Introduction

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Biographical notes: Soonhung Han is the Chair of the Division of Ocean Systems Engineering and a Professor in the Department of Mechanical Engineering of KAIST. He is leading the Intelligent CAD Laboratory of KAIST and the STEP Community of Korea. His research interests include ISO standard for the exchange of product model data (STEP), virtual reality (VR) for engineering design and knowledge-based design systems. His domain of interests include automotive and shipbuilding.

In July 2008, there was a week-long symposium at NIST which was organised by Michael Leyton. There have been presentations and discussions among participating researchers. The following papers are summary reports of the symposium. These papers are trying to point readers to diverse snapshots of the current states-of-the-arts of the subject area which is still in the experimental stage of research. Mike Pratt has been leading the Parametrics Group of ISO/TC184/SC4, the STEP community. He knows all the story of making standards with parametrics capability. Michael Leyton initiated the new theory of generative shape in mathematics. Soonhung Han proposed the macro-parametric approach as a practical solution of the problem. Norio Matsuki studied about the history-based exchange of surfaces. Shuming Gao is working on real-time collaborative design by exchanging modelling commands. All these pursuits come from concerns that the current ISO standards STEP such as AP203 cannot exchange the powerful features with parametric capabilities of commercial CAD systems.

References

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