A Decision Support System for Public Transportation in Developing Countries

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7. Introduction
   * Background: the case of the WP RPTA

The Private Bus Transportation System is a famously contentious topic in Sri Lanka. For the average commuter, complaining about the system is part and parcel of everyday life. As a commuter myself and having used public transportation extensively for more than a decade, I have wondered many a time about the reasons why the bus service is in this state and why people keep complaining about it so very vehemently. The constant complaints are justified, as the bus service is grossly inefficient and lack proper service quality. The inefficiency in the system leads to lost productivity and dissatisfaction by the commuters. Eventually, it is the country that suffers from not having an efficient public transportation system for the people.

It is in this background that I was motivated to carry out a research regarding the Private Bus Service in the Western Province. The objective was to pinpoint the existing problems and possibly provide an IT solution for them. During the course of the research and interviews with the numerous people responsible, it occurred to me that the system has a myriad of things wrong with it. Only careful management was required in order to overcome some problems, while other issues required a restructuring of the system, and still others required just an implementation of a solution and regulation of the service properly. Issues where research was required also existed. As I was passionate about the problem, I was intent on doing research to help find solutions to the existing problems.

* + Present state of the system
    - Information (structure, statistics etc.)
  + Current problems of the system
  + DSS’s and their definition
    - Brief introduction to DSS’s
    - How DSS’s factor into my project
  + Research goals and objectives
    - What is the problem?
    - What is it that my research hopes to achieve?
  + Research scope and limitations
    - The boundaries and limitations of the problem I am addressing
  + Outline of Thesis

1. Literature Review
   * Public transportation process
   * DSSs
   * Literature about transportation systems in developing countries
2. Research Methodology
   * Steps I followed in the project
   * Why did I do what I chose to do
   * What other alternatives were there to achieve my goal
     + Possible feasibility matrix
3. Proposed Solution
   1. System Architecture
   2. System Features
   3. System UI screenshots
4. Research Evaluation
   * What did I evaluate
   * How did I evaluate it
   * Results of my evaluation
5. Conclusion and future work
   * Final outcome of the research
   * Possible future work
6. Appendix
7. Bibliography

<http://www.pitt.edu/~druzdzel/psfiles/dss.pdf>

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listRoutes

viewRoute1

viewRoute2

listStops

viewStop1

viewStop2

viewStop3

viewBus1

viewBus2

listComplaints

addComplaint

Single-Depot Vehicle Scheduling Problem

Multiple-Depot Vehicle Scheduling Problem

Crew Scheduling Problem

Integrated Vehicle and Crew Scheduling Problem

Crew Rostering Problem