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UNIVERSITY OF WESTMINSTER (UOW)

BEng/BEng. (Hons) in Software Engineering

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Analogy between Use-Case Diagram and real world Business requirements:

Computational intelligence based approach

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Abstract

Requirement gathering stage in software development lifecycle is the most important stage in software product engineering. Entire project duration depends on the time taken in requirement gathering stage where different parties should provide their feedback and get it accepted by the client if the requirements are satisfied. Hence, Diminishing the time taken in reading and comparing business requirements from a proposed Use-Case diagram is the goal of this project.

Image processing, Machine learning and computational intelligence are some key areas in the field of Deep-Learning. Therefore, in order to achieve the proposed goal, the system is enhanced with three Modules. Text recognition module for the purposed Use-Case diagram, Use-case elements classifier module to identify use-case elements and Semantic Similarity based comparison module using computational intelligence to provide an overview to the end user.

Consequently, via this system software vendors or the clients who do not have the capability of understanding a use-case diagram will be able to view the overview provided through the mentioned system and check if their business requirements are satisfied in no time.

Subject Descriptors:

1. Image processing
2. Semantic similarity
3. Artificial intelligence

Keywords: Image Processing, Machine Learning, Use-case diagrams, KAOS (*Knowledge Acquisition in automated specification*) model, Business requirements, Semantic Similarity