In groups of 4 read the following problem description and solve the questions.

You are the manager of Jiovani Naseem Soft; a mobile and web development company. You won a contract to develop a mobile app for Nourhan Habashi Restaurant. The application will support the 2 most popular mobile platforms: Android and iOS (for iPhone). It will allow the customer to pre-order his meal before going to the restaurant. The customer can view the available dishes and their description and prices. He can mark the dishes he wants and specify his expected arrival time and the number of people coming. He must pay in advance by credit card. Then he receives a confirmation number. The kitchen in the restaurant receives the orders on a computer screen and it remains in the list of inactive orders. Half an hour before the expected arrival time of the customer, the order becomes active and they start preparing it to serve it on time.

A customer can cancel his order anytime. He can also view his current orders. If he cancels the order earlier than 30 minutes before his arrival, he pays 20% of the value of the order and his credit card is refunded 80%. If he cancels the order less than half an hour from his arrival time, he pays the full value of the order but the order is not produced or served.

The restaurant workers (waiters الجرسونات and kitchen staff) can see a list of pre-ordered meals. If kitchen runs out of the ingredients for a specific dish, kitchen staff disable this dish; so customer can see it but not order it.

Upon his arrival, the customer informs the waiter of his confirmation number and the waiter seats him and brings him his order. The manager of the restaurant can configure the system to stop receiving orders in certain times of the day or limit the number of orders made per hour.

The system should be secure and encrypt financial data and credit card information so no hacker can steal it.

1. Define the functional requirements of the system.
2. Describe any missing information that you need to know in order to be able to develop the system.
3. Define all the actors of the system.
4. Identify the use cases of each actor and draw a full use case diagram.
5. Describe 2 non-functional requirements based on the description above.
6. Describe in details the use cases "Place an Order" and "Cancel and Order". Show the main flow and one exceptional flow.

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