AN EXPERT SYSTEM

FOR

FLOAT MANAGEMENT

A PROJECT REPORT PRESENTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE AWARD OF ADVANCED DIPLOMA
IN CIVIL ENGINEERING OF MARA INSTITUTE OF TECHNOLOGY.

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ABSTRACT

The objective of this study is to generate a computer programme which apply 'Expert System' to be used by site engineers in making better decision in utilizing free time or float available in non-critical activities.

The programme has been developed using an expert system shell ie LEORNARDO. The knowledge acquisition for this study has been the combination of expert advice, textbooks and journals. Nine major areas or factors have been identified in this study which is the basis in developing the rules ie. float duration, activity duration, possibility of slippage, crew completeness, safety, client requirement, degree of complexity, supervisory requirement and precedence activity.

The float management programme developed has been found to be in good operational condition upon a few "dummy" test carried out.

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TABLE OF CONTENT

1.0   INTRODUCTION

Project management is concerned with achieving the objectives of a project within the constraints of time, resources and cost. Successful completion is dependent upon the effectiveness of a sequence of interrelated events or activities. The appropriate form of representation will vary according to the complexity of the project and the fineness control required, and may be in the form of bar charts, list, logic diagrams of a tree-like form, or comprehensive networks showing the interaction between tasks by time and resource.

An Expert System is defined as an intelligent computer program that uses knowledge and inference procedure to solve problems which requires human expertise for their solution. In simplified terms an Expert System is a computer program which employ knowledge to solve problems that ordinarily require human intelligence. For the purpose of this study the definition of intelligence is subscribed to "the ability to apply, manipulate and acquire knowledge and describe the reasoning process in order to generate conclusions".

On the other hand, float can be simply defined as time available for an activity or path in addition to its

1