



**COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS,
UNIVERSITI TEKNOLOGI MARA,
MERBOK, KEDAH**

DIPLOMA IN LIBRARY INFORMATICS (CDIM144)

PROGRAMMING FOR LIBRARIES (IML207)

“COURIER SYSTEM: PARCEL BILL”

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SUBMISSION DATE:

WEEK 12

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- b. **Plagiarism:** Using or attempts to use the work of others (ideas, design, words, art, music, etc.) without acknowledging the source; using or purchasing materials prepared by another person or agency or engaging in other behavior that a reasonable person would consider as plagiarism.
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With this pledge, I am fully aware that I am obliged to conduct myself with utmost honesty and integrity. I fully understand that a disciplinary action can be taken against me if I, in any manner, violate this pledge.

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Course Code : IML208
Programme Code :-
Faculty / Campus : UiTM Kampus Sungai Petani

ACKNOWLEDGEMENTS

First and foremost, I would like to express my greatest gratitude to Mr Airul Shazwan for his guidance throughout this journey. I was given guidelines on how to do this individual assignment in subject Programming for Libraries for my third semester of Diploma in Information Management. A special gratitude to my respected lecturer for giving me a very clear and concise instructions to make it easier for me to proceed this report smoothly, also assisted on encouragement and guidance to finally make this assignment succeed without exceeding its due date.

A very huge thank you to my beloved classmates in KCDIM1443F class for giving each other cooperation and support while I was working on this assignment for this subject.

For that matter, I am able to try to put my best effort throughout the completion of this assignment. Once again, I would like to thank everyone for the time, energy and commitment.

1.0 INTRODUCTION OF COURIER PARCEL BILL SYSTEM

This project called “Courier Parcel Bill System” was created to automate and simplify the process of figuring out how much a courier service will cost.

1.1 PROBLEM STATEMENT

Manual and error-prone parcel bill calculation methods are a major cause of operational inefficiencies, billing errors, and dissatisfied consumers. When a courier parcel bill calculation system isn't automated, the following happens:

- **Inaccuracies and Disputes:** Determining shipping costs by hand raises the possibility of errors, which in turn causes billing disputes and erodes customer confidence and satisfaction.
- **Lack of Adaptability:** Without a centralized system, courier companies struggle to adapt to dynamic market conditions, and evolving customer demands, limiting their ability to stay competitive in the industry.

1.2 OBJECTIVE

The objectives of this project are achieved through a user-friendly interface developed using the Tkinter library. The system allows users to input customer details, parcel type, weight, service type, and distance. It then calculates the total bill using predefined cost parameters, ensuring accuracy and efficiency in the billing process.

2.0 FLOW CHART

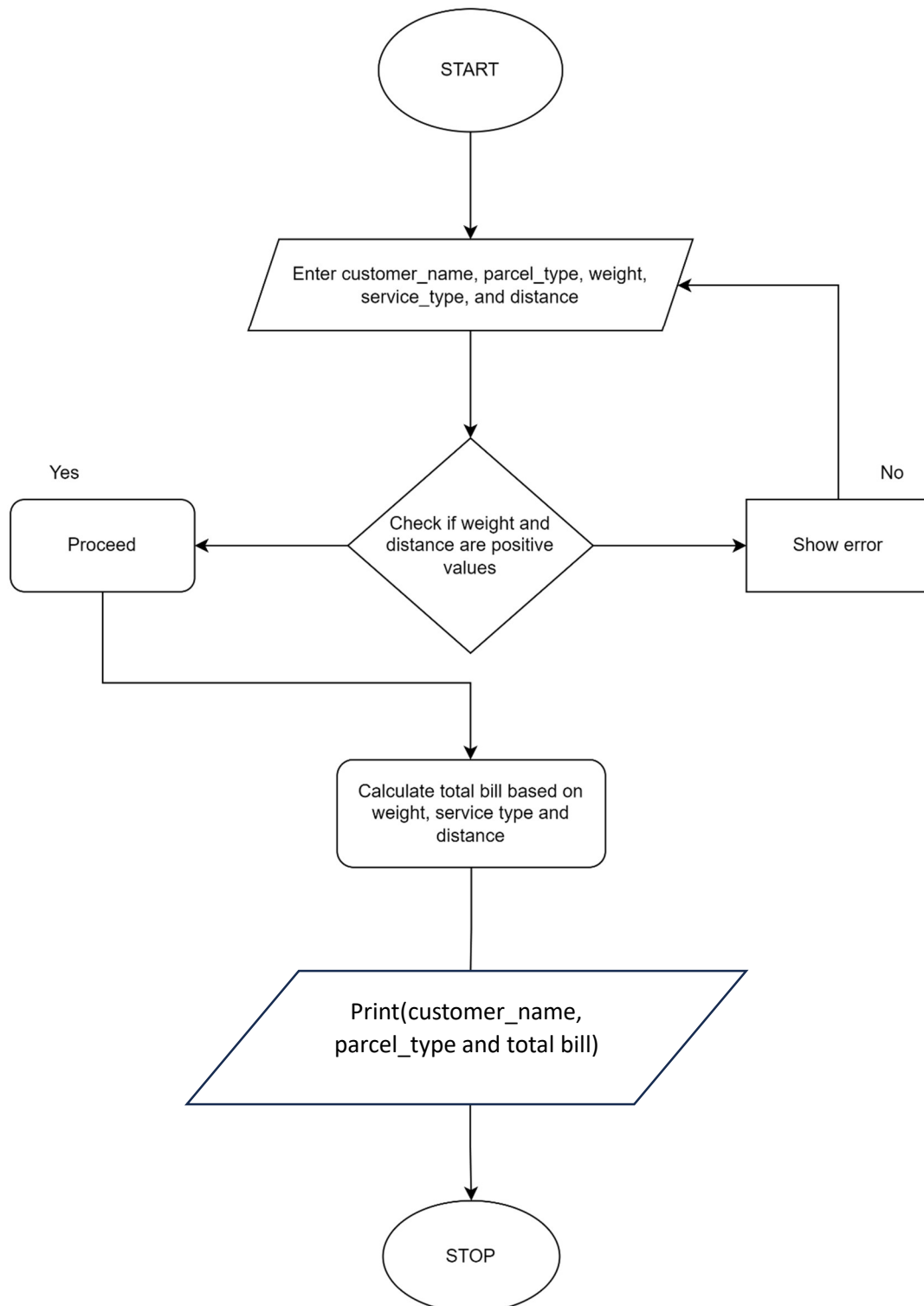


Figure 1 Parcel bill Flowchart

3.0 SNAPSHOT OF CODE

```
1 import tkinter
2 from tkinter import ttk
3 from tkinter import messagebox
4 import mysql.connector
5
6 def parcel_bill():
7     customer_name = customer_name_var.get()
8     parcel_type = parcel_type_var.get()
9     weight = float(weight_entry.get())
10    service_type = service_type_var.get()
11    distance = float(distance_entry.get())
12
13    weight_per_kg = {
14        "envelope": 0.1,
15        "small box": 0.5,
16        "medium box": 1,
17        "large box": 2
18    }
19    price_per_kg = {
20        "envelope": 5,
21        "small box": 8,
22        "medium box": 12,
23        "large box": 15
24    }
25    service_cost = {
26        "express": 10,
27        "standard": 4.50
28    }
29
30    weight_cost = price_per_kg[parcel_type] * weight
31    service_cost = service_cost[service_type]
32    distance_cost = distance * weight_per_kg[parcel_type]
33    total_bill = weight_cost + service_cost + distance_cost
34
35    print("Customer Name: {customer_name}")
36    print("Parcel Type: {parcel_type}")
37
38    total_bill_var.set(f"Total Bill: RM {total_bill:.2f}")
39    total_bill_label.config(textvariable=total_bill_var)
40
41    # Connect to MySQL database
42    mydb = mysql.connector.connect(
43        host="localhost",
44        user="root",
45        password="",
46        database="parcel_bill"
47    )
48    cursor = mydb.cursor()
49
50    # Insert data into the MySQL table
51    try:
52        sql = "INSERT INTO 'courier_info' (customer_name, parcel_type, weight, service_type, distance, total_bill) VALUES (%s, %s, %s, %s, %s, %s)"
53        val = (customer_name, parcel_type, weight, service_type, distance, total_bill)
54        cursor.execute(sql, val)
55        mydb.commit()
56        print("Data Inserted successfully")
57    except mysql.connector.Error as err:
58        print("Error: (err)")
59        mydb.rollback()
60
61    cursor.close()
62    mydb.close()
63
64    if weight <= 0 or distance <= 0:
65        messagebox.showerror("Error", "Please enter positive values for weight and distance.")
66
67
68 # Create the main Tkinter window
69 root = tkinter.Tk()
70 root.title("Parcel Bill")
71 root.geometry("300x400")
72 root.config(bg="#f0d8e4")
73
74 style = ttk.Style()
75 style.theme_use("default")
76 style.configure("Pink.TLabelFrame", bg="#f6cab7")
77 style.configure("Pink.TLabel", bg="#f6cab7")
78
79 parcel_bill_frame = ttk.LabelFrame(root, text="Parcel Bill", style="Pink.TLabelFrame")
80 title_label = ttk.Label(parcel_bill_frame, text="Parcel Bill")
81 parcel_bill_frame.grid(row=0, column=0, padx=20, pady=10, sticky="nsew") #use nsew to expand to fill its entire grid cell.
82 title_label.grid(row=0, column=0, sticky="nsew")
83
84 # Spacing and centering elements within the frame
85 for widget in parcel_bill_frame.winfo_children():
86     if isinstance(widget, (ttk.Label, ttk.Entry)):
87         widget.grid_configure(padx=20, pady=5, sticky="nsew")
88
89 customer_name_label = ttk.Label(parcel_bill_frame, text="Customer Name:", style="Pink.TLabel")
90 customer_name_label.grid(row=0, column=0, padx=5, pady=5)
91 customer_name_var = tkinter.StringVar()
92 customer_name_entry = ttk.Entry(parcel_bill_frame)
93 customer_name_entry.grid(row=0, column=1, padx=5, pady=5)
94
95 parcel_type_label = ttk.Label(parcel_bill_frame, text="Parcel Type:", style="Pink.TLabel")
96 parcel_type_label.grid(row=1, column=0, padx=5, pady=5)
97 parcel_type_var = tkinter.StringVar(value="choose your parcel type")
98 parcel_types = ["envelope", "small box", "medium box", "large box"]
99 parcel_type_combobox = ttk.Combobox(parcel_bill_frame, textvariable=parcel_type_var, values=parcel_types)
100 parcel_type_combobox.grid(row=1, column=1, padx=5, pady=5)
```



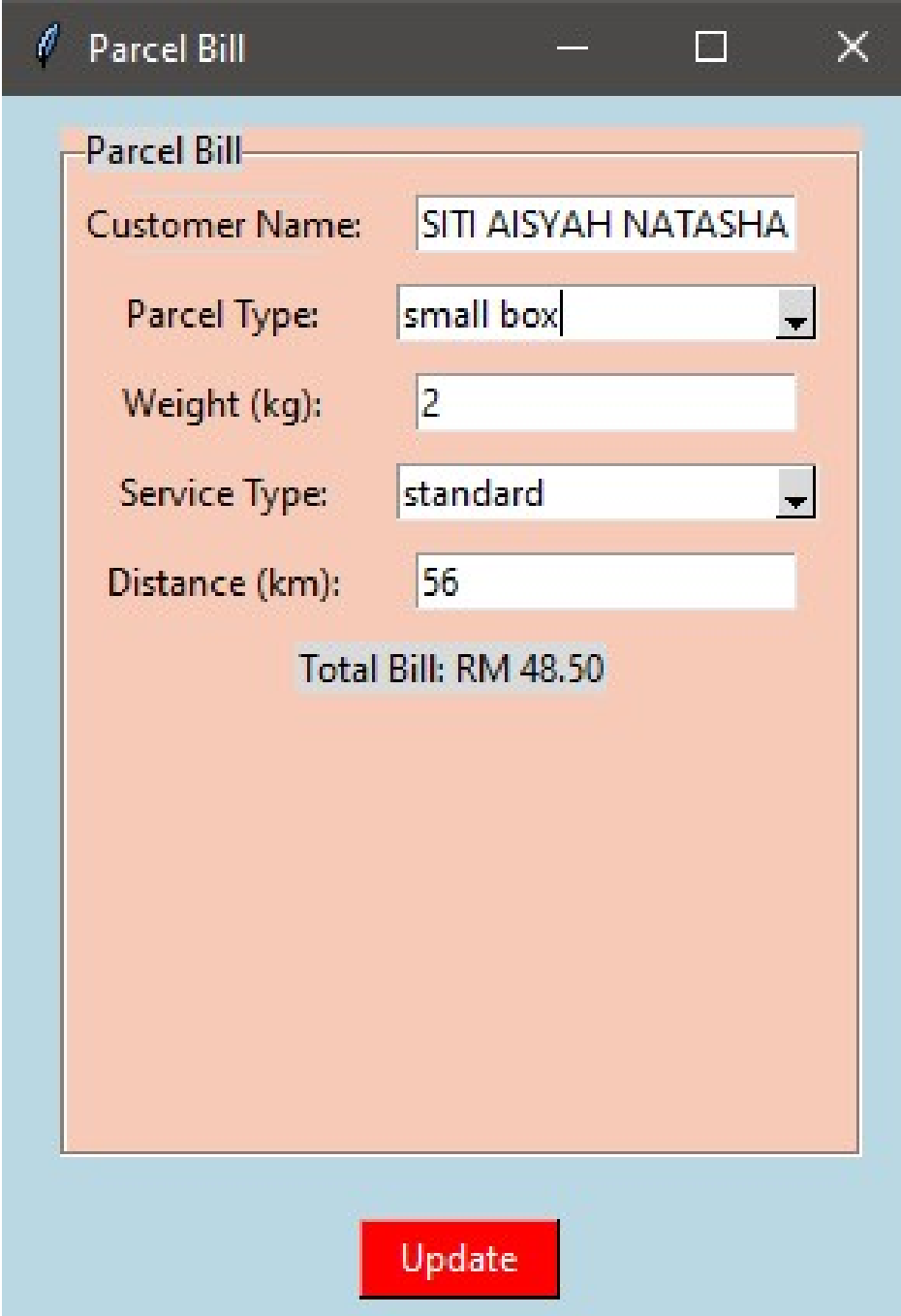
```

101 weight_label = ttk.Label(parcel_bill_frame, text="Weight (kg):", style="Pink.TLabel")
102 weight_label.grid(row=2, column=0, padx=5, pady=5)
103 weight_entry = ttk.Entry(parcel_bill_frame)
104 weight_entry.grid(row=2, column=1, padx=5, pady=5)
105
106 service_type_label = ttk.Label(parcel_bill_frame, text="Service Type:", style="Pink.TLabel")
107 service_type_label.grid(row=3, column=0, padx=5, pady=5)
108 service_type_var = tkinter.StringVar(value="choose service type")
109 service_types = ["express", "standard"]
110 service_type_combobox = ttk.Combobox(parcel_bill_frame, textvariable=service_type_var, values=service_types)
111 service_type_combobox.grid(row=3, column=1, padx=5, pady=5)
112
113 distance_label = ttk.Label(parcel_bill_frame, text="Distance (km):", style="Pink.TLabel")
114 distance_label.grid(row=4, column=0, padx=5, pady=5)
115 distance_entry = ttk.Entry(parcel_bill_frame)
116 distance_entry.grid(row=4, column=1, padx=5, pady=5)
117
118 total_bill_var = tkinter.StringVar()
119 total_bill_label = ttk.Label(parcel_bill_frame, textvariable=total_bill_var)
120 total_bill_label.grid(row=5, column=0, colspan=2, padx=5, pady=5)
121
122 # Create update button
123 style.configure("Red.Button", foreground="white", background="red")
124 update_button = ttk.Button(root, text="Update", command=parcel_bill, style="Red.Button")
125 update_button.grid(row=1, column=0, pady=10)
126
127 # Centering elements within the root window
128 root.columnconfigure(0, weight=1) # Allow the column to expand
129 root.rowconfigure(0, weight=1) # Allow the row to expand
130
131 root.mainloop()
132

```

Figure 2 snapshot of code

4.0 SNAPSHOT OF GUI



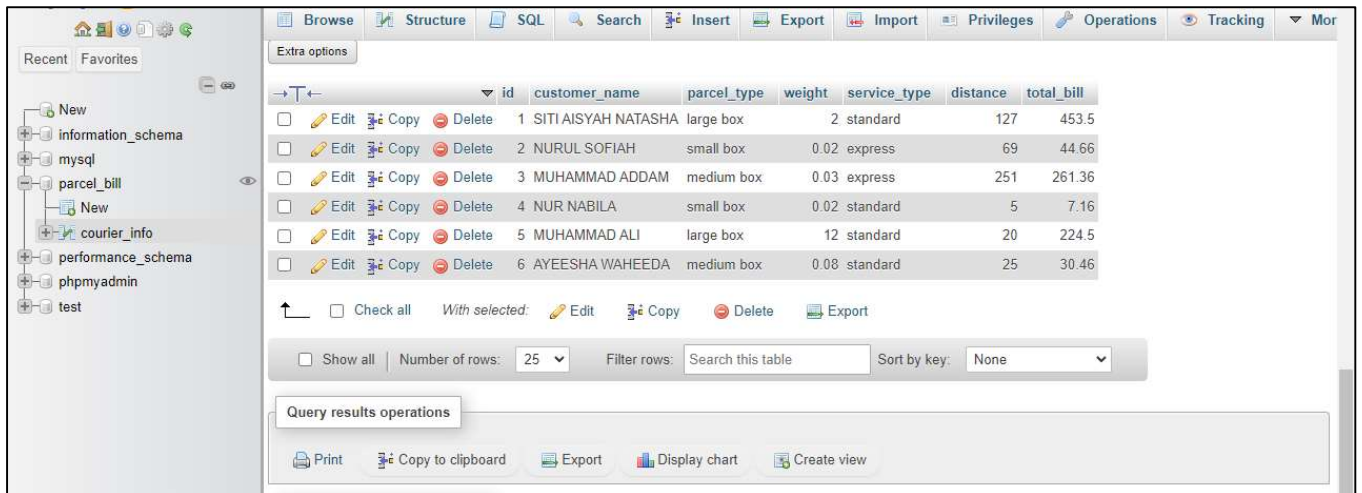
The image shows a software window titled "Parcel Bill" with a dark header bar containing a feather icon and standard window controls. The main area has a light blue background. A central orange-bordered box contains the form fields. At the bottom of the window is a red "Update" button.

Parcel Bill	
Customer Name:	SITI AISYAH NATASHA
Parcel Type:	small box
Weight (kg):	2
Service Type:	standard
Distance (km):	56
Total Bill: RM 48.50	

Update

Figure 3 snapshot of GUI

5.0 SNAPSHOT OF DATABASE



Recent Favorites

New

- information_schema
- mysql
- parcel_bill
- New
- courier_info
- performance_schema
- phpmyadmin
- test

Extra options

	id	customer_name	parcel_type	weight	service_type	distance	total_bill
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1	SITI AISYAH NATASHA	large box	2	standard	127	453.5
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2	NURUL SOFIAH	small box	0.02	express	69	44.66
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	3	MUHAMMAD ADDAM	medium box	0.03	express	251	261.36
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	4	NUR NABILA	small box	0.02	standard	5	7.16
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	5	MUHAMMAD ALI	large box	12	standard	20	224.5
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	6	AYEESHA WAHEEDA	medium box	0.08	standard	25	30.46

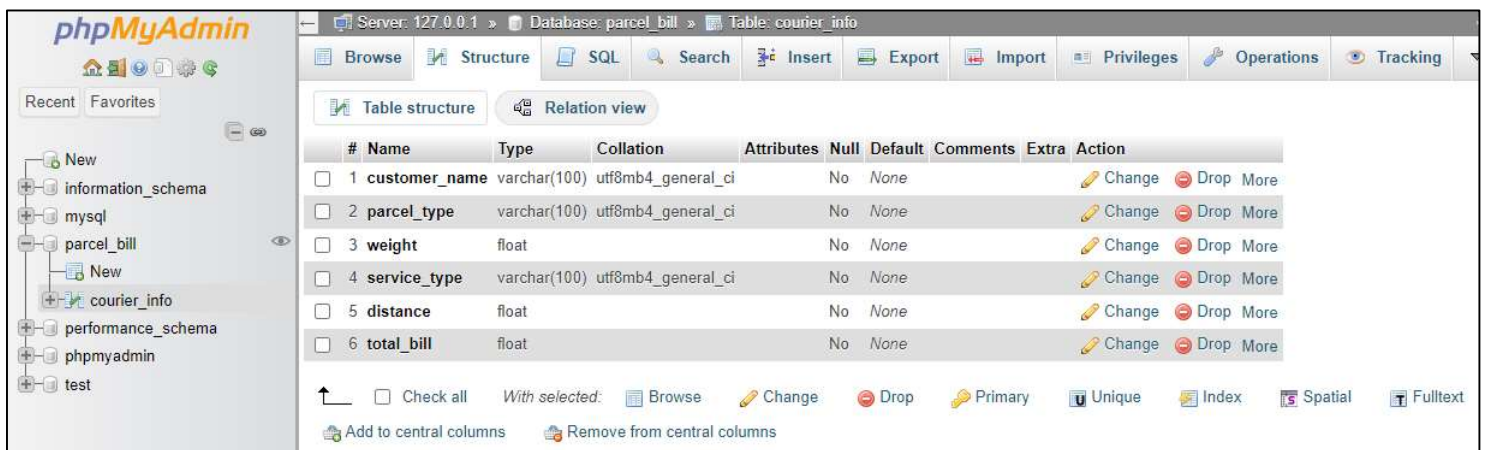
☐ Check all
 With selected: ☐ Edit ☐ Copy ☐ Delete ☐ Export

☐ Show all
 Number of rows: 25
 Filter rows: Search this table
 Sort by key: None

Query results operations

☐ Print
 ☐ Copy to clipboard
 ☐ Export
 ☐ Display chart
 ☐ Create view

Figure 4.0 snapshot of database



phpMyAdmin

Recent Favorites

New

- information_schema
- mysql
- parcel_bill
- New
- courier_info
- performance_schema
- phpmyadmin
- test

Server: 127.0.0.1 » Database: parcel_bill » Table: courier_info

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/> 1	customer_name	varchar(100)	utf8mb4_general_ci		No	None			<input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More
<input type="checkbox"/> 2	parcel_type	varchar(100)	utf8mb4_general_ci		No	None			<input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More
<input type="checkbox"/> 3	weight	float			No	None			<input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More
<input type="checkbox"/> 4	service_type	varchar(100)	utf8mb4_general_ci		No	None			<input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More
<input type="checkbox"/> 5	distance	float			No	None			<input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More
<input type="checkbox"/> 6	total_bill	float			No	None			<input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More

☐ Check all
 With selected: ☐ Browse ☐ Change ☐ Drop ☐ Primary ☐ Unique ☐ Index ☐ Spatial ☐ Fulltext

☐ Add to central columns
 ☐ Remove from central columns

Figure 4.1 snapshot of database

CONCLUSION

The "Courier Parcel Bill System" project was created for the courier services and provides an answer to the problems associated with manual and prone to error methods of figuring out how much a courier service will cost. The system seeks to improve customer satisfaction and confidence by eliminating billing disputes and inaccuracies through automation.

In conclusion, this project system helps the courier industry's overall customer satisfaction, operational efficiency, and flexibility in response to market fluctuations, in addition to streamlining the difficult task of calculating courier parcel bills. This system's automation, adaptability, and database integration make it a useful tool for courier businesses looking to optimize their workflow and offer dependable and effective customer service.