**Foundation Certificate in Information Technology**

**System Analysis & Design**

**Semester 02 – 2022**

**Tutorial 06 & 07 – Requirement Gathering & Analysis**

1. What are software Requirements?
2. Briefly explain the types of software requirements with examples.
3. What is meant by Requirement Gathering? Mention different types of techniques can be applied for requirement gathering?
4. What are the different interview types being there?
5. Write down two (02) differences between Structured Interview and Unstructured Interview.
6. What are the two types of questions used in an interview? Briefly explain each of the types.
7. What is the requirement gathering technique in which can be applied for both requirement elicitation and validation?
8. Identify the functional requirements for software to manage the scheme described below. Specify these requirements in terms of input data, output data, and processing (i.e. specify what, not how).

A supermarket has devised a scheme to encourage customer loyalty. To register for the scheme, a customer must supply their name, address, and telephone number. Each registered customer is assigned a unique Customer Identification Number (CIN). A customer can present this CIN to the checkout staff so that the value of a purchase is recorded. At the end of every year, the supermarket intends to award surprise gifts to the three customers who spent the most money in the supermarket; it also intends to award a $10 shopping voucher to every customer who spent more than a threshold amount (e.g. $1000) during the year. The total against each CIN is reset on the first day of every year when the supermarket is closed for the public holiday.

1. Analyze the scenario given below and identify the functional requirements and non-functional requirements.

“Sea view "is a popular hotel along the south coast of Sri Lanka. As a software system designer, you are asked to develop an Online Reservation System (ORS) requirements of ORS is given below.

A local/foreign visitor can first read about the hotel through the ORS. They can also request specific information if needed. Once their booking details are given, the visitors are also given the facility to view the availability of room(s). For example, in order to view the availability of room(s), the visitor has to enter the duration, a number of guests, type of room and no of rooms needed. Then the system shows the availability of the room.

If the visitor needs to book the hotel room(s) he has to register with ORS. In the registration of the visitor, he/she has to enter the visitor name, address, e-mail, telephone number, gender, and password. If the registration is successful system generated the unique CustomerID for that particular visitor. Once he is registered, he can log in to ORS and by using their CustomerID and password. If visitor entered CustomerID and password is correct system display the main menu to book the room.

When the visitor books the hotel room(s) he/she should provide the check-in, check-out, number of guests, type of room and no of rooms needed. If the booking is successful the user will be given a unique registration number (URN). If the user wants to view the reservation he/she can give the URN to the system to retrieve the reservation in details.

Visitor can also ask the receptionist at "Sea View "to do the reservation for them. When the guests arrive at the "Sea View "hotel, they give the URN to the receptionist to check them in. At the time of check-in, the receptionist assigns the rooms while when checking out the receptionist will process the payment. The payment will be processed through the Bank Payment System. If the guest requires a bill, the receptionist will print the invoice with the relevant details.

The system administrator of ORS ensures that system is available 24x7 and assures confidentiality of the visitor’s information.

1. Perform a structured analysis in the scenario given below and answer the following questions.

Seabourn Cruise Line is a member of the exclusive World's Leading Cruise Lines alliance. They offer cruise vacations that appeal to the widest range of lifestyles and budgets and sail to some of the world's most exciting destinations.  The trip details are advertised in newspapers and published online on their official web site.

Passengers can book the tickets online, they have to register with the system by providing the name, e-mail, address, phone, and credit card details. If the registration is successful then the system generates a Passenger ID and password for that particular passenger and send them via e-mail. Once registered, passenger can log in to the system by using their Passenger ID and password. If passenger entered Passenger ID and password is correct, the system displays the main menu to book the ticket.

Passengers can check the availability of the seats before they make the booking. For that passenger should select the date, final destination from the menu, then the system displays available fight details. If the flights are available only then the only passenger can book tickets. In order to book a ticket, the passenger should provide the date, no of passengers, final destination they need to visit. Then the system validated the entered details and generate reservation ID for it. Passengers have the opportunity to cancel the reservation if the passenger needs to cancel the reservation he/she needs to provide the reservation ID to the system.

Payments for the bookings are made by credit cards. For that user should provide the credit card details to the system. Then the system sends the credit card details to the payment gateway for further verification. The payment gateway sends the notification to the system mentioning the validity of the credit card details. Once the payment is completed for a particular reservation, the system generates the invoice and send to the customer.

The system administrator of the system ensures that the system is available 24x7 and assures confidentiality of the passenger’s information.

1. Identify the **functional requirements** in the given scenario.
2. Identify the **non-functional requirements** in the given scenario.
3. Identify the functional requirements for the software described below and write the requirements in terms of function name, input, processing, and output.

“BestWorld Supermarket” is a popular supermarket in Washington, DC, United States. The supermarket wants to introduce a new scheme for the loyalty customers. The requirements for the new software are given below.

* Every customer must provide their name, address and contact number to the system to register for the scheme. After registering, each customer will be assigned with a unique Customer Identification Number.
* When purchasing, customer should provide their Customer Identification Number to record the transaction.
* At the end of each year, the supermarket intends to give surprise gifts to the customer who has spent highest amount of money in total during the year to purchase items. The selected customer will get notified through an email.
* The market also intended to award shopping voucher worth $50 to every customer who have spent more than $1000 during the year.
* On 31st December of each year the total amount spent is set to 0 for every customer.