

## C616412 : MAJOR INDUSTRIAL ENGINEERING

KEY WORD: INTEGRATION / DESIGN / MATERIAL REQUIREMENTS PLANNING

VISAL SRIVISAL : AN INTEGRATION OF COMPUTER-AIDED DESIGN WITH  
MATERIAL REQUIREMENTS PLANNING. THESIS ADVISOR : ASSO. PROF.  
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The objective of this thesis is to design and develop an application that integrates a computer aided design (CAD) system with a material requirements planning system for the design and construction of display booths for trade exhibitions. The design emphasizes the appropriate quantity and order period for the materials used in the construction. The development was made using a CAD and a database application software readily available in the market. In particular 'Drawbase' was used as the CAD program and 'Microsoft Access' as the database. Both programs run on Windows user interface. The CAD section has been reconfigured to suit the booth design works. The material requirements planning section was developed on the database program for reading data from the CAD section, operation planning, inputting and outputting master plan data.

The integration of two systems can be used in many cases such as changing the structure of booths, increasing or decreasing the number of booth and booth layout modification, changing the structure between installation, and capacity monitoring before new job approaching which always happen.

Opinions obtained from demonstrating to the experts involved in booth construction indicated that the designed system is useful in helping the management in decision making by boosting confidence in forecasting the materials required, speeding up the designing and correcting processes, and issuing the bill of materials. It also results in a more efficient use of inventory and more accurate follow-ups of the planned works. By statistical testing found that this system can improve efficiency in working with confidence 95%.

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