UITM TRANSPORTATION UNIT BUS TRIP SCHEDULING SYSTEM

FINAL YEAR PROJECT THESIS

A Final Year Student

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Bachelor of Computer Science (Hons.) with the supervision of
My supervisor Zulaile Mabni and
co-ordinated by Dr. Siti Salwa Salleh.

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ABSTRACT

Scheduling is committing resources to the realization of an event at a defined time, also committing resources to a plan. Bus scheduling is a complex combinatorial optimization problem. The operations planning and scheduling process starts off with the designing of a timetable of trips that has to be served by buses. Each trip has a starting time and date and ending time and date. The aim of this research is to change the manual bus trip scheduling to a computerized bus trips scheduling system for UiTM Transportation Unit. Scheduling the bus trip manually will produce inefficient timetabling because there is no systematic way used to schedule the bus trip. Other problem arise from manual system is overlap between buses, trip, time, and date. Other than that, generated scheduling manually will cost a lot of time. The objective is to generate a prototype bus trip scheduling system that can schedule the bus trips transportation efficiently. In order to generate the prototype, the heuristic search is the appropriate technique to solve scheduling problems. 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. The user interface application has been developed by using Microsoft visual basic 6.0 and Microsoft access as it's database. The result from this study has helped to develop a bus trip scheduling prototype model for a UiTM Transportation Unit, Shah Alam. This prototype model will help transportation unit to assign buses to a trip using the algorithm and also can view the schedule in daily and weekly basis. UiTM Transportation Unit Bus Trip Scheduling System has been developed quite successfully base on scope of the project and it fulfills its objective.

Keyword: bus scheduling, heuristic search, greedy search.

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