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Saquib Anwar
Memorial University of Newfoundland

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Saquib Anwar[1], *Jeffrey Parsons*[2]

1. Memorial University of Newfoundland, St. John's, NF, Canada. 2. Faculty of Business Administration, Memorial University of Newfoundland, St. John's, NF, Canada.

Some proponents of agile systems development have advocated for agile conceptual modeling for requirements analysis. Agile modeling focuses on creating simple models that focus on key requirements. The Unified Modeling Language (UML) is used in agile modeling, but using UML in an agile fashion requires that modelers be selective in choosing constructs consistent with agile principles such as maintaining simplicity and minimal modeling. This research aims to provide a theoretical foundation for choosing UML constructs for agile modeling. We perform an ontology-based analysis of UML modeling constructs to prioritize them for use in agile modeling. We propose that UML constructs that correspond to more primitive ontological concepts are more useful for creating agile models than constructs that represent derived concepts. We have identified a core group of UML constructs that correspond to primitive ontological concepts and argue that agile modelers will find these constructs more useful in modeling problem domains.