



*Green University of Bangladesh*

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## Use Case and Data Flow Diagram

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<u>Lab Project Status</u>	
Marks:	Signature:
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# 1 Introduction

The demand for convenient, healthy, and home-cooked meals has increased significantly due to busy lifestyles and a heightened focus on nutrition. The Homemade Food Delivery System addresses this demand by connecting home chefs with customers who prefer the quality and taste of homemade food over restaurant meals. This system provides a platform where home chefs can showcase their culinary skills and customers can enjoy freshly prepared meals without the hassle of cooking.

The use case and Data Flow Diagram (DFD) models are essential for visualizing and understanding the system's functionality and data interactions [1]. The use case diagram outlines the interactions between users and the system, while the DFD illustrates how data flows within the system, highlighting processes, data stores, and external entities. Together, these models help in designing a robust, user-friendly, and efficient system.

## 2 Objectives

1. To provide a comprehensive understanding of the functionalities and interactions within the Homemade Food Delivery System.
2. To map out the flow of data within the system using a Data Flow Diagram.
3. To identify and document the assumptions and rationale behind the design of these diagrams.

## 3 Use Case Diagram

- **Rationale and Assumptions:** The use case diagram for the Homemade Food Delivery System depicts the interactions between the primary actors (Customers, Home Chefs, and Administrators) and the system. This diagram helps in understanding the various functionalities the system must support and how different users interact with it. [2]
- **Assumptions:-**
  - Customers:** can browse menus, place orders, track their orders, make payments, and provide feedback.
  - Home Chefs:** can manage their profiles, update menus, receive and prepare orders, and handle deliveries.
  - Administrators:** oversee the system operations, including user management, order management, and handling support queries.

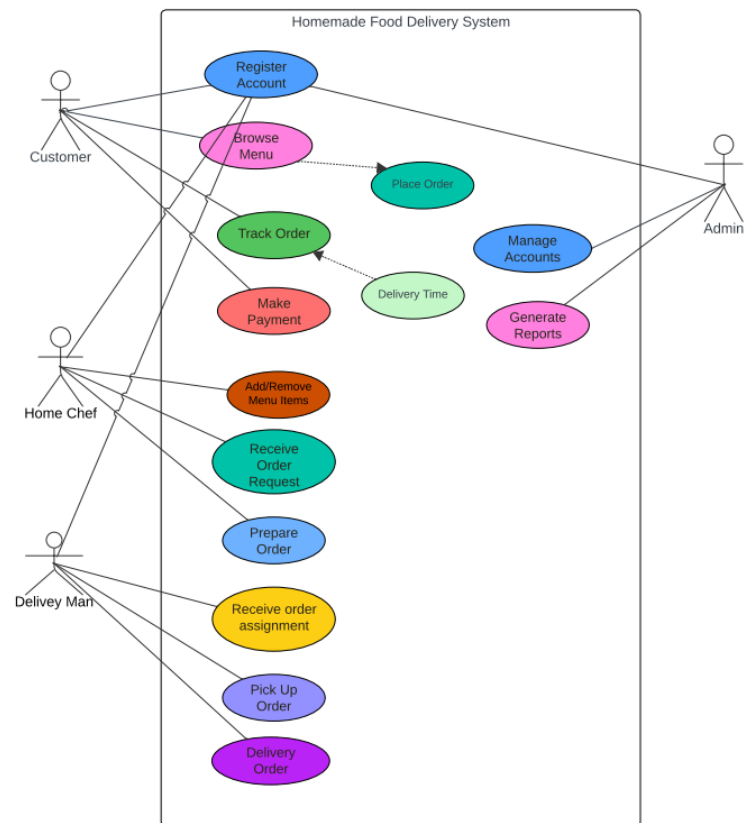


Figure 1: Use Case Diagram

- Actors:

- Customer:

- Browse Menu
- Place Order
- Track Order
- Make Payment
- Provide Feedback

- Home Chef:

- Manage Profile
- Update Menu
- Receive Order
- Prepare Order
- Deliver Order

- Administrator:

- Manage Users

- Manage Orders
  - Provide Support
- Use Cases:
    1. Customer:
      - Customers browse the available menus and select items.
      - Customers place orders for selected menu items.
      - Customers track the status of their orders.
      - Customers make payments through an integrated payment gateway.
      - Customers provide feedback on their order experience.
    2. Home Chef:
      - Home chefs manage their profiles, including personal and contact information.
      - Home chefs update their menus with available dishes.
      - Home chefs receive and confirm orders from customers.
    3. Administrator:
      - Administrators manage user registrations and profiles.
      - Administrators oversee the order process and ensure smooth operation.
      - Administrators handle support requests from customers and home chefs.

## 4 Data Flow Diagram

- Rationale and Assumptions: The Data Flow Diagram (DFD) for the Homemade Food Delivery System maps out how data moves through the system. [3] It identifies the main processes, data stores, and external entities involved, providing a detailed view of the system's data handling.
- Assumptions:
  1. The system consists of multiple interconnected processes, including Order Management, Food Preparation and Delivery, User Management, Payment Processing, and Feedback and Support.
  2. External entities such as Customers, Home Chefs, and Payment Gateway interact with the system through these processes.
  3. Data flows between these processes to ensure seamless operation and information exchange.
- Entities:
  1. Customer: Interacts with the system to place and track orders, make payments, and provide feedback



4. **Payment Processing:** Manages financial transactions between customers and home chefs.  
**Data Flows:** Payment information, transaction confirmations, payment status.
5. **Feedback and Support:** Facilitates the collection of feedback and provides customer and chef support.  
**Data Flows:** Feedback data, support requests, responses.

## 5 Conclusion

The Homemade Food Delivery System provides a vital service by bridging the gap between home chefs and customers seeking homemade meals. Through detailed use case and data flow diagrams, we have outlined the system's functionalities, interactions, and data movements [4]. These models are crucial for designing an efficient and user-friendly system that meets the needs of all stakeholders, ensuring a smooth and satisfying experience for both customers and home chefs.

## References

- [1] Ian Sommerville. *Software Engineering, 9/E*. Pearson Education India, 2011.
- [2] Grady Booch. *The unified modeling language user guide*. Pearson Education India, 2005.
- [3] Joseph S Valacich, Joey F George, and JS Valacich. Modern systems analysis and design (2017). *Google Sch. Google Sch. Digit. Libr*, 2022.
- [4] Edward Yourdon. *Modern structured analysis*. Yourdon press, 1989.