Course Title: Software Engineering
Date:10/01/2017
No. of Questions: 3 Questions
Time: 2 hours

University of Palestine

Final Exam
1st semester 2016/2017
Total Grade: 50

Instructor Name: Eng. Eman Alajrami
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)

First Question — No. of Branches (1) — 5 Marks

Put (√) or (X) for each of the following statements:

1) Constraints on the services or functions offered by the system such as timing constraints are Functional Requirements. ( )

2) The system evolves by adding a new feature proposed by the customer. ( )

3) Functional user requirements should describe the system services in detail ( )

4) Viewpoint-system mapping refines the description of the identified viewpoints and services ( )

5) Scenarios are descriptions of how a system is used in practice ( )

Second Question — No. of Branches (5) — 25 Marks

Answer all of the following questions :

1. One of the design rules is to Provide for flexible interaction. Explain and give example.

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2. Requirements should be both complete and consistent, Explain?

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3. **What are the main steps of the Interface Design?**

4. What are the problems with NL **(When used in detailed specification , in system design)?**

5. **When is it preferred to use incremental model in Software development?**

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Third Question **No. of Branches (2)** **20 Marks**

1. **A software system for managing restaurant services:**

There are three kinds of humans involved in this scenario: Waiters, Chefs, and Customers.
Each waiter uses a wireless handheld device to communicate with the chefs. Waiters enter Customer orders and receive notices that orders are ready through their handheld devices.
The Use Case PlaceOrder Initiated by Waiter. Waiter activates the PlaceOrder option on his handheld device, which brings up an order form on the handheld's display.
Waiter fills in the table number for the order.
As Customer tells Waiter what she wants to order, Waiter taps on items on order form.
If the Customer has special preparation instructions for an item, Waiter selects the CustomizeOrder option and enters the special instructions.
When Customer is finished placing order Waiter submits the order to the Chef. The sent order contains the table number, the Waiter's ID code, the items ordered, and all special instructions.
The order appears on the Chef's display. After the Chef has prepared the order, he selects the InformOrderReady option. The Waiter's handheld device flashes a message informing him that the order is ready.
The Waiter delivers the food to the Customer, then uses the handheld device to record that the order has been delivered.

a. Draw a use case diagram for the above scenario.

b. Draw Activity diagram for the previous scenario.

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2. Imagine you are developing an auction system for private persons. The features include
- User account management
- Advertise design system
- Search for different articles to buy
- Auction management system
- Bidding system
- Fairly trusted payment system

Draw a UML class diagram with at least five classes, where all classes have attributes and operations. Explain the relations.

Good Luck