

Using Satisfaction Arguments and Rich Traceability in Requirements Prioritisation

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Abstract

Requirement Engineering (RE) is a distinct subset activity of *Systems Engineering*. *Eliciting* and *Specifying requirements* are the sub processes of RE. *Eliciting* and *Specifying* correct requirements, that meet the customer's needs contributes to the project's *Quality* and *Success*. However determining the "*Candidate Requirements*" is challenging for a number of reasons. *Requirement Prioritisation* helps to cope with this problem.

A number of *Requirement Prioritisation* methods exists. This dissertation aims to investigate a better prioritisation technique by subjectively assessing the "effort" between prioritising requirements with the *Analytical Hierarchy Process* (AHP) and prioritising "*Satisfaction Arguments*" (SA) with AHP and subjectively assessing the "effort" again.

The results of the experiment show a similar set of priorities produced by both attempts, however, the perceived effort of prioritising SAs is less compared with prioritising requirements with AHP due to "*Propagation of Priorities*". The results of the experiment show that "*Propagation of Priorities*" is possible with both the approaches, however "*Propagation of Priorities*" was found to be *bi-directional* when prioritising SA with AHP and *unidirectional* when prioritising requirements with AHP.

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Attestation of Authorship

"I Praveen Kumar Motupally hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning."

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