

# Software engineering assignment 3



**ASSIGN  
BUSTER**

Software Engineering Assignment 3 Answer to section 25. 2: The factors which need to be taken into account when selecting staff to work on a software development project are:

1. Application domain expertise: For a project to develop a successful system, the developers must understand the application domain. This requires hiring the business analysts. They have a sound knowledge in a particular domain.
2. Platform experience: This is important in the sense that people with such a characteristic can understand the loopholes of a platform with respect to portability and robustness of a system over the platform.
3. Programming language experience: This is of greater significance as a certain level of expertise is demanded when working over a relevant project. That reduces project training cost and makes the project flow smooth.
4. Problem solving ability: The developers should have a sharp logical aptitude and reasoning ability to understand and solve problems quickly and efficiently.
5. Communication ability: This plays a very important role as communication must be swift with the customer to get the requirements, report progresses and training the end users.
6. Adaptability: It is judged by looking at the working experience of people. It indicates the ability to learn.
7. Attitude: The attitude determines to a greater extent the proactiveness and ownership of a particular task. The attitude towards work and system are very important attributes towards the success of a project.
8. Personality: Being compatible with the technology and the other resources of the project is very much important.

For the purpose of selecting staff to develop a controller for an eye surgery machine the following are required:

**Domain expertise:** An Eye specialist or an equivalent is very much needed to understand all the requirements and penetrations of the system with regard to its behavior and system outputs.

**Platform experience:** As an embedded real time system is involved, staff of the development project must be experienced to handle that. People with no expertise in the related system would require a lot of time and cost to get equipped with the system complexities.

**Communication ability:** There must be good communicators to keep patience in understanding the complexities and deep insight of the system.

**Others:** Other factors such as problem solving ability, attitude and the rest are secondary to any project and are generally adhered.

Answer to section 6. 1:

The four types of requirements of a computer based system are:

1. **Functional and non functional requirements:** Functional requirements are statement of services the system should provide. It tells the systems behavior towards particular inputs and situations. It sometimes states what the system should not do. The non functional requirements offer the constraints on the services offered by the system. They include timing constraints, development process and standards constraint. It applies to the system on the whole.

2. **Domain requirements:** These are the requirements that come from the application domain of the system and reflect characteristics and constraints of that domain.

3. **User requirements:** These describe the functional and non functional

requirements so that they are understandable by the system users without detailed technical knowledge.

4. System requirements and Interface specification: It adds detail and explains how the user requirements should be provided by the system. It includes software, hardware, interoperability and other critical system requirements. The types of interfaces that need to be defined are procedural interfaces, data structures and representation of data.

Answer to section 6. 6:

The plausible user requirements of the cash dispensing function in a bank ATM:

1. Firstly user needs to enter the ATM card which needs to be validated by supplying a pin.
2. Secondly after the card is validated, user gets to see options to carry out his transaction. If the user chooses to withdraw money, he selects that option.
3. The user is allowed to enter the amount to be withdrawn.
4. The next step checks the entered amount with balance in the users account and the cash withdrawal limit of the user.
5. If the step 4 successfully executes then the transaction is completed, user's account is updated and the card is returned back to the user.

## References

Sommerville, Ian. Software Engineering. Pearson Education, 2004.