DEVELOPING GROUND HANDLING SCHEDULING SYSTEM: A CASE STUDY AT GAPURA

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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Personnel scheduling plays an important role in the service industry, as it impacts directly to the cost and the quality of customer service. However, to create personnel schedule, many feasible solutions can be created. Therefore, to solve personnel scheduling problem by using constraint programming approach will provide a better solution than offline approach.

The thesis addresses shift assignment problem. In service industry, the employee is assigned to work shifts with considering some constraints, based on company regulation rules and government rules. According to the labor rules, each shift has a fix duration, with overtime duration within a specified time range. This

To achieve a good feasible schedule, constraint programming will be considered. There are two types of constraint, which are hard and soft constraint. The schedule cannot be created if hard constraint is violated but the soft constraint may be violated. Soft constraint can be used as an indicator to the generated result to see if the provided solution is a better solution.

Keywords: Personnel Scheduling, Constraint Satisfaction Problem, Shift Assignment, Soft Constraint, Hard Constraint.

DEDICATION

I dedicate this thesis for my family, who always give me their support and encouragement in any kind of situation.

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