Developing a College Room Allocation System using Heuristic Algorithm

BY

RAZIHA BT BIDIN

BACHELOR OF COMPUTER SCIENCE (HONS)

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF BACHELOR OF COMPUTER SCIENCE

FACULTY OF COMPUTER AND MATHEMATICAL SCIENCES

UNIVERSITITEKNOLOGI MARA

NOV 2010

Acknowledgement

First of all, all praises and thanks to Allah S.W.T, Lord of al-Mighty, for His Guidance and will, for the revelation of some of His knowledge for me in the successful to write this research. Many thanks to my beloved family who never quit in giving me full support, understanding and courage throughout the research without hassle. Thanks also to my special friends for always supporting me. This research would also not be possible and successful without the help and support from my supervisor, Puan Zulaile Binti Mabni and course coordinator, Dr. Noor Elaiza Binti Abd Khalid. Many thanks to them for giving me instruction, advice, motivation, support and guide the research in obtaining good research. Thank you very much.

Abstract

Allocations have been major problems nowadays in all fields especially when these involve limited spaces. In order to solve these flaws, every requirement to handle allocation management has to be gathered and identified. This thesis focuses on the research of allocation of the Mawar college for student in Universiti Teknologi Mara (UiTM), Shah Alam. At present time, current system of college room allocation to student is not able to allocate room for students efficiently. In one time, it difficult to organized more students. Heuristic algorithm had been identified as the technique to solve allocation probability and some other existing constraints. A heuristic is a method that might not always find the best solution but is guaranteed to find a good solution in reasonable time. The proposed heuristic algorithm is based on the simple greedy search, that guide the search efficiently and able to find good solutions. This technique can resolve the problem of mixed religion among Muslim and None-Muslim students in one room. In addition to that, this also can work out the problem of distribution of rooms among Student Residential Committee (JPK) and ordinary students. In general, this system, which applies the heuristic algorithm, can help making decisions.

Table of Contents