

Software requirement and specification

M Mubeen Alam ID#6906

Final term exam



20

Question No: 01

(10)

Define requirements and define what the system (take example of any system) is required to do and what are the features and constraints under which it operates.

Ans:

Requirement:

A Requirement is the capacity and the conditions to which the system must comply.

In the production of a product and in the operation of a large process, a requirement is a written or practical requirement for a specific work, product or process. .it's commonly used in engineering designs.

- ▶ The system shall maintain records of **Store** materials including Flour, All types of lentils, Sugar and All types of Drinks, sweets and Fruits, Rice, collections of Mix Masala's , and All kinds of Oils .
- ▶ The system shall allow users to search for an item by Name, Company like (Meezan, Vital, Dettol) or by Barcode of product.
- ▶ The system's user interface shall be implemented using a World-Wide-Web browser Or Android Application which is specially created For this Mart/Store And for Customer's.
- ▶ The system shall support Unlimited transactions For buying Products .
- ▶ The system facilities which are available to public users shall be demonstrable in 5 minutes or less.
- ▶ The system make easy way for customer's for buying products through it self or through Application.

Question No: 02

(10)

Explain software requirements types.

There Are Four types of Software requirements .Explain All Following .

Ans:

Functional Requirements:

The requirements, which relate to the functional aspect of the software fall into this category.

They describe the functions and functions inside and from the system.

Which Define part of the system's Functionality.

Examples -

- ▶ Search option provided by the user to search from various invoices.
- ▶ The user should be able to send any report to management.
- ▶ Users can be divided into groups and groups can be given different privileges.
- ▶ Must comply with business rules and administrative duties.
- ▶ System is developed to keep the drop down consistent.

Implementation Requirements:

Implementation, execution, or execution of a plan, method, any design, idea, model, specification, standard or policy for doing something .For the implementation process to be successful, many tasks between different departments need to be performed sequentially.

That's Main purpose of Implementation Requirements state how system must implemented

Performance Requirements:

Performance requirements define how well the system performs certain functions under specific conditions.

The only way in which systems will meet their performance targets is for them to be specified clearly and unambiguously .Which Specify a minimum Acceptable performance of a system.

In order to assess the performance of a system the following must be clearly specified:

- Response Time
- Workload
- Scalability
- Platform

Usability Requirements:

Usability requirements are listed as expected and descriptions are designed to ensure that the product, service, process or environment is easy to use.

Requirements can be provided in many broad ways by business units, customers and subject matter experts.

The Main purpose of usability requirements which specify the maximum acceptable time to demonstrate the use of system.

Question No: 03

State difference between system requirement engineering and software requirement engineering

Ans:

System Requirement Engineering (SRE): This is a standard engineering document that sets out the requirements of how the system works. It's not just software-software; if the system includes Hardware, or multiple parts of the software, it says so known as System requirements Engineering.

Software Requirement Engineering (SRE): This is a complete description of the requirements of one software item. The process to gather the software requirements from client, analyze and document. them is known as Software requirement engineering

Question No 04:

(10)

Give five reasons why requirements negotiation is needed in software engineering.

Ans:

- ✚ Negotiation helps promote communication and therefore improves understanding of requirements.
- ✚ Negotiations help to uncover conflict, explore solutions, and resolve conflict.
- ✚ Negotiations help improve the level of agreement between the parties.
- ✚ Negotiations help improve participants' satisfaction.
- ✚ Negotiation helps improve the quality of needs.

Negotiation : If the interests have different views or there are specific disputes in the interests of the various stakeholders, if so, they are discussed and negotiated with the stakeholders. Requirements may be prioritized and used disregarded.

Requirements come from various stakeholders. To clear the depths and conflicts, they are discussed to be clear and accurate. Non-material needs are wrongly ignored.

Question No 05: (10)

Identify the **actors** and the **objects** in the following scenario to register a patient in a hospital management system and draw a **use case diagram**:

The administrator enters the patient's name, address, date of birth and emergency contact details into the system. If the patient has only public health insurance, the administrator enters the patient's medicare number, and the system verifies this with government health database. If the patient also has private health insurance, then the administrator enters also the patient's private health insurance details, and the system verifies these details with the private health insurance system. When these details are verified as correct, the system saves the patient's details and confirms the registration.

Ans:

Actors:

Administrator, Government Health Database, Private Health Insurance System
(The last two are external systems)

Objects:

- Patient
- Administrator
- Address
- Emergency Contact
- Public Health Insurance
- Private Health Insurance

- Registration.

Assumptions:

- ❖ Address contains street number, street name, suburb, and postcode and so is large enough to be an object.
- ❖ Other nouns identified that are not considered to be objects include: patient's name and date of birth. They are considered to be stored as primitive types or strings and are attributes of other objects.
- ❖ Emergency Contact is assumed to contain a contact person's name and phone number (and most likely the address and relationship to the patient) and so should be an object rather than an attribute.
- ❖ The noun "details" appears a few times. It is not considered to be an object as the word refers to the attributes of some objects.

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USE CASE Diagram

