

FINAL YEAR PROJECT REPORT

BACHELOR OF ENGINEERING (HONS) IN MECHANICAL ENGINEERING

FACULTY OF MECHANICAL ENGINEERING

UNIVERSITY TECHNOLOGY MARA

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**PRODUCT DATA EXCHANGE FOR CONCURRENT ENGINEERING
PROCESS**

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ABSTRACT

Nowadays a lot of plastic industries are diverting to utilise simulation software as a tool towards producing a good product quality rather than traditional ways by trial and error method.

Today, the integration of CAD/CAM/CAE system becomes power tools to develop and enhance manufacturing design with more efficient particularly in plastic industries. By using these systems the mould designer could do an analysis in CAE after completing their design in CAD to find whether their design is free from any errors before the mould is made. A design mistake can be modified on the computer model without creating a new design on CAE or CAD system. Therefore by using CAD/CAM/CAE systems, the moulding industries would not longer depends on trial and error method to determine whether their design is free from defects.

The main objective of this project is to evaluate the effectiveness of integration between CAD/CAM/CAE system. One case study of mold design had been selected to compare the results between CAE and trial and error method. In this project, Moldflow software is used for CAE system and Unigraphics Modeling for CAD.

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CHAPTER 1.0

1.0 INTRODUCTION

Today, product development process is undergoing major changes under influences of rapid developments in the Information Technology particularly in CAD/CAM/CAE system. The integration between CAD/CAM/CAE system provided the manufacturing processes more efficient in plastic industries particularly in injection moulding area.

The complexity of the products, optimum productivity and faster response time to market are required to be competitive in injection moulding. The disparate labour and credit rates of the global economy provide further incentives for making every manufacturing process as productive as possible. Due to these factors, computer aids for injection moulding have been developed and accepted by the manufacturing industries to improve productivity, part quality and performance and reduce time to market.