

## An Intensional Conceptualization Model for Ontology-Based Semantic Integration

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**Abstract :** Conceptualization is an essential component of semantic ontology-based approaches. There have been several approaches that rely on extensional structure and extensional reduction structure in order to construct conceptualization. In this paper, several limitations are highlighted relating to their applicability to the construction of conceptualizations in dynamic and open environments. These limitations arise from a number of strong assumptions that do not apply to such environments. An intensional structure is strongly argued to be a natural and adequate modeling approach. This paper presents a conceptualization structure based on property relations and propositions theory (PRP) to the model ontology that is suitable for open environments. The model extends the First-Order Logic (FOL) notation and defines the formal representation that enables interoperability between software systems and supports semantic integration for software systems in open, dynamic environments.

**Keywords :** conceptualization, ontology, extensional structure, intensional structure

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