Nick Forleo

**Chapter 8**

8.1 How do you fit SRS documentation into an agile framework?

The SRS fits into an agile framework by acting as a living document. The requirements of the documented can be updated at each state of the agile process. It can represent both previous versions of the system as well as the next iteration. This means there is a history and you can keep track of how the system evolves.

8.2 Is it possible to use agile methodologies when the customer is not on site? If so, how?

Yes, it is possible to use agile methodologies when the customer isn’t on site. Many methods of requirements gathering can be done virtually to keep the customer engaged without having to physically be in the same location. These methods, like user stories for example, can be done via virtual meetings or shared workspaces (on software such as Zoom, MS Teams, Slack, Confluence, etc..) on a regular basis. Before each iteration of the system, new user stores can be created or existing ones can be reprioritized to which requirements shall be fulfilled. This will keep the system on a truly agile framework.

8.3 Why are agile methodologies generally not suitable for hardware-based projects as opposed to software projects?

Agile methodologies are better suited for software projects over hardware-based projects because hardware-based projects tend to be less dynamic and more costly to develop. Let’s use the development of a new airplane as an example. If you wanted to use an agile method, you would have to build the airplane, evaluate it, then make changes, and repeat. This is impractical because the cost for building a new airplane for every version would be astronomical. It is much better to use the waterfall methodology where you spend a lot of time during requirements, analysis, and design to make sure the system is correct before you build the airplane. I will mention that with the advancements in Digital Engineering, which is the use of modeling software to simulate hardware, it may become more practical to apply the agile method. Changing code generally is easier than having to change physical systems.

8.4 Why can it be difficult for agile methodologies to cover nonfunctional requirements?

Agile methodologies may have difficulty capturing NFRs because user stories is often the method used to generate requirements. Extracting NFRs from user stories can be troublesome as they tend to focus more on functional requirements. This can be alievitating if the requirements engineer makes it a priority to gather NFRs from the customer during the user story writing process.

8.5 Are there any problems in encapsulating requirements into user stories?

Encapsulating requirements in user stores does come with its problems. Like all requirements gathering techniques, it does not cover every type of requirement. In the case of user stories, the missing requirements are often related to maintainability, security, and other requirements that are not directly related to functionality. User stories tend to focus more on interactions with the system. This could lead the development team to more assumptions about the system when it comes to these requirements since they are not stated explicitly. As we know, fixing poorly implemented or missing requirements can be costly.

8.6 For the pet store POS system, generate a user story for customer purchases.

| **Title: Customer Makes a Purchase** | | |
| --- | --- | --- |
| *Acceptance Test:*  *custPurchase* | *Priority: 1* | *Story Points: 3* |
| When a customer makes a purchase, when each item is scanned it is inserted into the transaction. Once all items are scanned, the POS will apply any discounts and display the total. If the transaction is voided, all items are removed from the purchase. If the transaction is successful, then the payment is taken and the inventory is updated. | | |

8.8 For the airport baggage handling system, generate a user story for dealing with baggage that is to be diverted to another flight.

| **Title: Baggage Diverted to another Flight** | | |
| --- | --- | --- |
| *Acceptance Test:*  *flightDiverted* | *Priority: 1* | *Story Points: 1* |
| Once a piece of baggage is identified as needed to be diverted to another flight, the system will identify that piece of baggage by its unique identifier. The system will then route it to the correct flight location. If the destination cannot be reached for any reason, an email notification will be sent to the operator. | | |