

I. INTRODUCTION

The requirements specification stage is one of the first stages in the software development process. So, if an error occurs at this stage, it will automatically occur in the following stages. Requirement Specification is a condition or ability needed by a user to solve a problem to achieve a goal [1]. Requirement Specification can also be defined as a condition or capability that must be met or possessed by a system or system component to comply with contracts, standards, specifications, or other officially enforced documents. Therefore, if an analyst or developer does not have the same understanding of requirements, then the results of the development process will not satisfy user needs [2][3][4].

Incomplete analysis or incorrect device requirements the software, which has become a significant problem for software projects. Software requirements analysis is the part of the planning phase of a software project that converts user requirements into software requirements, which is the specification of software requirements.

The requirements process in software engineering is one of the important steps at the beginning of a project. If the information is inaccurate or delayed, the next steps may be problematic. At present, many software projects suffer losses due to the problem of not being able to develop software across projects effectively [3].

In this research, an example of the Software Requirements Specification (SRS) document used is the Smart Sleeping Lamp Application, a software application to help and provide solutions to everyone who experiences insomnia. In Table I, there are examples of interpreting the needs in the SRS document for the Smart Sleeping Lamp Application. A discrepancy causes differences in interpreting the activities that exist in the Use Case Diagram artifact, with a Use Case Description that provides an overview of the functionality of a process to show the involvement of an activity related to the Use Case Diagram.

TABLE I. EXAMPLE OF INTERPRETATION BETWEEN USE CASE DIAGRAM AND USE CASE DESCRIPTION

Use Case Diagram	Use Case Description
Smart sleeping lamp, insomnia society regulates the sleep light.	1. Insomnia people choose a menu of sleeping lights, insomnia society regulates the desired sleeping lights. 2. Insomnia people choose a menu of sleeping lights, insomnia society regulates lighting. 3. Etc.

Therefore, to overcome this problem, a process will be carried out to find a similarity from the results of the extraction of the Software Requirements Specification Smart Sleeping Lamp document, which uses data processing, validity and reliability testing from research results to help find and identify differences in artifacts so as to produce similarity value. In this study, the calculation of similarity based on contextual or meaning between words is used using the Word Similarity for Java application tools.

The purpose of this research is to process text data between the Use Case Diagram and the Use Case Description contained in the Software Requirements Specification to produce similarity between the artifacts contained in the SRS.

In this research, there are contributions and novelties as follows:

- Perform text data processing on Software Requirement Specification Smart Sleeping Lamp on Use Case Diagram and Use Case Description artifacts.
- Determine similarity through the results of text data processing between Use Case Diagrams and Use Case Descriptions.
- Applying the validity and reliability test of the similarity results through the calculation of the Gwet's AC1 formula.