

Abstract— Elicitations are mandatory in establishing both Functional Requirements (FR) and Non-Functional Requirements (NFR). One of the challenges in software engineering is to ensure that Requirement Elicitation (RE) is accurately converted to well-structured FRs and NFRs in Software Requirements Specification (SRS) documentation. However, traditional approaches for requirements gathering often face challenges such as incomplete information, evolving requirements, and lack of stakeholder involvement. To address this problem, we adopted agile methodologies in software development. Hence, this study proposed to form FR and NFR based on RE through a semantic text process. The results showed that we have been successful in establishing FR and NFR on the RE process using text semantics in the IdVar4CL

artifact, which included 29 documents (d1-d29), consisting of 12 RE documents, 10 FR documents and 7 NFR documents. In detail, the list of Requirement Specification tabulations in Subject, modals, Verb, Object format. Semantic similarity through comparison of the elicitation documentation with the SRS documentation results in a difference of 0.09 as a reference to subsequent SRS artifact formation improvements. Hence, this approach improves the clarity and alignment of requirements using agile development.

Keywords—*Requirement Elicitation, Functional Requirement, Non-Functional Requirement, Text Semantic Similarity.*