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ENPM808X Homework-03

Written responses

1.) How are software changes classified by their purpose? What is the most common purpose of the change?

Software changes are classified based on purpose based on:

- Perfective Changes are the most common type of change, they introduce new functionality and increase the value of the software.
- Adaptive Changes that adapt software to new circumstances within which the software operates.
- Corrective Changes that correct software bugs and malfunctions. These bugs and malfunctions are deviations from the intended functionality and impact the users in often unexpected ways.
- Protective Changes that are invisible to the user, and they shield the software and its value in a proactive way.
- Other changes are based on the transfer to a new technology that promises a longer life span of software and other improvements to the security.

The above mentioned are the different ways in which software changes are classified by purpose.

The most common purpose of change is the perfective change. As these introduce a new functionality which in turn increases the value of the software. Best example of this type would be that of the credit card system. Previously when there was only cash system at point of sale (POS) but now with the introduction of credit cards the overall value has increased. It is termed as most common change from the basis that in a survey conducted the perfective changes constitute 2/3rds of all the software changes.

2.) When is it permissible to do quick-fix changes?

Software change can be done as an emergency quick fix or as a very long-term investment in software quality. The only acceptable circumstance for a quick fix during the evolution stage is in the situation of an emergency, where human life or a substantial value or entity is at stake. Thus, the fix must be done quickly and efficiently.

3.) What is a product backlog?

Always there are lot of requirements that need to be managed by the programmer. These set of requirements are stored in a product backlog. The product backlog is also called the requirements database, also it is sometimes called the project wish list as it lists desired future product properties and functions. It describes a shared vision of the project stakeholders for the future of the product.

4.) Describe a situation when a grep search fails. What would you do if this happened to you?

Grep search fails in various situations, one possible failure is that the set of matches is empty, and this indicates that the sought word is not used in the code. In another situation, the word is used in the code with a different meaning and its occurrence does not indicate the significant concept location. Hence grep search often fails in a search for implicit concepts as their names usually don't appear in the code because there is no code, identifier, or comment that indicates the presence of the concept location techniques.

If such a situation happened to me, I would have used a different query and repeat the search or use other concept location techniques.