From User's Requirements to UML Class Diagram

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Abstract : The automated extraction of UML class diagram from natural language requirements is a highly challenging task. Many approaches, frameworks and tools have been presented in this field. Nonetheless, the experiments of these tools have shown that there is no approach that can work best all the time. In this context, we propose a new accurate approach to facilitate the automatic mapping from textual requirements to UML class diagram. Our new approach integrates the best properties of statistical Natural Language Processing (NLP) techniques to reduce ambiguity when analysing natural language requirements text. In addition, our approach follows the best practices defined by conceptual modelling experts to determine some patterns indispensable for the extraction of basic elements and concepts of the class diagram. Once the relevant information of class diagram is captured, a XMI document is generated and imported with a CASE tool to build the corresponding UML class diagram.

Keywords : class diagram, user's requirements, XMI, software engineering

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