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**Chapter 9**

9.1 What criteria should be used in choosing an appropriate requirements engineering tool?

Criteria that should be considered when choosing an appropriate requirements engineering tool include, but are not limited to, traceability support, internal checks for dependency and consistency, cloud based for remote working, and more. There are a lot more to consider of course, but I feel that these are representative of the major functionality pieces that are important for RE tools. Traceability support will keep all of your requirements organized and easily identifiable. Internal checks will make sure that your requirements are being implemented in the appropriate order. Cloud based products help make communication between all stakeholders and users of the tool easy because it can be updated at any time by anyone.

9.2 Are there any drawbacks to using certain tools in requirements engineering activities?

Of course using certain tools will have drawbacks in certain requirements engineering activities. For example, if you are using a tool like Jira to track requirements and you don’t have permission assigned appropriately, it can very easily be overwhelmed by scope creep as stakeholders may add their requirements thinking they are most important. Another drawback may be the learning curve it takes to some of these tools. It may hinder free flowing thoughts during a brainstorm session, for example, if the requirements engineer has to keep pausing the conversation to figure out how to use a piece of the tool.

9.3 When selecting an open-source tool, what characteristics should you look for?

When making a selection for an open-source RE tool, the characteristics that you should look for include the user interface of the software and its functionality. Before you make a selection, you should consider how you or other stakeholders interact with the tool. This will define your experience with that tool. Using FreeMind and FitNesse as an example, you can see that both tools have different user interactions. FreeMind is diagram based while FitNesse is code based tables. You would also want to consider functionality when making a selection because that will determine how effective the tool will be during the RE process. If you are more interested in describing high level requirements, then the FreeMind diagram will represent that will. However, if you want granularity in your requirements and have specific metrics to verify and validate, FitNesse will be better suited for your system.

9.4 How can tools enable distributed, global requirements engineering activities? What are the drawbacks in this regard?

Tools can enable distributed RE activities because they can facilitate communication easier and faster than physical, on location methods. For example, virtual prototypes can be used remotely to get early user feedback before a physical system is developed or wikis can be used to collaboratively work on requirements as they are developed.. Some drawbacks may include misinterpretation of others words in text without the ability to get real time clarification or not building the relationship with the customer if there are not enough face to face meetings. As is the same with RE activities, a combination of tools or a tool that has multi-faceted functionality is the best way to alleviate possible shortcomings of only using one.

9.5 If an environment does not currently engage in solid requirements engineering practices, should tools be introduced?

I absolutely believe that if a project or environment doesn’t currently have strong requirements engineering practices, then tools should be introduced. From experience, I can say that introducing tools after an environment is stood up, is beneficial. For example, a project that I worked on initially consisted only of the project lead and I, the developer, on the team. We were able to make it work in the beginning, but as the scope of the project and the team grew, it became difficult to manage the requirements and testing and validation. We decided to introduce Jira and that improved our organization of the project, as well as increasing efficiency in rolling out new features.

**Chapter 10**

10.1 Should a request to add or change features be anonymous? Why or why not?

A request to add or change features should not be anonymous under most circumstances. Being able to assign ownership of change requests will help maintain traceability. It will also help with requirement prioritization. For example, a request that comes from an important stakeholder will probably rank higher than a request coming from a stakeholder lower on the totem pole. That’s not to say there are no benefits from anonymous requests, such as being able to judge the value of the requirement on itself rather than who requested it. However, it is generally more beneficial to know who is request changes or additions to the system requirements.

10.3 How could metrics abuse begin to develop in an organization?

Metrics abuse can begin to develop in an organization simply with a bad hire. If someone who exhibits incompetence and lack of domain knowledge is hired for a management position, whether it be through nepotism or a rushed hire, they may not have the knowledge to accurately and correctly understand the data used for metrics. Another way for metric abuse to begin is if the manager has ulterior motives other than the success of the system. They may want a piece of the project to look like it's succeeding in the short term so they can leverage it to get the promotion they’re after. This means a bad metric might be used to declare the project a success even if it is detrimental to the system in the long run.

10.4 What are some sources of process clash in organizations?

One source of process clash in an organization can be policy versus requirements. This is when a policy is in direct conflict with a requirement. I’ve actually experienced this myself at work. We wanted to implement a feature that would use a badge swipe to automatically create a workspace reservation for a reservable office. However, our Information Security team was vehemently against this, since storing sensitive data is a huge risk. Our solution, ultimately, was to abandon that feature. Another source of process clash may be when new management comes in and tries to “prove” they are in charge by changing workplace processes. This often happens when restaurants change management. The staff who are used to the old process and don’t think that it needs to be completely gutted and replaced may see this as a hurdle for their work and some will choose to quit rather than struggling through the change