

PROJECT BSD2213 DATA SCIENCE PROGRAMMING I 2021/2022 SEMESTER 1

TITLE: WATERPARK TICKET SYSTEM

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1.0 INTRODUCTION

Tourism can be regarded as a main economic sector in the world providing multiple benefits including social and environmental benefits. Malaysia used to be rated ninth in the world in terms of tourist arrivals. The Travel and Tourism Competitiveness Report 2017 ranks Malaysia 25th out of 141 countries overall. Malaysia's tourism resources are unique in characteristics, and historical development of tourism in the country indicates it is attracted by wildlife, scenery, forests, beaches and water parks. The well-known sites are mainly full of multiple attractions. Malaysia has diversified tourism resources, ranging from beaches, cities, culture, heritage, jungles, food, resorts, health, business and shopping.

Society has been dramatically changed with the evolution of technology. Before the advent of modern technology. Amusement park or water park is a park that offers different forms of attractions for instance ride and games and other fun filled forms of entertainment. To explore further the visitors should buy tickets. By buying tickets in-person, at the counters, it might take some time because of long queues. Here we as a team came up with an idea where users can insert their data and book the tickets by paying online using the system called waterpakistre. Furthermore, the receipt can be printed as a proof of payment, and the user can scan the QR code to show the authorities for entering purposes. Below are the categories with prices that are available in the water park. We also provide 3 types of floaters as shown below.

CATEGORY	PRICE (RM)
Junior kid (age 6 years old and below)	FREE
Kid (age 7-12 years old)	70.75
Teen (age 13-19 years old)	90.60
Adult (age 20 years old and above)	110.95

FLOATER FOR RENT	PRICE(RM)
Kid	16
Single	25
Double	30

There are many advantages buying tickets through the system, including the fact that visitors who make a financial commitment by scheduling their own reservations are more likely to show up. If a person needs to cancel, their space becomes available again so that someone else can reserve it. The system helps to reduce congestion which also reduces waiting time. When people don't spend time in line waiting, they will spend it in the park having the best experience of their lifetime without much pressure from the guests waiting outside. In addition, the park operators plan on how to distribute their staff and operations in an efficient way.

On the other hand, buying tickets using the system helps the park organizers to add more guides and offer more fun-filled activities with explanations. It consumes less time and energy compared to buying tickets at the counters. Online ticket selling gives a lot of time that could be spent managing the ticket sales process if sold tickets by phone or in person. By using our system visitors can buy 24 hours per day, seven days per week. With an online booking system, visitors can require visitors to pay for activities and rentals. This will increase the organizers profit.

To summarize, it can be unambiguously agreed upon that the advancement in e-buying has resulted in convenience for buyers. We guarantee that the system that we developed called as waterparkistre will benefit both the visitors and organizers because it consumes less time and money. The system is intended to be user-friendly and easy to access. To minimize complications, we designed the system so that whenever a payment is made, a receipt is instantly can print out along with a QR code to scan.

2.0 WHY THIS PROJECT?

The existence of our system will make it easier for customers to purchase it online rather than waiting in line and pondering what to buy at the water park. One study found that waiting in long lines will cause nearly 50 percent of customers to conclude that the business is run poorly, and over 50 percent of consumers will take their business elsewhere if they feel the line is too long. Proper ticketing systems are designed to function seamlessly in this "multi-channel" environment. This means the customer can purchase in the way they prefer, while all of the requests are still funneled in a centralized system for tracking, management, and analysis. As the ticketing system was organized centrally there was no need for hassles through spreadsheets or email inboxes trying to figure out the issues and their resolution processes. This process will also become more systematic and ensure better customer experience. It also allowed the company to maintain good and profitable relationships with new as well as the existing customers.

Furthermore, it will reduce errors in the cashiering system by allowing the system to determine the amount automatically based on customer preferences. An online system can be configured for virtually any kind of transaction and to complete it almost any environment. The customer does not need to withstand harsh outdoor conditions and extreme temperatures and outfitted with high-bright screens to be visibly in the harshest of sunlight. Peripherals and software enable them to dispense electronically or by printer to print receipts, accept cash or card for payment virtually. it won't leave unused activity spots or rentals on the table. Lastly, an online ticketing system provides you with a dashboard of analytics that help us grow our business. Quickly determine our most popular sellers, the most requested time slots, or even the most popular add-ons by using an online ticketing system with robust insights. Take advantage of knowing what our customers want most and saving our time and money on offerings that don't help our business grow.

3.0 HOW CAN THIS PROJECT BE EXTENDED?

Waterparkistre's Ticket System is an online ticket booking system for a water park named 'Waterparkistre'. This project are able to be extended by doing some of the ideas below:

• Refund money.

Refund 80% of ticket fare if canceled 7 days before the date. Refund 70% of ticket fare if canceled 5 days before the date. Refund 50% of ticket fare if canceled 3 days before the date.

Reschedulable ticket.

Purchased tickets can be rescheduled at any time up to one day before the ticket date.

Database management.

Implement a database management system to record the customer purchase so that waterpark's management staff can view the record easily.

• Payment option.

Add more payment options for users such as ShopeePay, GrabPay, Boost, FPX, credit or debit card.

• QR code.

QR code in this project can be improved by linking the receipt with QR code. Receipt will be shown when the QR code is scanned.

Digital Map

Digital map can reduce the frustration of getting lost. With a map, customers can see exactly where they are and how to get to where they want to be. It also can save customers' time from finding the place they want to go rather than play in the waterpark.

Virtual Queuing

A virtual queuing system allows customers to remotely check-in to a ride, restaurant, hotel or any other on-site amenity via their smartphones, while they carry on exploring until their turn draws near. In this way, virtual queuing not only improves the guest experience, but it also has the potential to increase visitor spend on food and beverage as well as merchandise. It also can avoid customers from being stuck in a long queue, guests have more time to enjoy everything that you have to offer.

Real-Time Messaging & Offers

With mobile app-based real-time messaging, you can target visitors based on their behaviour. For example, if a visitor has just joined a virtual ride queue, they may trigger a queue jump offer. If it's approaching lunchtime and the guest has been at the theme park since morning, they might see an in-app food and beverage offer. Because these messages and offers are highly targeted, they enhance rather than detract from the guest experience

4.0 SOURCE CODE

• Python first file (waterpark.py)

```
waterpark=Tk()
waterpark.title("WATERPARKISTRE'S TICKET SYSTEM")
waterpark.geometry('500x600')
greeting=tk.Label(text="Welcome To Waterparkistre!",font=('ink free',
25, 'bold'), bg="#CFECEC", fg="black")
greeting.pack(fill=X and Y)
waterpark.config(bg='#CFECEC')
img = PhotoImage(file="C:/Users/Huawei/Downloads/logo.png")
my_label=Label(waterpark, image=img, bg="#CFECEC", fg="black")
my label.pack(fill=X and Y)
def NextPage():
   canvas = Canvas(pay, width=1000, height=700, bg="#CFECEC")
   def NextPage2():
 ustify=CENTER)
                Kidprice = int(count Kid.get()) * 70.75
```

```
kidprice = 0
                dblprice = 0
Adultprice + kidprice + singleprice + dblprice)
                                "\nEmail\t\t: " + str(email1.get()) +
str(count J Kid.get()) +
str(count Teen.get()) +
str(counter3.get()) + " Double" +
       def QRwindow():
```

```
def getDate():
def dec Adult(event=None):
def AddTeen (event=None):
def AddKid(event=None):
```

```
def AddJ Kid(event=None):
def onClick1(event=None):
def offClick1(event=None):
    counter1.set(counter1.get() - 1)
def onClick2(event=None):
def offClick2(event=None):
def offClick3(event=None):
```

```
Jkidplus.place(x=780, y=105)
```

```
adultqty = Label(pay, textvariable=count Adult, bg="#CFECEC", fg="black")
kidminus.place (x=190, y=575)
```

```
db12 = Label(pay, font=("Times", "12"), text='Double - RM30.00',
    dblminus.place(x=530, y=575)
btnNext=Button(text="Next Page", width=10, height=1, command=NextPage)
btnNext.place(x=380, y=560)
name = Label(waterpark,font=("Times", "12"),text='Name:',bg="#CFECEC")
name.pack()
name1 =StringVar()
entry1 = Entry(waterpark, fg='black', bg='light blue', width=50
entry1.pack(ipadx=20)
email= Label(waterpark,font=("Times", "12"),                                 text='Email: ',bg="#CFECEC")
email.pack()
email1=StringVar()
entry2 = Entry(waterpark, fg='black', bg='light blue',
width=50,textvariable=email1)
entry2.pack(ipadx=20)
phone = Label(waterpark, font=("Times", "12"), text='Phone
number:',bg="#CFECEC")
phone.pack()
phone1 = StringVar()
entry3 = Entry(waterpark, fg='black', bg='light blue', width=50,
entry3.pack(ipadx=20)
```

waterpark.mainloop()

• Python second file (qrcode.py)

```
import pyqrcode
def QRwindow():
   def generate QR():
        def jpay():
webbrowser.open new("https://billercentre.jompay.prod.inet.paynet.my/login.as
        def tnq():
webbrowser.open new("https://tngportal.touchngo.com.my/tngPortal/login")
            qr = pyqrcode.create(user input.get())
 ariable=payOption, value="Online Banking JomPAY",
```

```
bg="#36454F", fg="#CFECEC")
    btnreturn.place(x=140, y=550)

def display_code():
    img_lbl.config(image=img)
    output.config(text="QR code of " + user_input.get(), bg="#CFECEC",fg
= "black")

lbl = Label(root, text="Enter name as in receipt:",bg="#CFECEC",fg = "black")

lbl.pack()

user_input = StringVar()
    entry = Entry(root, textvariable=user_input)
    entry.pack(padx=10)

button = Button(root, text="generate_QR", width=15, command=generate_QR,bg="#36454F",fg = "#CFECEC")
button.pack(pady=10)
    img_lbl = Label(root, bg="#CFECEC")
    img_lbl.pack()
    output = Label(root, text="")
    output.pack()
    root.mainloop()

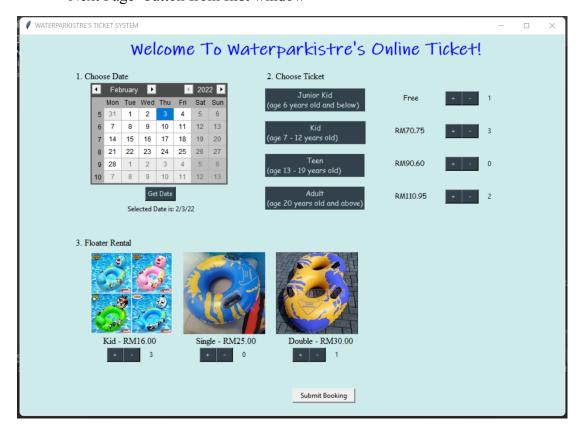
QRwindow()
```

5.0 GUI SCREENSHOT

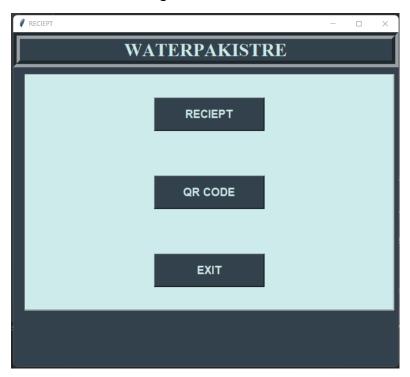
• First window



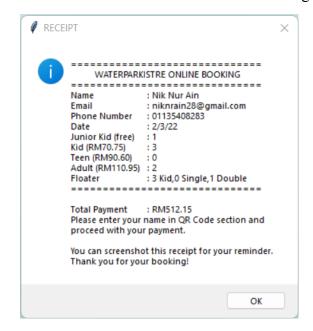
• 'Next Page' button from first window



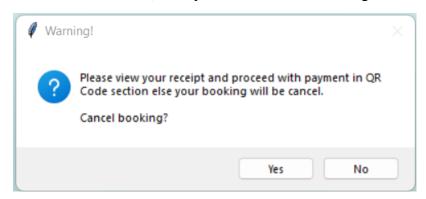
• 'Submit Booking' button



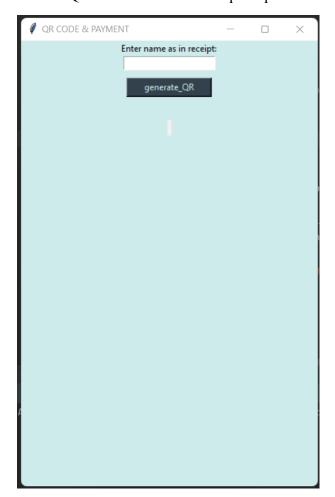
• 'RECEIPT' button will show booking information



• 'EXIT' button, click yes will cancel the booking



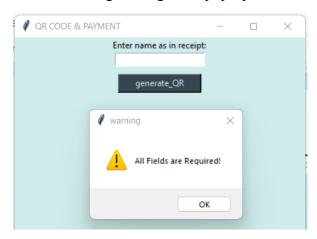
• 'QR CODE' button will open up a new window name qr code & payment



• Use output as reference to enter name



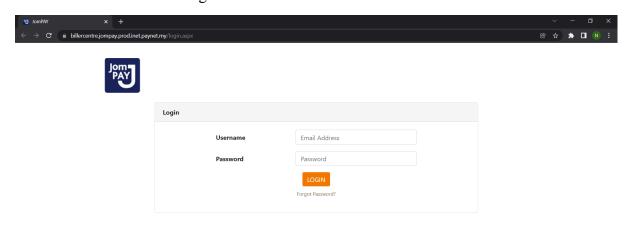
• Warning message will pop-up if click the 'generate QR' button without enter entry



• 'generate QR' button with entry will display QR code and payment option

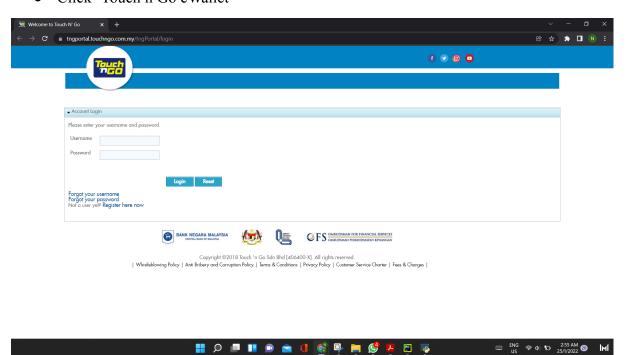


• Click 'Online Banking JomPAY'

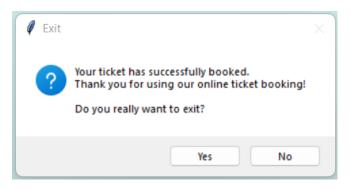




• Click 'Touch n Go eWallet'



• 'EXIT' button will terminate the program

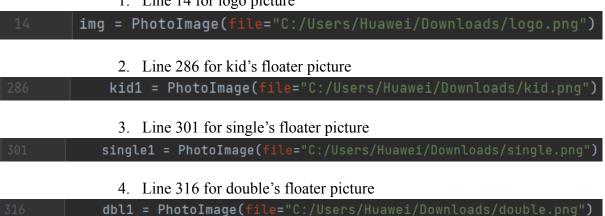


6.0 ATTACHMENT

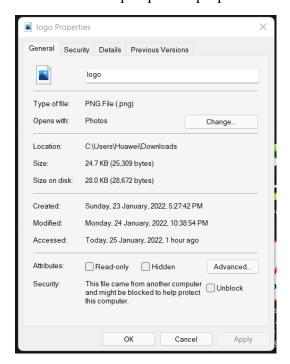
1. Download all pictures in this file before run the codes.

https://drive.google.com/drive/u/0/folders/1C j3vWGqKjMswn0ROo4qzzCD2gqeREYZ

- 2. To run this coding without error from any computer, the location of the picture must be set according to where the picture is saved.
 - In waterpark.py file:
 - 1. Line 14 for logo picture



Open picture properties to check the location of the picture.



• Slash symbols ('\' or '/') must be opposite from each other.

Location: C:\Users\Huawei\Downloads

img = PhotoImage(file="C:/Users/Huawei/Downloads/logo.png")

3. GUI video

https://www.youtube.com/watch?v=RMXMMObIYwo