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National University of Computer & Emerging Sciences

Department of Software Engineering

Software Requirements Engineering

In-Class Group Assignment - Fall 2024

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Time allowed: **1 hour** Total Marks: **15** Marks Obtained:

Scenario: Online Food Delivery System

You have been approached by PopularDesiFood chain to help transition to an online food delivery system. Your requirements engineering team agrees to design an **Online Food Delivery System (OFDS)** that serves three primary user groups: **Customers**, **Restaurant Managers**, and **Delivery Personnel**. The system aims to make the process of ordering, preparing, and delivering food seamless and efficient.

Description of the System:
Customers can browse menus, place orders, and track delivery status in real time. Restaurant managers receive order notifications, update menu availability, and manage operational reports. Delivery personnel can access optimized delivery routes, update order statuses, and receive push notifications about order assignments. The system integrates with third-party services like payment gateways, map APIs, and SMS notification systems.

User Stories

Customer User Stories:

1. As a customer, I want to browse restaurant menus categorized by cuisine and price so I can decide what to order.
2. As a customer, I want to place an order with multiple items so that I can buy a complete meal in one go.

3. As a customer, I want to track the delivery status in real time so I know when my order will arrive.
4. As a customer, I want to save my favorite restaurants for faster ordering in the future.
5. As a customer, I want to apply promo codes during checkout to avail of discounts.

Restaurant Manager and Staff User Stories:

1. As a restaurant manager, I want to update menu items and prices so that my customers have accurate information.
2. As a restaurant manager, I want to receive order notifications as soon as an order is placed so that I can prepare it quickly.
3. As a restaurant manager, I want to mark items as out of stock so that customers cannot order unavailable dishes.
4. As a restaurant manager, I want to view sales reports daily, weekly, and monthly so that I can analyze performance trends.
5. As a restaurant manager, I want to communicate with delivery personnel in case of special delivery instructions.

Delivery Personnel User Stories:

1. As a delivery person, I want to view optimized delivery routes so that I can minimize delivery time.
2. As a delivery person, I want to mark orders as delivered so that the system updates order statuses.
3. As a delivery person, I want to receive notifications of new order assignments so that I can prepare for deliveries.
4. As a delivery person, I want to check customer contact details to resolve issues during delivery.
5. As a delivery person, I want to report delivery delays so that customers and restaurants are informed.

Instructions for the Activity

Duration: 1 hour

Read the scenario and user stories provided. Can you think from the perspective of customer, restaurant manager/staff, and delivery personnel and add more user stories?

First, add more user stories.

Identify **Functional Requirements (FRs)** for the system against user stories for each user group.

Identify **Non-Functional Requirements (NFRs)** such as performance, security, and usability etc.

BE CREATIVE! BRAINSTORM!

Use of AI is strictly not allowed. There is a second part to this activity. To ensure that the second part of the activity is successful all requirements must be manually generated.

4.5/5

1.75/5

Additional Customer User Stories:

US_C_1	As a customer, I want to pay through different methods such as digital wallets for secure payment.
	As a customer, I want to filter the restaurants based on reviews, so I can choose highly-rated ones.
	As a customer, I want to request special packaging for my order.
	As a customer, I want to schedule recurring orders, so I don't have to reorder frequently.
	As a customer, I want to receive reminders for active promotions so I can benefit from discounts.

Additional Restaurant Manager/Staff User Stories:

US_S_1	As a manger, I want to configure Kitchen preperation time dynamically based on staff availability.
	As a manager, I want to assign special staff to handle special instructions for orders.
	As a manager, I want to block fraudulent customers from placing orders future.
	As a manager, I want to manage complaints directly within the app for quick resolutions.
	As a manager, I want to upload promotional banners & videos to the app to attract customers.

Additional Deliver Personnel User Stories:

US_D_1	As a delievery guy, I want to track my earnings per shift for better financial planning.
	As a delievery guy, I want to rate the restaurants based on order handling efficiency.
	As a delievery guy, I want to block specific customers if issues repeatedly arise.
	As a delievery guy, I want to see the estimated delievery time for assigned orders.
	As a deliery guy, I want to get tips directly through the app for seamless transactions.

4/5

Customer Functional Requirements (FRs)

R_C_1	Customers can search for restaurants based on cuisine, price or ratings.
	Customers can view personalized recommendations based on past orders.
	Customers can apply multiple promo codes if eligible.
	Customers can update their address or contact details during checkouts.
	Customers can track entire order including preperation & delievery.
	Customers can create group orders for shared delievery.
	Customers can receive real-time updates on menu changes from saved restaurants.
	Customers can mark orders as incomplete or unsatisfactory for dispute resolution.
	Customers can enable notification for their preferred restaurants special deals.
	Customers can upload special requests for recurring dietery needs.
	Customers can set meal preferences (e.g low sugar, less spicy) in their profiles.
	Customers can redeem loyalty points during checkouts.
	Customers can access a calorie count or nutrional breakdown of meals.
	Customers can track environmental impact of their order.
	Customers can add tip amounts for delievery personnel during checkout.
	Customers can reorder saved favourites from past orders with one click.
	Customers can share order status with family or friends through a link.
	Customers can upload ratings & reviews directly from the app.
	Customers can cancel orders within a specified timeline before preperation.
R_C_20	Customers can request priority delievery for additional fee.

4/5

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Restaurant Staff Functional Requirements (FRs)

R_S_1	Managers can upload menus with images, prices & description.
	Managers can tag items as "best seller" or "chef's special" to attract customers.
	Managers can access live order progress dashboards.
	Managers can send broadcast messages to all delievery personnel.
	Managers can set availability for limited-time offers or seasonal items.
	Managers can configure minimum order amounts for free delievery.
	Managers can track customer satisfaction metrics through feedback analysis.
	Managers can monitor daily kitchen staff productivity via an in-app module.
	Managers can offer bulk discounts for large grup offers.
	Managers can enable customers to pre-order for busy occassions.
	Managers can deactivate restaurant listings temperarily.
	Managers can create delievery zones with custom charges based on location.
	Managers can flag suspicious orders for verification
	Managers can integerate external CRMs for advanced customer tracking.
	Managers can access staff attendence & efficiency reports.
	Managers can identify top-selling dishes across time periods.
	Managers can offer special discount for first time customers.
	Managers can assign delievery personnel to specific areas to optimize workflow.
	Managers can export financial & operational data for external software.
R_S_20	Managers can view refural requests & approve them.

Delivery Personnel Functional Requirements (FRs)

R_D_1	Delivery personnel can set their availability for work shifts.
	Delivery personnel can set route updates on live traffic conditions.
	Delivery personnel can mark orders as "in progress" picked up
	Delivery personnel can update vehicle type
	Delivery personnel can access pre-configured customer queries
	Delivery personnel can view weekly
	Delivery personnel can set delivery mode.
	Delivery personnel can can view in real time
	Delivery personnel can access in app
	Design SOS button for safety purposes
	Delivery personnel can communicate with multiple customers.
	Delievery personnel can update app settings for map providers.
	Delievery personnel can flag restaurants for slow preperation times.
	Delievery personnel can support defective packaging or spills.
	Delievery personnel can rate delievery exp. with specific restaurants.
	Delievery personnel can view a summary of orders for shift.
	Delievery personnel can opt-in for "priority delievery" assignments with higher earnings.
	Delievery personnel can submit leave request through the app.
	Delievery personnel can receieve alerts about weather conditions that affect delievery.
R_D_20	Delievery personnel can receive achievement badges.

4.0/5

1.75

Non-Functional Requirements (NFRs)

NFR1	Interface should support colorblind friendly theme for accessibility.
	Platform should support low band-width connections for rural areas.
	Customer data encryption must follow AES-256 standards.
	Push notifications should be delivered within 1 sec. of trigger events.
	All data should be backed up every 15 mins to ensure minimal data loss.
	The platform must have 99.5% uptime with minimal scheduled maintainence.
	The system should handle upto 100000 concurrent users with consistent performance.
	The system must comply with global payment security standards.
	The system should auto-scale during peak hours to avoid overload.
	All logs should be retained for 6 months for audits & compliance.
	The app should support offline access to last-mile delievery details.
	The app should load fully within 3 seconds on standard 4G Network.
	The system should provide detailed error messages for troubleshooting.
	The app should auto-detect and adapt to user language settings.
	The system updates should occur without disrupting active sessions.
	The database must handle at least 1 million transactions per hour.
	The system must pass regular penetration testing to ensure security.