

## Product Feature Modelling for Integrating Product Design and Assembly Process Planning

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**Abstract :** This paper describes a part of the integrating work between assembly design and assembly process planning domains (APP). The work is based, in its first stage, on modelling assembly features to support APP. A multi-layer architecture, based on feature-based modelling, is proposed to establish a dynamic and adaptable link between product design using CAD tools and APP. The proposed approach is based on deriving &ldquo;specific function&rdquo; features from the &ldquo;generic&rdquo; assembly and form features extracted from the CAD tools. A hierarchal structure from &ldquo;generic&rdquo; to &ldquo;specific&rdquo; and from &ldquo;high level geometrical entities&rdquo; to &ldquo;low level geometrical entities&rdquo; is proposed in order to integrate geometrical and assembly data extracted from geometrical and assembly modelers to the required processes and resources in APP. The feature concept, feature-based modelling, and feature recognition techniques are reviewed.

**Keywords :** assembly feature, assembly process planning, feature, feature-based modelling, form feature, ontology

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