Study on an Interactive Web-based Computer-Aided Surface Machining System

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ABSTRACT

With the rapidly advancing computer technology, the use of computer aided manufacturing has been inevitably the trends of time. As the Internet prevails, there are more and more companies providing the global web-based services. This thesis integrates the process planning, manufacturing database and multi-axis postprocessor to establish an interactive web-based computer aided surface machining system which can be operated from web browsers on the Internet. This study aims at the integration and application of the process planning and manufacturing database as well as the web-based surface machining system. The user can upload the single B-Spline surface with IGES format. The manufacturing operation sheet can then be generated automatically according to the surface analysis and manufacturing database, and can be used as the basis to obtain the associated cutter location (CL) file. Moreover, the CL file can be converted into NC program for various machine tools' configurations by the postprocessor and verified by the solid cutting simulation software. The developed system is operating on the Internet so that the core program and database of the process development technology can be centralized to manage and maintain in the network server. The user can operate this system with the latest development resources. Therefore, the client user can reduce the investment and promote working efficiency.

Keywords : Process Planning ; Database ; Postprocessor ; Internet

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