

1. Discuss the 5 main activities involved in Requirements Engineering Process.
  1. Feasibility - As estimation whether the system is feasible to implement with available tech , operational, and economical
  2. Requirement elicitation - Get functional and nonfunctional requirement from stakeholders
  3. Requirement specification - Produce SRS
  4. Requirement validate - Define the requirement is actually client wants
  5. Requirement management - Ongoing process to manage the requirement changes

2. Nobiana specializes in swimwear and clothing for women. Started in 1995 as a small scale mail order company, Nobiana has now grown into a multi-million pound and award winning organization.

Working with an independent outsourcing consultancy Zen, Nobiana decided to implement a new point-of-sales and inventory management system. The new project was driven by the need to simplify the way in which stock information and point-of-sales applications were delivered to retail stores and to enable this to be easily scalable in order to accelerate roll-out to existing or new stores, reduce ongoing administration and support costs while providing real time and accurate view of stock across the business, minimizing stock levels and streamlining ordering across the branches.

- a. Suggest and briefly explain 2 techniques for discovering requirements for the above project. (Prototyping/Interview/Observation/Questionnaire/Scenario)

**Prototyping**

- It allows stakeholders to interact with a tangible representation of the proposed solution, providing valuable insights into their needs and preferences.
- Through prototyping, Nobiana can gather feedback early in the development process, enabling them to refine and adjust the system requirements based on user input.

**Interview**

- It allows direct conversations with stakeholders, such as retail store managers, employees, and administrative staff, to understand their perspectives, requirements, and pain points.
- By conducting structured or semi-structured interviews, Nobiana can gather detailed information about the specific challenges and opportunities related to the existing point-of-sales and inventory management processes.

- b. Assume that Zen is planning to adopt a viewpoint-oriented analysis method for the requirements analysis process. Describe viewpoint-oriented analysis in requirements analysis process.

Viewpoint hierarchy chart describe stakeholder who that influence your system requirement (3 generic type)

Interactor - who interact the system directly (sales staff, store staff)

Indirect - do not interact directly but influence the requirement (sales manager, store manager)

Domain - characteristics and constraints that influence the requirement (UI standards)

- c. Suggest 5 principal viewpoints which should be considered in the process of discovering requirements for the above project. Construct a viewpoint hierarchy to present your viewpoints.
- Interactor viewpoint (sales staff, store staff)
  - Indirect viewpoint (sales manager, store manager)
  - Domain viewpoint (UI standards)
- d. Discuss 2 advantages and 1 disadvantages of using viewpoint-oriented analysis methods in requirement gathering and analysis.

**Advantages**

- Can get broad coverage of stakeholders
- Easy to decide valid or invalid VPs

**Disadvantage**

- Consume time
- Costly

- e. Suggest 3 aspects to be checked when validating the SRS for the above mentioned project.

Validity - check whether the function the user wants is correct and conform?

Consistency - no function conflict

Completeness - all functions are included?

Reliasm - check whether could be implement with existing tech, budget, scheduling

Verification - demo that the deliver system meets each requirement

3. Discuss any 3 possible problems in the Requirements Elicitation and Analysis process.
- User are not clear on what they want from computer system
  - User express requirement in their own term
  - Different user will express requirement in different way

4. Company KW is planning to develop an online document management system that is used by internal staff to store, share, and work on some confidential documents. You, and IT project manager, are responsible to manage this project with senior software engineers. Company KW requests you to deliver an initial version within 2 months and the subsequent increment within 2 months with active internal staff involvement.

Identify 3 viewpoints for the online document management system. Construct a viewpoint-oriented hierarchy for the system.

- Instructor (HR department staff, IT department staff)
- Indirect (CEO, competitor)
- Domain (UI standard)

5. Easy2Study.com is a global marketplace for teaching and learning online where students are mastering their skills. The system allows the students to search, view available courses, purchase, make payment, and join the courses. An access to start the course will be given once the payment is confirmed. Easy2Study.com is planning to extend their online system on mobile platforms to attract more customers as mobile users are increasing extremely.

As a software engineer for this project, you are required to prepare the system requirements document for Easy2Study.com mobile application. Recommend and explain 2 aspects that must be validated during Easy2Study.com SRS document validation process.

Validity - check whether the function the user wants is correct and conform?

Consistency - no function conflict

Completeness - all functions are included?

Reliability - check whether could be implemented with existing tech, budget, scheduling

Verification - demo that the delivered system meets each requirement

6. Ladre is a small scaled family business founded in 2000s which selling computers' hardware and software. Recently the shop owner plans to improve the business by selling the products online. He has contacted your company as a suitable software house to handle this project.

Based on the case study, construct a viewpoint-oriented hierarchy for the online computer store system with 5 possible viewpoints. You must categorize your viewpoints under 3 categories (Interactor, Indirect, and Domain) with at least one viewpoint under each category.

- Interactor (sales staff, store staff)
- Indirect (owner, competitor)
- Domain (UI standard)