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" General Abstraction Syntax for Object-oriented Decision Support Systems "

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Developing an integrated framework of decision support systems (DSS) is a challenging research topic because of its anticipated advantage that we may use a single common DSS management system (as opposed to three separate management systems) to handle all the components.

Among various attempts, the "relational approach" (Suh & Hinomoto) has drawn attention where they created a dialogbase under a relational framework and integrated it into the relational data and model bases ("Use of a Dialogbase for Integrated Relational DSS," to appear, Decision Support Systems).

Another newly launched approach is the "object-oriented (O-O)" one. Suh & Le Claire argued O-O approaches in information systems, motivated from the O-O programming concept, can suggest many new aspects in designing an information system along with several practical advantages ("Object-oriented Concepts in Information Systems," Working Paper #88-8, Oklahoma State University).

We have shown how to design an O-O framework for the components of DSS and compared the O-O approach with the relational approach ("Efforts for Developing An Integrated Framework for DSS: Relational and Object-oriented Approaches," Proceedings of 1989 IE/MS Spring Conference). Particularly, we are interested in two intermediate stages leading toward ultimate implementation success: conceptual modeling and general abstraction syntax.

In this paper the general abstraction syntax which permits the user to specify data/model particulars will be presented in detail along with brief introduction to the conceptual modeling of data and model bases for O-O DSS. The abstraction syntax at various levels such as attribute level, entity level, and relationship level is presented using defined notation, user specified required/optional parameters.