

ABSTRACT

A Methodology For The Generation And Testing Of A Post-Processor For A CNC Lathe Using Commercially Available CAM Software.

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In Trinidad and Tobago CAD/CAM technology have aroused much interest in the small and medium scale industries. How ever many potential users of this technology are wary of incorporating CAD/CAM systems in their manufacturing processes since they are unaware of the potential and capabilities of such systems. Additionally the high cost of CAD/CAM systems coupled with the unfamiliarity with the CAD/CAM 'jargon' have led to many potential users adopting a 'wait and see' approach to this new technology. This project is intended to alleviate the fears of potential CAD/CAM users by introducing them to the basics of CAD/CAM systems .

The project discusses the basic components of a CAD/CAM system and the steps that should be taken to realise the full potential and maximum gains in

implementing a CAD/CAM system. An example of an in-house application was demonstrated by the creation of a post-processor for a machine tool.

A post-processor is a program which converts english-like statements (Appendix 7) to a part program using the codes for a particular machine-tool. The software used was the NCPG/6000 program, which contains a series of subroutines (written in Fortran 77) which must be modified for every machine tool.

Chapter five briefly identifies the functions of both CAD and CAM; the intention of this chapter is to familiarize readers with the different functional areas that make up CAD and CAM. The major areas of evaluating and selecting CAD/CAM equipment is outlined in chapter six. Planning and installing a CAD/CAM system is briefly discussed in chapter seven. The final chapter of the first section discusses the components of a CAD/CAM system that may be considered as standard components (although no CAD/CAM system can be considered to be unique).

The second section deals with a particular application in the CAD/CAM machine shop industry; the