Reviewing the Challenge and Practices of Human Factor Involvement in Requirement Specification Validation

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Software requirement specification or documentation is the expected main output from requirement engineering process that specify the agreed requirements at appropriate level of detail; this document is expected to be understandable by both the development team and system stakeholders. The purpose of this study is to identify and analyze existing human involvement in requirement specification validation studies according to the formulated research question. Relevant keywords were used for the search term in various type of journal articles, conference papers, workshop, book chapters and IEEE bulletins; to identify main study on the related human factor and requirement specification validation. 39 primary studies were selected from the systematic literature review. The review identified current trend of human factor involvement in specification validation and the most widely used techniques for validation purpose. The finding suggest human factor involvement in this area are still relevant yet need more focus on specification presented informally (natural language) and visual form is the most popular kind of presentation in assisting human factor in this issue.

Keywords: Requirement Specification, Validation, Human Factor, Involvement, Informal Specification.

1. INTRODUCTION

Every system project begins with a statement of requirement that generally depicts how an application or software product should be executed. In almost all of software development lifecycle model, Requirement Engineering is served at the earliest stage in the development process. It is a systematic and disciplined approach to the specification and management of requirement in achieving two goals. Firstly, identifying the relevant requirements, by achieving a compromise among the stakeholders regarding the identified requirements, documenting them according to given standard, and managing them systematically. Secondly, understanding and documenting the stakeholders’ wishes and requests, by specifying and managing them to minimize the risk of delivering unsatisfied system.

The requirements documentation or specification is defined as activity documents the agreed requirements at appropriate level of detail; this document is expected to be understandable by both the development team and system stakeholders. The significant of human aspect in Requirement Engineering can be realized from the definition of requirement engineering by IEEE.

System users or stakeholders’ involvement play a key role in both areas and their involvement become crucial because of two reasons. Firstly, they become the most important source of requirements and secondly, their involvement come to be the key concept of achieving positive effects on system success and user satisfaction. Therefore, ignoring a stakeholder often lead to fragmentally elicited requirement, such as incomplete requirements.