Assignment 2 - Requirements Engineering

Part 1: Requirements Engineering:

1. **Consider a real-world supermarket shopping experience. Provide benefits of automating an in-store supermarket shopping experience, considering both the business and customer perspectives.**

   Customer: a benefit of an automated system for an in-store supermarket shopping experience from a customer perspective is that it will increase the overall hygiene of the store and products. This is because customers will be responsible for scanning their products at checkout.

   Business: a benefit of an automated system for an in-store supermarket shopping experience from a business perspective is that the business will require less staffing to run, meaning that the running cost of the business will decrease.

1. **List two possible techniques for requirements elicitation**
   Survey: ask customers to complete a short in-store survey at each of the supermarket locations. The survey will allow developers to gain requirements from a larger sample size however, these requirements may be vague and incomplete.

   Focus groups: gather a group of stakeholders and ask them a range of questions relating to their needs and wants for the system. Focus groups allow for more elaborated and specific requirements to be elicited.

1. **Elicit and list requirements for the in-store supermarket self-service checkout system. You need to specify two functional and two non-functional requirements**
   Functional:
   - The system must allow users to search for and add fruit and vegetable items to their cart.
   - The system must allow users to scan the barcodes on products, automatically adding the item to the users shopping cart.

   Non-functional:
   - The system must be available to users at least 98% of the time between regular trading hours, 07:00 – 21:00, excluding scheduled system downtime for maintenance.
   - Users shall be able to successfully navigate the automated system and complete checkout without requiring assistance at a 97% success rate.

1. **Specify a technique that you think could be used to determine the validity and a technique that you think could be used to determine the completeness of gathered requirements for an automated in-store supermarket shopping system?**
   Validity: a technique that could be used to determine the validity of the gathered requirements is to complete a requirement review. By completing a requirement review the developers will be able to ensure that the gathered requirements define the customers desired system and identify any missing or unnecessary requirements.

   Completeness: a technique that could be used to determine the validity of the gathered requirements is to create a prototype of the system. By developing a prototype developer will be able to test the system for real-world use. This will help to identify any missing or hidden requirements.

1. **Describe what is meant by a domain requirement and explain why it could be challenging to recognize domain requirements by interviewing the stakeholders of an in-store supermarket shopping system?**
   Domain requirements are requirements that specify the behaviour of the system within its operating environment. Domain requirements are non-functional requirements, thus making them harder for stakeholders to identify. These requirements are hard to illicit through interviews because stakeholders do not understand the inner working of the system. Furthermore, domain requirements should be thought of through the perspective of the system and not the perspective of the stakeholder, thus making them more challenging to elicit through interviewing the stakeholders.

Part 2: Reflecting on Learning Experience:

1. Explain briefly what you learnt in this tutorial?
Through completing this assignment, I learnt about the different components of requirements elicitations. I learnt about the importance of looking at a design from multiple stakeholder perspectives to provide developers with different requirements. Furthermore, I learnt about different requirement elicitation techniques as well as about the importance of checking requirements.

2. List the specific learning resources, techniques, tactics, strategies that you used to learn for this tutorial.

When completing this assignment, I used a variety of sources in order to answer the questions. The first resources I consulted was the lecture slides provided on my uni. These slides provided me with information about stakeholders, elicitation techniques and different types of requirements. The next resources I consulted were my most recent workshop and tutorial answers. In these classes we explored requirements elicitation, thus making them a useful source of information. Finally, I used online sources to gain a better understanding of domain requirements and the challenges faced in their elicitation. The resource used was:
- *Domain Requirements by Ian Sommerville*

3. Evaluate and reflect on your own learning ability/performance/achievement in this tutorial. What challenges did you face in learning about and completing the requirements analysis task in this tutorial? What and how will you improve for the next tutorial?

The mains challenge I faced when completing this assignment was explaining the challenges of eliciting domain requirements. This was because before beginning the question, I was unsure about domain requirements and what they incorporated. However, after conducting some research I understood the requirements and their purpose.

For the next assignment, I will make sure to complete additional research on the topics before starting to answer the questions. This will help to ensure that I fully comprehend the topic and that my answers are correct and concise.

Bibliography

Sommerville, I., 2020. *Domain Requirements*. [online] Ifs.host.cs.st-andrews.ac.uk. Available at: <https://ifs.host.cs.st-andrews.ac.uk/Books/SE9/Web/Requirements/DomainReq.html> [Accessed 4 September 2020].