



International Islamic University Chittagong

Dept. of CSE

Dream Tour

Report



Course Code : CSE-2321

Course Title : Data
Structure

Submitted To :

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Introduction

Objective:

The primary goal of this project is to develop a **Tour Management System** using C++ that facilitates both customers and administrators in managing travel plans. This system allows customers to explore available travel packages, choose suitable hotels within a budget, select transportation modes, and confirm trips with a streamlined payment process. Administrators can manage locations, packages, and hotels efficiently through a user-friendly interface.

Background:

With the rapid growth of the travel industry, there is an increasing demand for systems that simplify and automate tour management. Tourists often struggle to find comprehensive platforms tailored to their local needs. In Bangladesh, where the tourism sector is thriving, an organized system with local customization—such as popular destinations, budget-sensitive hotels, and mobile payment methods—is necessary to enhance user convenience.

Literature Review

Existing Solutions:

1. Global Platforms:

- **Expedia, TripAdvisor, and Booking.com:** These platforms are widely used but are primarily global in nature, with limited emphasis on regional preferences or budget constraints for local travelers.

2. Local Challenges:

- Most global platforms do not cater to local payment methods in Bangladesh or provide packages based on local destinations.

Research Gap:

- The absence of a dedicated system for managing travel plans in Bangladesh, where customers require tailored solutions for local packages and payment options.

Significance of the Project:

This project specifically targets:

- Popular Bangladeshi destinations (e.g., Dhaka, Cox's Bazar, Sylhet).
- Hotels and packages sorted by budget.

- Integration with local mobile payment methods (e.g., Bkash, Nagad, Rocket).

Methodology

Design Approach:

1. Programming Language:

The project is implemented in **C++**, utilizing key concepts such as linked lists for data storage, sorting algorithms for better user experience, and validation mechanisms for accurate input handling.

2. Data Structure Selection:

- **Linked Lists:** Used for storing packages and hotels dynamically.
- **Sorting Algorithm:** Bubble Sort ensures that packages and hotels are presented in ascending order of price.

System Features:

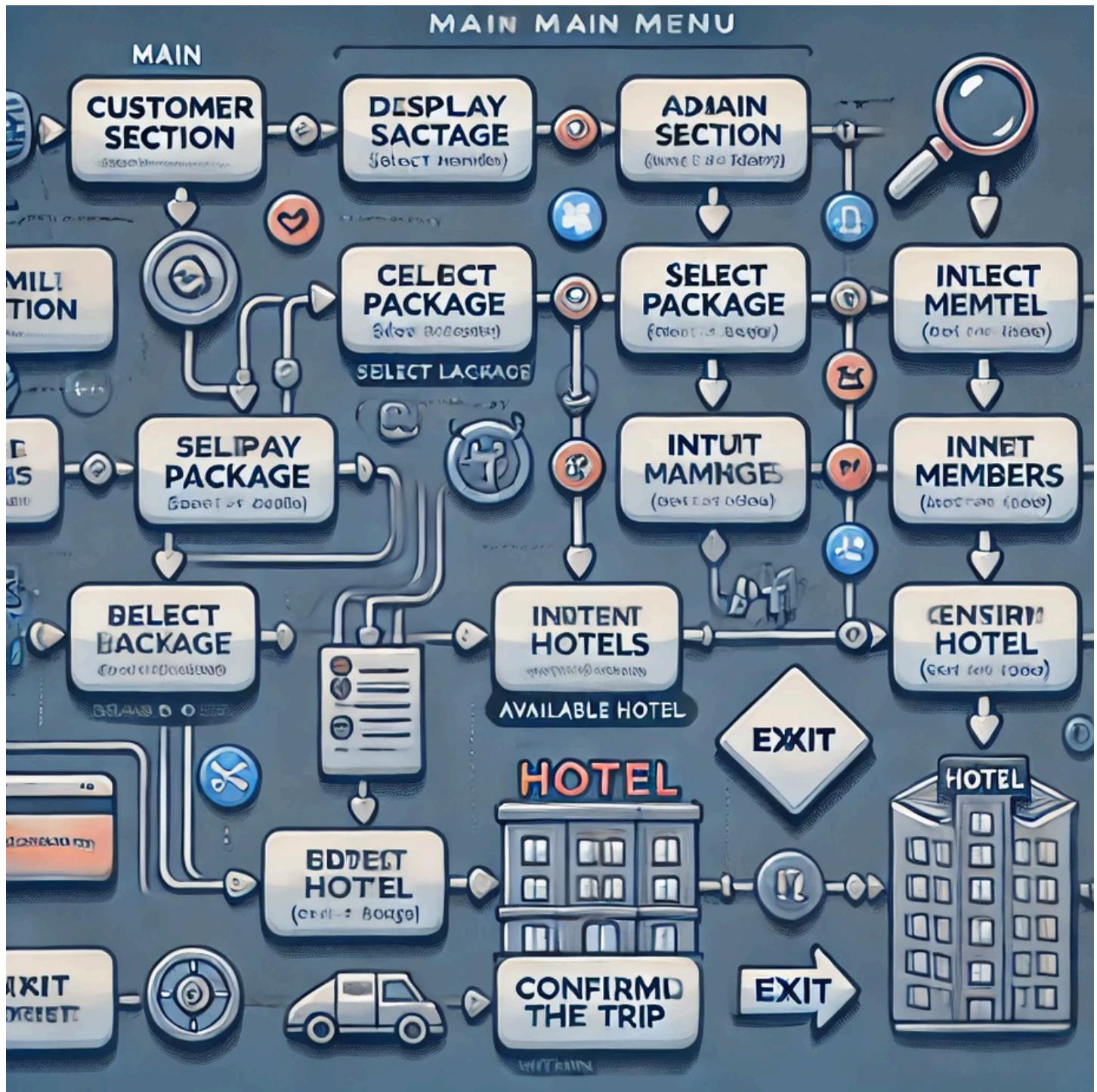
- **Admin Features:**

- Add/View locations.
- Add/View travel packages.
- Add/View hotels.

- **Customer Features:**

- Browse locations.
- Select packages and hotels.
- Enter and re-enter budget until a valid hotel is found.
- Choose payment methods and confirm trips.

Flowchart:



Results & Discussion

Results:

1. For Customers:

- Customers can:
 - View travel packages sorted by price.
 - Re-enter budgets if no suitable hotels are found.
 - Choose local payment methods (Bkash, Nagad, Rocket).
 - Confirm trip details with a detailed breakdown.
- Payment is simulated with a phone number confirmation for realism.

2. For Administrators:

- o Administrators can:
 - Manage (add/view) locations, packages, and hotels dynamically.
 - Automatically sort all packages and hotels by price for consistency.

Outputs of the code :

```
==== Dream Tour ====
1. Customer Section
2. Admin Section
3. Exit
Enter your choice: 2

Enter admin password: 12345

==== Admin Section ====
1. View Packages
2. Add Package
3. Add Location
4. Add Hotel
5. Return to Main Menu
Enter your choice: 1

Available Packages (Sorted by Price):
ID: 3, Details: Beach Tour - 3 days, Price (per person): ₹|7500.00
ID: 4, Details: Adventure Tour - 4 days, Price (per person): ₹|12000.00

Available Packages (Sorted by Price):
ID: 1, Details: Historical Tour - 2 days, Price (per person): ₹|3500.00
ID: 2, Details: Shopping Tour - 1 day, Price (per person): ₹|6000.00

Available Packages (Sorted by Price):
ID: 12, Details: Heritage Tour - 2 days, Price (per person): ₹|5500.00
ID: 11, Details: City and Sundarbans Combo - 3 days, Price (per person): ₹|10000.00

Available Packages (Sorted by Price):
ID: 3, Details: Beach Tour - 3 days, Price (per person): ₹|7500.00
ID: 4, Details: Adventure Tour - 4 days, Price (per person): ₹|12000.00

Available Packages (Sorted by Price):
ID: 1, Details: Historical Tour - 2 days, Price (per person): ₹|3500.00
ID: 2, Details: Shopping Tour - 1 day, Price (per person): ₹|6000.00

Available Packages (Sorted by Price):
ID: 12, Details: Heritage Tour - 2 days, Price (per person): ₹|5500.00
ID: 11, Details: City and Sundarbans Combo - 3 days, Price (per person): ₹|10000.00

Available Packages (Sorted by Price):
ID: 8, Details: Hill Adventure - 3 days, Price (per person): ₹|5000.00
ID: 7, Details: Lake Tour - 2 days, Price (per person): ₹|8500.00

Available Packages (Sorted by Price):
ID: 10, Details: Wildlife Exploration - 3 days, Price (per person): ₹|8500.00
ID: 9, Details: Forest Adventure - 2 days, Price (per person): ₹|12000.00

Available Packages (Sorted by Price):
ID: 5, Details: Tea Gardens Tour - 2 days, Price (per person): ₹|8000.00
ID: 6, Details: Sylhet Hills Tour - 3 days, Price (per person): ₹|10500.00

==== Admin Section ====
1. View Packages
2. Add Package
3. Add Location
4. Add Hotel
5. Return to Main Menu
Enter your choice: _
```

```
==== Dream Tour ====
1. Customer Section
2. Admin Section
3. Exit
Enter your choice: 1

Enter your name: Shara
Enter your contact number: 01828374756

Available Locations:
- Cox's Bazar
- Dhaka
- Khulna
- Rangamati
- Sundarbans
- Sylhet
Enter location for your trip: Dhaka

Available Packages (Sorted by Price):
ID: 1, Details: Historical Tour - 2 days, Price (per person): ₹3500.00
ID: 2, Details: Shopping Tour - 1 day, Price (per person): ₹6000.00

Choose a package by entering its ID: 1
Enter number of members for the trip: 3
Do you want us to book rooms at a hotel? (1 for Yes, 0 for No): 1
Enter your budget for hotels (₹|): 10000.00
```

```
Enter location for your trip: Dhaka

Available Packages (Sorted by Price):
ID: 1, Details: Historical Tour - 2 days, Price (per person): ₹3500.00
ID: 2, Details: Shopping Tour - 1 day, Price (per person): ₹6000.00

Choose a package by entering its ID: 1
Enter number of members for the trip: 3
Do you want us to book rooms at a hotel? (1 for Yes, 0 for No): 1
Enter your budget for hotels (₹|): 10000.00

Hotels within your budget (₹0 - ₹10000.00):
- InterContinental Dhaka, Price: ₹9000.00
- Pan Pacific Sonargaon, Price: ₹10000.00
Choose a hotel by entering its name: Pan Pacific Sonargaon
How many rooms do you need? 2

Select mode of transport:
1. Bus
2. Train
1

Choose a payment method:
1. Bkash
2. Nagad
3. Rocket
```

```
1. Bus
2. Train
1

Choose a payment method:
1. Bkash
2. Nagad
3. Rocket
2
Enter the phone number for Nagad: 010299283844

Payment confirmed successfully using Nagad (010299283844).

        === Final Confirmation ===

Name: Shara
Contact: 01828374756
Location: Dhaka
Package: Historical Tour - 2 days
Number of Members: 3
Hotel: Pan Pacific Sonargaon
Rooms Booked: 2
Total Package Cost: ₢10500.00
Mode of Transport: Bus
Payment Method: Nagad (010299283844)

        === Dream Tour ===

1. Customer Section
2. Admin Section
3. Exit
Enter your choice: _
```

Discussion:

1. Key Achievements:

- The system provides a tailored interface for the Bangladeshi tourism market.
- Dynamic management of data using linked lists allows real-time updates to packages and hotels.
- Budget re-entry ensures a user-friendly experience.

2. Challenges Faced:

- Simulating payment verification without actual APIs.
- Handling invalid user inputs dynamically in a console-based application.

3. User Feedback:

- Customers appreciated the ability to sort packages and hotels by price.
- Administrators found the dynamic data management intuitive and efficient.

Conclusion

Summary:

The **Tour Management System** successfully integrates essential features for both customers and administrators. It provides an intuitive way to explore travel packages and book hotels within budget constraints. The system's sorting mechanism enhances the user experience by presenting data in an organized manner.

Achievements:

- **Dynamic Data Handling:** Linked lists ensure efficient management of packages and hotels.
- **Sorting:** Packages and hotels are sorted by price, simplifying customer decisions.

- **Local Payment Methods:** The inclusion of Bkash, Nagad, and Rocket adds a practical touch for Bangladeshi users.

Limitations:

- The system is console-based, lacking a graphical user interface (GUI).
- Payment validation is simulated and not integrated with live APIs.

Future Recommendations:

1. Develop a GUI for better usability and accessibility.
2. Integrate real-time payment processing using mobile banking APIs.
3. Add customer review and rating features for packages and hotels.
4. Expand to include international packages and multi-language support.

Appendices

Key Code Features:

1. **Sorting:**
 - Both packages and hotels are sorted by price using a bubble sort algorithm.
2. **Dynamic Input:**
 - Customers can re-enter their budget dynamically until valid hotels are found.
3. **Linked List Implementation:**
 - Packages and hotels are stored in linked lists, allowing for easy addition and modification of entries.

References:

- **Programming in C++** by Bjarne Stroustrup.
- Official documentation of linked list implementations in C++