

CS6403 Software Engineering

TADR (Think, analyse, discuss and respond) – 4

1. Consider a ticket-issuing system:

An automated ticket machine sells rail tickets. Users select their destination and input a credit card and a personal identification number. The rail ticket is issued and their credit card account charged. When the user presses the start button, a menu display of potential destinations is activated, along with a message to the user to select a destination and the type of ticket required. Once a destination has been selected, the ticket price is displayed and customers are asked to input their credit card. Its validity is checked and the user is then asked to input their personal identifier (PIN). When the credit transaction has been validated, the ticket is issued.

Write a set of non-functional requirements for the ticket-issuing system, setting out its expected reliability and response time.

2. Once a system has been installed and is regularly used, new requirements inevitably emerge. What could be the reasons?
3. You have been given the responsibility to elicit requirements from a customer who tells you he is too busy to meet with you. What should you do?
4. Discuss some of the problems that occur when requirements must be elicited from three or four different customers.
5. Let's assume that you've convinced the customer (you're a very good salesperson) to agree to every demand that you have as a developer. Does that make you a master negotiator? Why?
6. What does win-win mean in the context of negotiation during the requirements engineering activity?
7. What do you think happens when requirement validation uncovers an error? Who is involved in correcting the error?
8. Why is it so important that the specification document should have no omissions, contradictions, or ambiguities?
9. Consider the following recipe for grilled pockwester.

Ingredients:

- 1 large onion
- 1 can of frozen orange juice
- Freshly squeezed juice of 1 lemon
- 1 cup bread crumbs
- Flour
- Milk
- 3 medium-sized shallots
- 2 medium-sized eggplants
- 1 fresh pockwester
- 1/2 cup Pouilly Fuissé
- 1 garlic
- Parmesan cheese
- 4 free-range eggs

The night before, take one lemon, squeeze it, strain the juice, and freeze it. Take one large onion and three shallots, dice them, and grill them in a skillet. When clouds of black smoke start to come off, add 2 cups of fresh orange juice. Stir vigorously. Slice the lemon into paper-thin slices and add to the mixture. In the meantime, coat the mushrooms in flour, dip them in milk, and then shake them in a paper bag with the bread crumbs. In a saucepan, heat 1/2 cup of Pouilly Fuisse. When it reaches 170°, add the sugar and continue to heat. When the sugar has caramelized, add the mushrooms. Blend the mixture for 10 minutes or until all lumps have been removed. Add the eggs. Now take the pockwester, and kill it by sprinkling it with frobs. Skin the pockwester, break it into bite-sized chunks, and add it to the mixture. Bring to a boil and simmer, uncovered. The eggs previously should have been vigorously stirred with a wire whisk for 5 minutes. When the pockwester is soft to the touch, place it on a serving platter, sprinkle with Parmesan cheese, and broil for not more than 4 minutes. Determine the ambiguities, omissions, and contradictions in the preceding specification. (For the record, a pockwester is an imaginary sort of fish and frobs is slang for generic hors d'oeuvres.)

10. What are the strengths of informal specifications?
11. What are the weaknesses of informal specifications?
12. Why are many software organizations reluctant to use formal specifications?