Requirement traceability matrix through documentation for SCRUM methodology

ABSTRACT

Requirement traceability matrix is a table that captures the complete user and system requirement for the system. It helps to trace from requirement till testing in order to verify that the requirement is fulfilled. In SCRUM development methodology, requirement traceability matrix is used to capture the linkage of user stories between product backlog and sprint backlog. The linkages between the requirements are retrieved through these two documents. However, unstructured format of both documents do not help in getting the requirement traceability. Thus, requirement traceability has become an issue for SCRUM practitioners especially for system development and maintenance. Therefore, this study will introduce structured format of available artifacts and develop a tracing tool to automatically generate the requirement traceability matrix by keyword searching. Both the documents used in this study have to be prepared by using the structured format and the proposed traceability tool is able to generate the requirement traceability matrix automatically by keyword searching functionality. The result shows that the introduced structured format is very useful and it has increase the efficiency of retrieving the matrix far better than previous process. There is a significant time saved up to 95% for generating the requirement traceability matrix using the proposed method and tool. As a conclusion, requirement traceability can be achieved in SCRUM methodology through the proposed structured documentation and the tool developed.

Keyword: Requirement traceability matrix; SCRUM development methodology; Structured documentation; Forward traceability; Backward traceability; Correctness; Time saved