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Name of the assignment : Select a Capstone project from GitHub and draw & Explain DFD, Use Case and the object diagram of that system.

Answer:

Select project : Food delivery system

A food delivery system is a popular capstone project that allows users to order food from restaurants, track their delivery and manage menus. For this example, I will assume a system with the following features:

1. User registration and login.
2. Browse restaurant menus and place food order.
3. Track the status of orders (preparing, out for delivery, delivered)
4. Admin manage restaurants, menus and delivery staff.
5. Delivery person update the order status.

1. Data Flow Diagram (DFD) :

Level 0: Context Diagram

→ Entities:

- User
- Admin
- Restaurant
- Delivery person

→ Processes:

- Order food
- Manage menu/restaurants
- Delivery food

→ Data Stores:

- user database
- Order database
- Menu database

Level 1: Detailed process breakdown

→ Processes:

- User Browses Menu: Fetch menu item from the database
- place order: Save the order details into the order database
- Assign Delivery: Admin assigns orders to delivery persons.
- Track Order: User checks the status of the order.

2. Use case diagram.

→ Actors :

- User: Browses the menu, places an order, tracks delivery.
- Admin: update Manages restaurants, menus and assigns delivery staff.
- Delivery person: ~~update~~ update delivery status.
- Restaurant owner: update the menu details.

→ Use cases :

- Login/register (all actors)
- Browse Menu (user)
- Place order (user)
- Manage Menu (Admin/Restaurant owner)
- Assign Delivery (Admin)
- Update Delivery status (Delivery person)
- Track order (user)

3. Object diagram:

An object diagram represents the system's state with specific objects at a point in time. For the food Delivery system, objects and relationships might include:

→ Objects :

- User : Attributes include name, email, address.
- Menu : Attributes include itemName, price, restaurantID
- Order : Attributes include orderID, orderStatus, deliveryPerson.
- DeliveryPerson : Attribute includes name, contact
- Restaurant : Attribute includes restaurantName, location.

→ Relationships :

- A user places one or more orders
- An order has one DeliveryPerson
- A restaurant provides one or more Menu items.