

**GROUND CREW HANDLING ROSTERING DEVELOPMENT IN GAPURA
USING CONSTRAINT PROGRAMMING ALGORITHM**

By

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SWISS GERMAN UNIVERSITY

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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

GROUND CREW HANDLING ROSTERING DEVELOPMENT IN GAPURA USING CONSTRAINT PROGRAMMING ALGORITHM

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This thesis addresses the rostering problem in GAPURA, the rostering making process is still done manually. Whereas for services company, a fast and feasible rostering process is needed in order to improve their efficiency. By looking at this problem, ASYST offers to develop a program implemented with a problem optimization method. Based on the acquired data, and time limitation the most preferable optimization method is by using constraint programming algorithm. This algorithm can solves GAPURA problem because of the suitable theory to the realization. Where a roster can be called feasible when all of the constraints are fulfilled but the roster may not be optimum for the company, while constraint programming algorithm works by fulfilling all the constraints given by the creator. The resulting program created using MATLAB can produce a feasible roster for the ground crew handling.

Keywords: Nurse Rostering Problem, Constraining Programming



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DEDICATION

“Dedicating this thesis for my family that have supported me through physical and moral support through the entire process of making this thesis. I also dedicate this to myself because for stopped being depressed and choosing to finishing this thesis.”



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