20'),anchor = "w").place(relx = 0.01,rely = 0.1)
    Label(seat,text = "Allocated Seat",bg = 'black',fg = 'white',width = 12,font =('comic sans ms','20'),anchor = "w").place(relx = 0.18,rely = 0.1)
    for i in range(len(namelist1)):
        i += 2
        Label(seat,text = namelist1[i-2],bg = 'green',fg = 'white',width = 15,font =('comic sans ms','20'),anchor = "w").place(relx = 0.01,rely = (i*0.1))
        Label(seat,text = "Seat No."+ str(i-1),bg = 'green',fg = 'white',width = 8,font =('comic sans ms','20'),anchor = "w").place(relx = 0.18,rely = (i*0.1))

#==================================================Passenger of age 30 to 60==========================================================

    for i in range(len(namelist2)):
        namelist2[i] = namelist2[i].get()
        print(namelist2[i])
    Label(seat,text = "Name",bg = 'black',fg = 'white',width = 8,font =('comic sans ms','20'),anchor = "w").place(relx = 0.35,rely = 0.1)
    Label(seat,text = "Allocated Seat",bg = 'black',fg = 'white',width = 12,font =('comic sans ms','20'),anchor = "w").place(relx = 0.52,rely = 0.1)
    for i in range(len(namelist2)):
```

```
    i += 2

    Label(seat,text = namelist2[i-2],bg = 'green',fg = 'white',width = 15,font
=('comic sans ms','20'),anchor = "w").place(relx = 0.35,rely = (i*0.1))

    Label(seat,text = "Seat No."+ str(len(namelist1)+i-1),bg = 'green',fg =
'white',width = 8,font =('comic sans ms','20'),anchor = "w").place(relx =
0.52,rely = (i*0.1))


#=================================================Passe
nger OF Age
Below30=========================================================
============

  Label(seat,text = "Name",bg = 'black',fg = 'white',width = 15,font =('comic
sans ms','20'),anchor = "w").place(relx = 0.69,rely = 0.1)

  Label(seat,text = "Allocated Seat",bg = 'black',fg = 'white',width = 12,font
=('comic sans ms','20'),anchor = "w").place(relx = 0.86,rely = 0.1)

  for i in range(len(namelist3)):

    namelist3[i] = namelist3[i].get()

    print(namelist3[i])

  for i in range(len(namelist3)):

    i += 2

    Label(seat,text = namelist3[i-2],bg = 'green',fg = 'white',width = 15,font
=('comic sans ms','20'),anchor = "w").place(relx = 0.69,rely = (i*0.1))

    Label(seat,text = "Seat No."+ str(len(namelist2)+len(namelist1)+i-1),bg =
'green',fg = 'white',width = 8,font =('comic sans ms','20'),anchor =
"w").place(relx = 0.88,rely = (i*0.1))

  Button(seat,text = " EXIT ",command = lambda:destroy(),font =('comic sans
ms','20')).place(relx = 0.45,rely = 0.8)
```

```
    #=====================================================Page
Destroy=============================================================
========
    def destroy():
        seat.destroy()
        info.destroy()
        win.destroy()
    seat.mainloop()
def landingpage():
    global win
    win = Tk()
    win.title("Seat Allocation System")
    win.configure(bg = "yellow")
    #win.iconbitmap("ap.ico")
    global width
    global height
    width = win.winfo_screenwidth()
    height = win.winfo_screenheight()
    win.geometry(f'{width}x{height}')
    canvas = Canvas(win,width = width,height = height)
    image = ImageTk.PhotoImage(Image.open("pic.jpg"))
    canvas.create_image(0,0,anchor = "nw",image = image)
```

```
    canvas.place(relx = 0,rely = 0)

    label = Label(win,text = "Enter number of passengers:",font =('comic sans ms','20'),bg = "black",fg = "white",anchor = "w",width = 25)

    label.place(relx = '0.2',rely = '0.2')

    label = Label(win,text = "Worry Less, Travel More",font =('Times new roman','35'),fg = "black",anchor = "w",width = 19)

    label.place(relx = '0.38',rely = '0.8')

    global entry

    passengers = IntVar()

    passengers.set(0)

    entry = Entry(win,text = passengers,font =('comic sans ms','20'),width = 5)

    entry.place(relx = '0.47',rely = '0.2')

    button = Button(win,text = "OK",bg = 'black',fg = 'white',font =('comic sans ms','25'),command = lambda:get_count())

    button.place(relx = '0.45',rely = '0.29')

    def get_count():

        if(int(entry.get())<=0 or int(entry.get())>18):

            messagebox.showinfo("Warning","Invalid number of passengers.")

        else:

            getlist = [int(0) for i in range(3)]

            print(getlist)

            for _ in range(3):

                getlist[_] = IntVar()
```

```
        getlist[_].set(0)

        l = ['greater than 60:','Between 30 and 60:','Below 30:']

        label1 = Label(win,text = "Enter number of passengers Of age
"+l[_],font =('comic sans ms','20'),bg = "green",fg = "white",anchor = "w",width
= 45)

        label1.place(relx = '0.13',rely = (_*0.1)+0.4)

        entry1 = Entry(win,text = getlist[_],font =('comic sans ms','20'),width
= 5)

        entry1.place(relx = '0.61',rely = (_*0.1)+0.4)

        Button(win,text = " OK ",command = lambda:get_data(),font =('comic
sans ms','20')).place(relx = 0.45,rely = 0.7)


    def get_data():



        for _ in range(3):

            getlist[_] = int(getlist[_].get())

        global namelist1,namelist2,namelist3

        namelist1 = [0 for i in range(int(getlist[0]))]

        namelist2 = [0 for i in range(int(getlist[1]))]

        namelist3 = [0 for i in range(int(getlist[2]))]

        if(sum(getlist) != int(passengers.get())):

            messagebox.showinfo("Warning","Invalid number of passengers.")

        else:
```

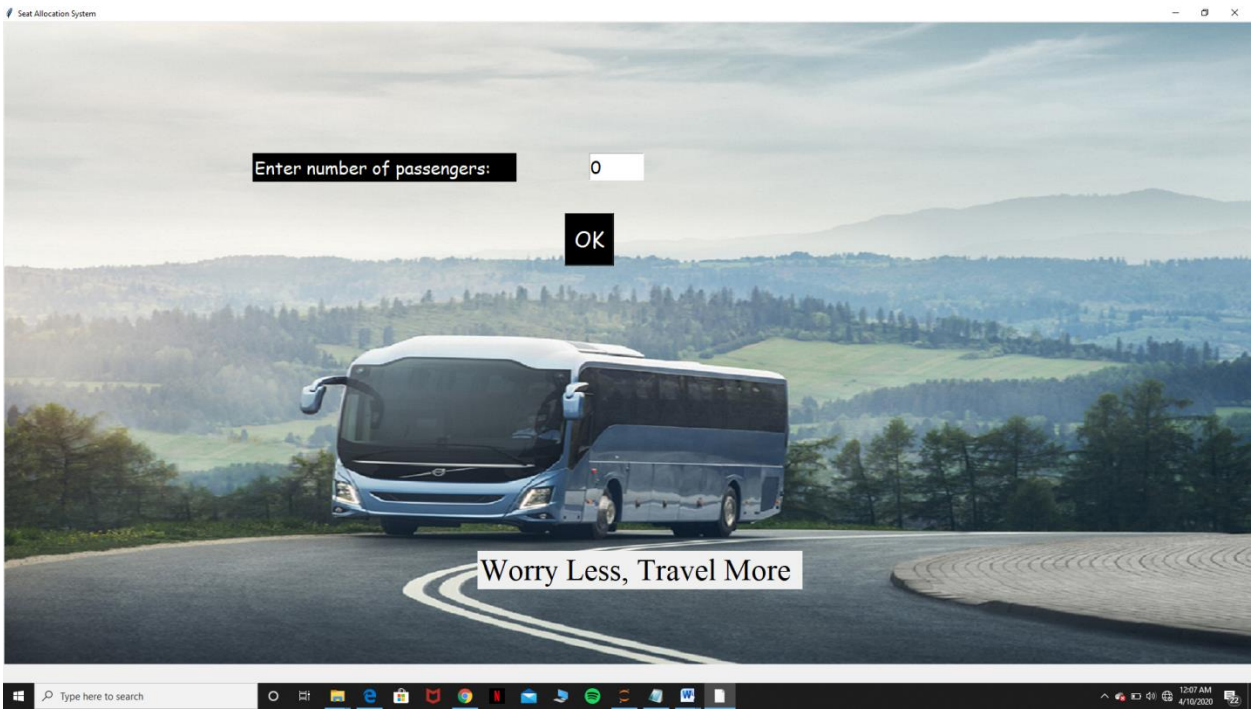
```
        global info
        info = Toplevel(win)
        info.title("Name_Page")
        info.configure(bg = "yellow")
        #win.iconbitmap("ap.ico")
        global width
        global height
        width = info.winfo_screenwidth()
        height = info.winfo_screenheight()
        info.geometry(f'{width}x{height}')
        canvas = Canvas(info,width = width,height = height)
        image = ImageTk.PhotoImage(Image.open("pic.jpg"))
        canvas.create_image(0,0,anchor = "nw",image = image)
        canvas.place(relx = 0,rely = 0)
        #global f = 0

        Label(info,text = "Enter names of passengers of age above 60",font
=('comic sans ms','15'),bg = "black",fg = "white",anchor = "w",width =
35).place(relx = 0.01,rely = 0.01)
        for i in range(getlist[0]):
            Name_label = Label(info,text = "Enter name of passenger
"+str(i+1),font =('comic sans ms','12'),bg = "green",fg = "white",anchor =
"w",width = 20)
            Name_label.place(relx = '0.008',rely = ((i*0.05)+0.06))
```

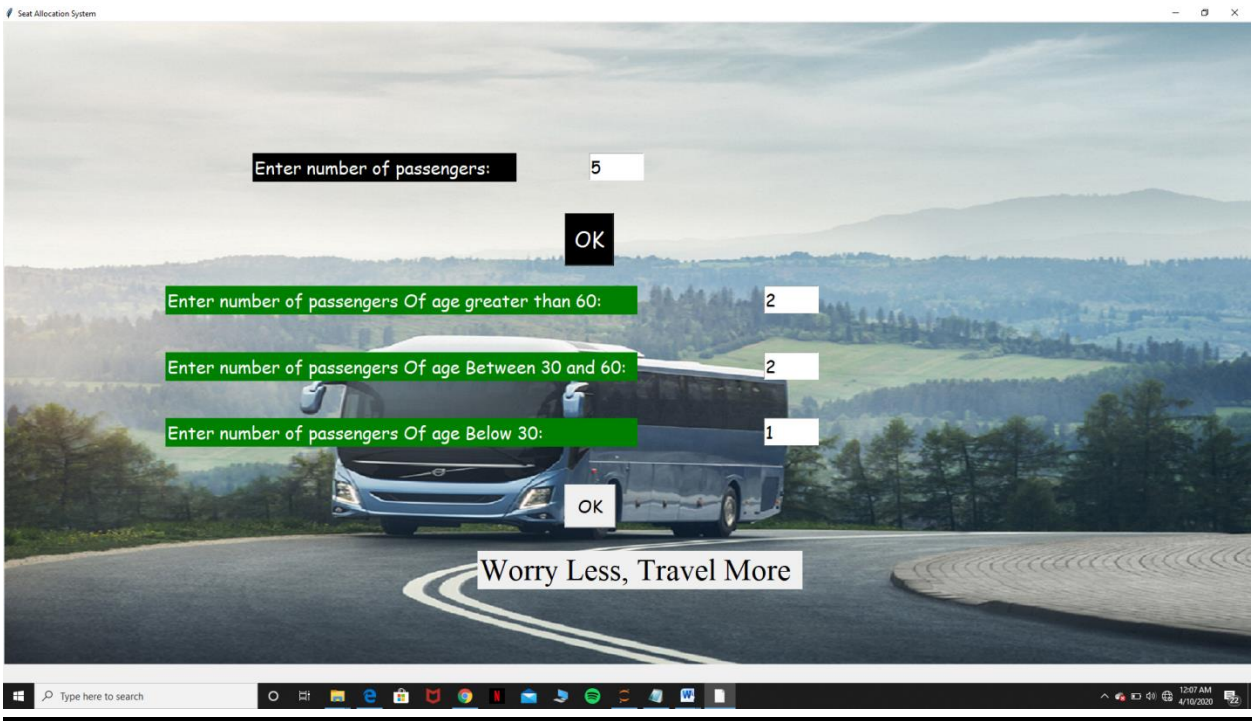
```
            namelist1[i] = StringVar()
            namelist1[i].set("Enter name here")
            nameentry = Entry(info,text = namelist1[i],font =('comic sans
ms','12'),width = 15)
            nameentry.place(relx = '0.15',rely = ((i*0.05)+0.06))
            f = ((i*0.05)+0.06)
        if(getlist[1] == 0 and getlist[2] != 0):
            b = Button(info,text = "OK",font =('comic sans ms','12'),command
= lambda:BelowThirty())
            b.place(relx = 0.16,rely = f + 0.1)
        elif(getlist[1] == 0 and getlist[2] == 0):
            b = Button(info,text = "OK",font =('comic sans ms','12'),command
= lambda:seatallocation())
            b.place(relx = 0.16,rely = f + 0.1)
        else:
            b = Button(info,text = "OK",font =('comic sans ms','12'),command
= lambda:ThirtyTOSixty())
            b.place(relx = 0.16,rely = f + 0.1)


        def ThirtyTOSixty():
            l1 = Label(info,text = "Enter names of passengers of age 30 to
60:",font =('comic sans ms','15'),bg = "black",fg = "white",anchor = "w",width =
35)
            l1.place(relx = 0.31,rely = 0.01)
```

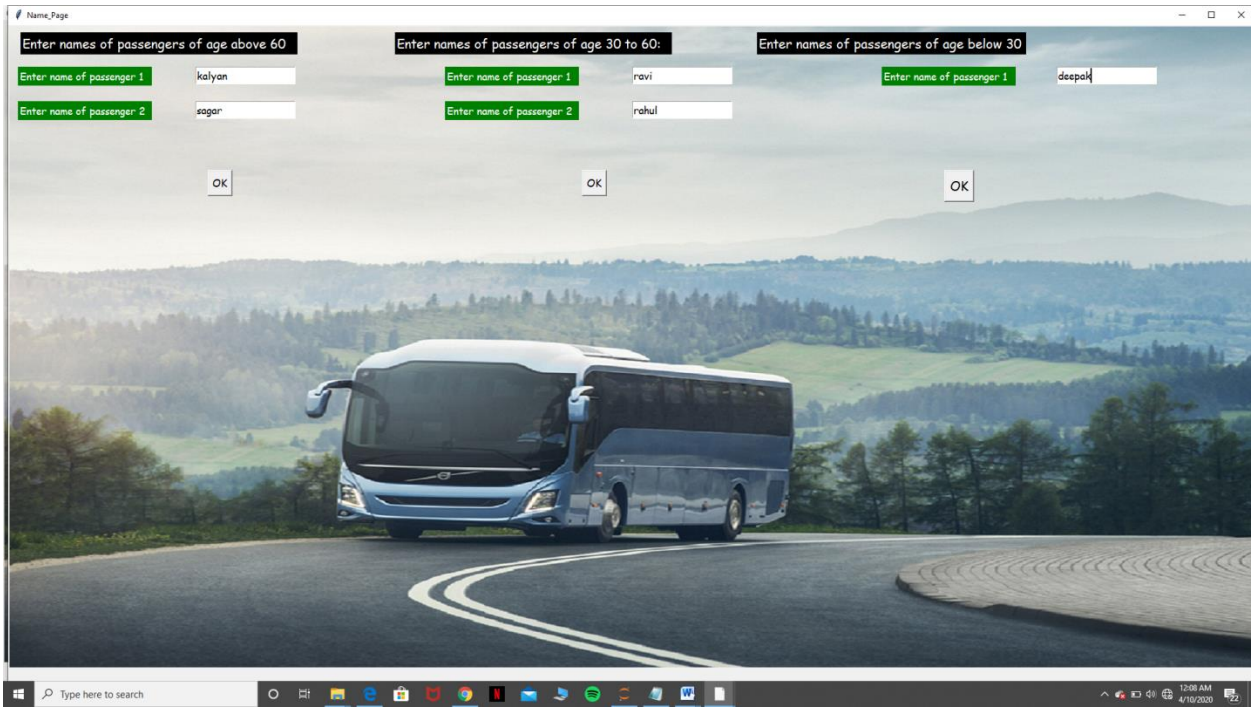
```
            for i in range(getlist[1]):
                Name_label = Label(info,text = "Enter name of passenger "+str(i+1),font =('comic sans ms','12'),bg = "green",fg = "white",anchor = "w",width = 20)
                Name_label.place(relx = '0.35',rely = ((i*0.05)+0.06))
                namelist2[i] = StringVar()
                namelist2[i].set("Enter name here")
                nameentry = Entry(info,text = namelist2[i],font =('comic sans ms','12'),width = 15)
                nameentry.place(relx = '0.5',rely = ((i*0.05)+0.06))
                f = ((i*0.05)+0.06)
            print("getlist2 is:",getlist[2])
            print(type(getlist[2]))
            if(getlist[2] == 0):
                b = Button(info,text = "OK",font =('comic sans ms','12'),command = lambda:seatallocation())
                b.place(relx = 0.46,rely = f + 0.1)
            else:
                b = Button(info,text = "OK",font =('comic sans ms','12'),command = lambda:BelowThirty())
                b.place(relx = 0.46,rely = f + 0.1)
        def BelowThirty():
```

```
            Label(info,text = "Enter names of passengers of age below
30",font =('comic sans ms','15'),bg = "black",fg = "white",anchor = "w",width =
34).place(relx = 0.6,rely = 0.01)

            for i in range(getlist[2]):

                Name_label = Label(info,text = "Enter name of passenger
"+str(i+1),font =('comic sans ms','12'),bg = "green",fg = "white",anchor =
"w",width = 20)

                Name_label.place(relx = '0.7',rely = ((i*0.05)+0.06))

                namelist3[i] = StringVar()

                namelist3[i].set("Enter name here")

                nameentry = Entry(info,text = namelist3[i],font =('comic sans
ms','12'),width = 15)

                nameentry.place(relx = '0.84',rely = ((i*0.05)+0.06))

            Button(info,text = "OK",font =('comic sans ms','15'),command =
lambda:seatallocation()).place(relx = 0.75,rely = f+0.1)


        info.mainloop()


  win.mainloop()

landingpage()
```

Implementation






Name_Page
Enter names of passengers of age above 60
Enter name of passenger 1
kalyan
Enter name of passenger 2
sagar
OK
Enter names of passengers of age 30 to 60:
Enter name of passenger 1
ravi
Enter name of passenger 2
rahul
OK
Enter names of passengers of age below 30
Enter name of passenger 1
deepak
OK
Type here to search
12:08 AM
4/10/2020


Seat Allocation
Name
Allocated Seat
Name
Allocated Seat
Name
Allocated Seat
kalyan
Seat No.1
ravi
Seat No.3
deepak
Seat No.5
sagar
Seat No.2
rahul
Seat No.4
EXIT
Type here to search
12:08 AM
4/10/2020