Chapter 4: Requirements Engineering

Your name:

Answer all questions. 1 mark per question

1. What are user requirements and system requirements? Give examples of your current project.

User requirements are statements in a language that is understandable to a user of what services the system should provide and the constraints under which it operates.

System requirements are more detailed descriptions of the system services and constraint, written for developers of the system.

2. What is the distinction between functional and non-functional requirements? Give examples of your current project.

Functional requirements define what the system should do. Non-functional requirements are not directly concerned with specific system functions but specify required system properties or place constraints on the system or its development process.

3. List 3 types of non-functional requirement?

Product requirements, that specify or constrain the software's behaviour.

Organisational requirements, are general requirements derived from policies and procedures in the customer's organization.

External requirements, which cover all requirements derived from factors external to the system and its development process.

4. What is the software requirements document?

The official document that defines the requirements that should be implemented by the system developers.

5. What are the main advantages of using a standard format to specify requirements?

All requirements have the same format so are easier to read,

The definition of form fields mean that writers are less likely to forget to include information

Some automated processing is possible.

6. What are the principal stages of the requirements engineering process?

1. Requirements elicitation and analysis

2. Requirements specification

3. Requirements validation

7. Give 5 reasons why eliciting requirements is difficult?
8. What should be included in a scenario? Give an example of your current project.

1. Stakeholders don't know what they want
2. Stakeholders use their own language that requirements engineers may not understand.
3. Stakeholder requirements may conflict
4. Political factors may influence the system requirements
5. The business environment may change during elicitation.

1. A description of what's expected when the scenario starts
2. A description of the normal flow of events
3. A description of what can go wrong and how to handle it

4. Information about concurrent activities
5. A description of the system state when the scenario finishes

9. What is a use-case? Give an example of your current project.

A use-case identifies a typical interaction with a system and the actors (human or computer) involved in that interaction.

10. What is ethnography and how is it used in requirements elicitation?

Ethnography is an observational technique where an analyst spends a period of time observing work and noting how the participants carry out their tasks. It is particularly useful in identifying essential cooperation in work processes.

11. What checks should be applied during requirements validation?

1. Validity checks
2. Consistency checks
3. Completeness checks
4. Realism checks
5. The verifiability of the requirements should be assessed.

12. List three requirements validation techniques?

1. Requirements reviews
2. Prototyping
3. Test-case generation