



Food Delivery Queue System Simulation

A technical exploration of queue implementation for food delivery efficiency in C.

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Introduction to Food Delivery Systems

Popular Platforms

Swiggy, Zomato, and others connect restaurants with customers.

Queue Simulation

Models order placement, processing, and delivery timing.

Optimization Importance

Faster deliveries enhance customer satisfaction and operational efficiency.



Objectives of the Simulation

Simulate Food Delivery Queue

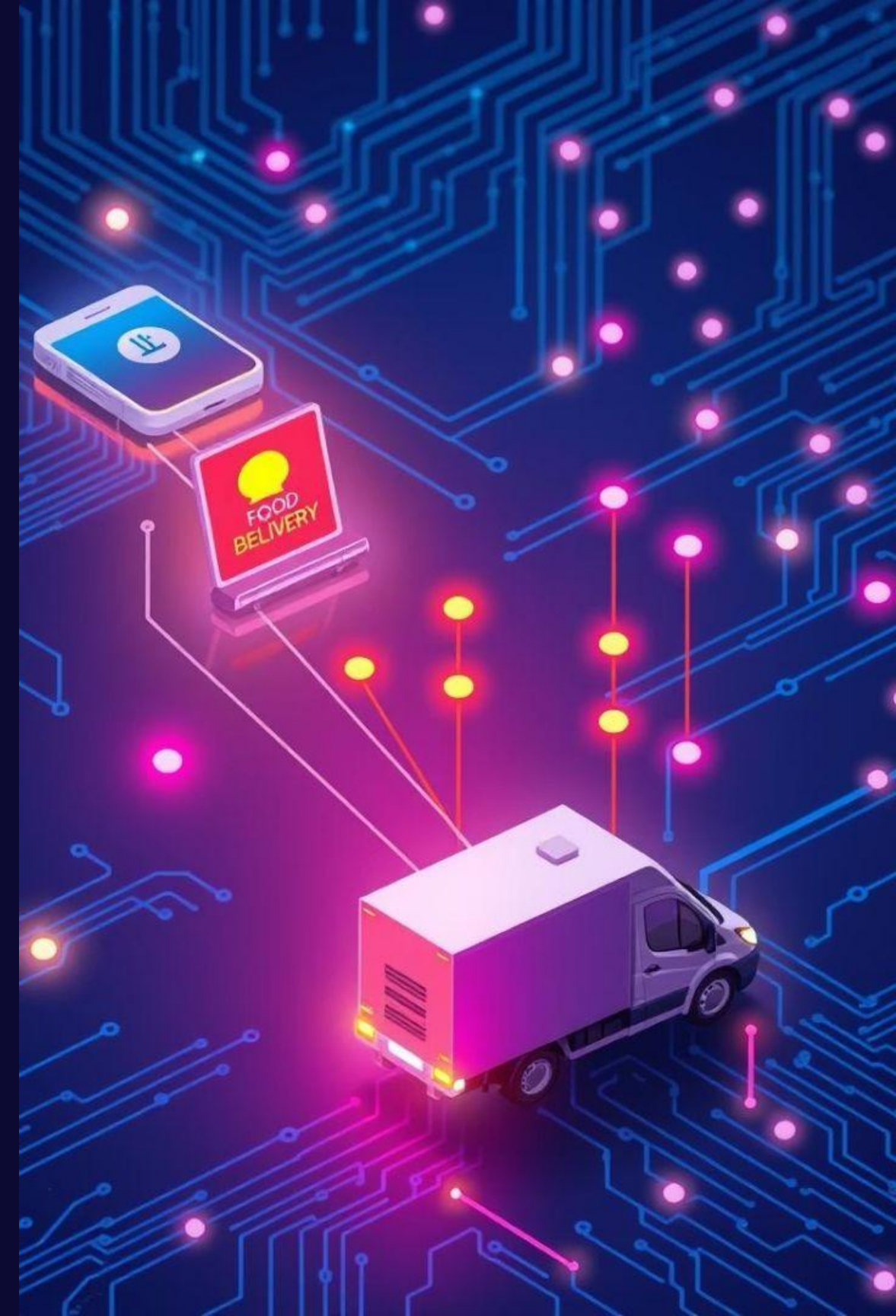
Replicate real-time queue behavior for orders.

Optimize Wait Times

Minimize delays and improve delivery efficiency.

Demonstrate Queue Utility

Showcase queues as a core data structure in real systems.



Why Use C and Data Structures?

Advantages of C

- High performance and efficiency
- Precise memory control for simulation

Role of Data Structures

- Queues provide FIFO order processing
- Essential for managing live order flow

Queue Algorithm Overview

1. Initialize queue with maximum size.
2. Customer places order (enqueue).
3. Delivery agent processes order (dequeue).
4. Monitor queue status: wait and delivery times.
5. Handle overloads and system delays.



Lessons Learned



Queue Management

Crucial for smooth
real-time order processing.



Simulating Real Systems

Shows how C can mimic
live application behavior.



Memory vs Processing

Balance needed between memory usage and speed.

Output

```
1. Place Order
2. Process Order
3. Show Orders
4. Exit
Choose: 1
Enter customer name: Name
Order added: ID 1 for Name
```

```
1. Place Order
2. Process Order
3. Show Orders
4. Exit
Choose: 1
Enter customer name: : name 2
Order added: ID 2 for :
```

```
1. Place Order
2. Process Order
3. Show Orders
4. Exit
Choose: Enter customer name: Order added: ID 3
      for name
```

```
1. Place Order
2. Process Order
3. Show Orders
4. Exit
Choose: Processing order ID 1 for Name
```

```
1. Place Order
```

```
2. Process Order
3. Show Orders
4. Exit
Choose: 1
Enter customer name: name 3
Order added: ID 4 for name
```

```
1. Place Order
2. Process Order
3. Show Orders
4. Exit
Choose: Pending orders:
ID 2 - :
ID 3 - name
ID 4 - name
```

```
1. Place Order
2. Process Order
3. Show Orders
4. Exit
Choose: 1
Enter customer name: name 4
Order added: ID 5 for name
```

```
1. Place Order
2. Process Order
3. Show Orders
4. Exit
Choose:
```

```
=== Code Execution Successful ===
```

Conclusion

"To conclude, our project on Food Delivery Queue System Simulation helped us understand how data structures, like queues, are used in real-life systems such as food ordering and delivery.

By implementing this in C, we applied our programming knowledge to build a functional and interactive system.

It also improved our logic-building, teamwork, and practical coding skills.

Overall, this project was a great experience, and we're proud to have learned and applied something useful and relevant."

THANK YOU !!!