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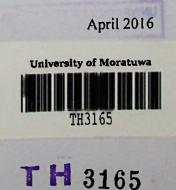
# Enhanced route searching and suggesting method for carpooling system

LIBRARY MINERSITY OF MORATIONA, SRI LANKA MORATUNA

K.B.V.D. Lakshan Dharmasiri

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## Declaration

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

K.B.V.D. Lakshan Dharmasiri

Supervised by

Mr. Chaman Wijesiriwardana

**UOM Verified Signature** 

Date:

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#### Abstract

Carpooling is considered as a solution to address the current problems in travelling, in a context of high fuel cost, vehicular traffic congestion, which leads to air pollution, health hazard, vehicle parking problems and wasting of valuable time resulted in high opportunity cost. Carpooling is the process of utilizing a pool of passengers into matching vehicles, when there are freely available vacant seats in passenger vehicles, which could be made use of by needy passengers, minimizing the per head cost of travelling in a macroeconomic sense. The matching of drivers and passengers by maintaining a set of data, can be implemented by developing information and communication technology based applications. The drivers can post the availability of the vehicles and the number of vacant seats in their vehicles in this application and the passengers can search and contact the relevant drivers on a preferred route. By matching these needs of two parties through the proposed system, it is expected to address the above mentioned issues with a satisfactory contribution towards the optimization process of cost of travelling in a macroeconomic context. There are many carpooling systems in application in different countries and also many research and development works were done in this field to improve the quality of the carpooling systems. However, developing a system to assist the passengers as well as the drivers, searching a best and ideal route(s) to reach their destinations, with their preferred parameters is a complex and challenging task.

This research presents an improved searching method, which makes sure that the resulting routes are most suitable and identical routes, considering the route information entered by the passenger. This system will also generate and suggest alternative routes to the driver, after analyzing the lift request data entered by the passengers, for his consideration and then him to decide on the preferred route.

# **Table of Contents**

Chapter	1	1
Introduct	tion	1
1.1.	Prolegomena	1
1.2.	Proposed searching and suggesting method	3
1.3.	Summary	4
Chapter 2	2	5
Develop	ments in route searching solutions	5
2.1.	Introduction	5
2.2.	Similar models	5
2.3.	Summary	17
Chapter	3	19
Technolo	ogy adopted – Route searching and suggesting	
3.1.	Introduction	
3.2.	PHP scripting language	19
3.3.	MySQL database management tool	19
3.4.	Apache web server	20
3.5.	WAMP server	
3.6.	Google Maps JavaScript API	20
3.7.	Route Boxer utility library	
3.8.	JQuery JavaScript library	20
3.9.	Summary	
Chapter	4	21
Route se	earching and suggesting approach	21
4.1.	Introduction	
4.2.	Route searching approach	
4.3.	Alternate route suggesting approach	
4.4.	Summary	24
Chapter	5	25
Analysis and design		
5.1.	Introduction	25

5.2.	Route searching front-end	25
5.3.	Lift offering front-end	26
5.4.	Route searching module	26
5.5.	Route suggesting module	26
5.6.	Spatial database manager	26
5.7.	Summary	27
Chapter	6	
Impleme	ntation	
6.1.	Introduction	28
6.2.	Route searching front-end	
6.3.	Lift offering front-end	
6.4.	Route searching module	
6.5.	Route suggesting module	
6.6.	Spatial database manager module	
6.7.	Summary	
Chapter 7		
Evaluation		
7.1.	Introduction	
7.2.	Verifying the distance	
Chapter 8		
Conclusion and Further work		
References		
Appendix $A - SQL$ to filter routes which are going through given two points		
Appendix B – Steps performed by route boxer utility library		

V

# List of Figures

	Page
Figure 2.1 - Area selected for searching	6
Figure 2.2 - Identifying nearby passengers	7
Figure 2.3 - First forward pass (left) and first backward pass (right)	14
Figure 2.4 - Steps involved in dynamic ride matching	16
Figure 4.1 - Properties of a route	22
Figure 4.2 - Applying Haversine formula	24
Figure 5.1 - Top level system design	25
Figure 6.1 - Location suggestions for typed letters	28
Figure 6.2 - RouteBoxer function to generate bounding boxes	29
Figure 6.3 - Sample JSON route results object	30
Figure 6.4 - Fields in the lift offering front-end	31
Figure 6.5 - MySQL MBRContains function usage	32
Figure 6.6 - MBRContains function operation	32
Figure 6.7 - Possible routes in bounding boxes	33
Figure 6.8 - PHP function to calculate Bearing angle	34
Figure 6.9 - Bearing angles of two points	34
Figure 6.10 - Routes with similar angle to original path	35
Figure 6.11 - Routes with similar angle and similar direction	36
Figure 6.12 - Area applied by Haversine formula	37
Figure 6.13 - Suggested route summary for driver	38
Figure 7.1 - Distance difference of Spatial function and Haversine formula	39
Figure 7.2 - Distance comparison – Spatial vs Haversine	40

# List of Tables

	Page
Table 2.1 - Summary of methods	8
Table 2.2 - Possible method applications	8