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A framework for an integrated unified modeling language*

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Abstract: The unified modeling language (UML) is one of the most commonly used modeling languages in the software industry. It simplifies the complex process of design by providing a set of graphical notations, which helps express the object-oriented analysis and design of software projects. Although UML is applicable to different types of systems, domains, methods, and processes, it cannot express certain problem domain needs. Therefore, many extensions to UML have been proposed. In this paper, we propose a framework for integrating the UML extensions and then use the framework to propose an integrated unified modeling language-graphical (iUML-g) form. iUML-g integrates the existing UML extensions into one integrated form. This includes an integrated diagram for UML class, sequence, and use case diagrams. The proposed approach is evaluated using a case study. The proposed iUML-g is capable of modeling systems that use different domains.

Key words: Unified modeling language (UML), Integration, Modeling, System analysis and design
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