Grammatical Conversion of Descriptive Narrative - an application of discourse analysis in conceptual modelling

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Abstract

Fact-oriented conceptual modelling begins with the search for facts about a universe of discourse (UoD). These facts may be obtained from many sources, including information systems reports, tables, manuals and descriptive narrative both verbal and written. This paper presents some initial findings that support the use of discourse analysis techniques as an approach to developing elementary fact based sentences for information systems conceptual schema development from written text.

Although this discussion paper only considers the NIAM (fact-oriented) conceptual schema modelling method, the IS087 report from which the research case study is taken describes other conceptual methods for which the research contained in this paper could be applicable (e.g. Entity Relationship analysis). The case study could be modelled exactly in the form in which the text is initially found, but grammatical analysis focuses consideration on alternative, potentially better, expressions of a sentence, a theme which is described and demonstrated. As a result of having applied grammatical sentence simplification with co-ordinate clause splitting, each sentence could be expressed as a complete, finite, independent collection of declarative simple statements.

The outcome from the application of the techniques described provides at a minimum a discourse analysis of descriptive narrative which will have retained its meaning and contextual integrity while at the same time providing a simplified and independent clause representation for input to the fact-oriented conceptual schema modelling procedure.

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