



PROJECT REPORT
Chinese Postman Problem Solution Using
Tabu Search on Android

Panji Raka Wijaya

10.02.0050

2013/2014

	PERPUSTAKAAN Universitas Katolik Soegijapranata
No. Inv.	278 / S / IK / C.1.
Tanggal	19 Agustus 2014
Paraf	

FACULTY OF COMPUTER SCIENCE
SOEGIJAPRANATA CATHOLIC UNIVERSITY

Jl. Pawiyatan Luhur IV/1, Bendan Duwur, SEMARANG 50234

Telp. 024-8441555 (hunting) Web: <http://www.unika.ac.id>

<http://ikomunika.web.id/>

APPROVAL AND RATIFICATION PAGE

PROJECT REPORT

CHINESE POSTMAN PROBLEM SOLUTION USING TABU SEARCH on
ANDROID


by

10.02.0050 – Panji Raka Wijaya

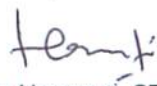
This project report has been approved and ratified by the Dean of Faculty of
Computer Science and Supervisor on 18 July 2014

With approval,


Examiners,


Suyanto Edward Antonius, Jr., M.Sc
NPP : 058.1.1992.116

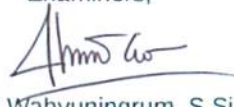
Supervisor,


Rosita Herawati, ST., MIT
NPP : 058.1.2004.263

Examiners,



Hironimus Leong, S.Kom., M.Kom
NPP : 058.1.2007.273

Examiners,


Shinta Estri Wahyuningrum, S.Si, M.Cs
NPP : 058.1.2007.272

Dean of Faculty of Computer Science,


Hironimus Leong, S.Kom., M.Kom
NPP : 058.1.2007.273



STATEMENT OF ORIGINALITY


I, the undersigned:

Name : Panji Raka Wijaya

ID : 10.02.0050

Certify that this project was made by myself and not copy or plagiarize from other people, except that in writing expressed to the other article. If it is proven that this project was plagiarizes or copy the other, I am ready to accept a sanction.

Semarang, 18 July 2014


Panji Raka Wijaya
10.02.0050

ABSTRACT

Chinese postman problem(CPP), postman tour or route inspection problem is a branch of mathematics problem, that often discussed usually in math class, So CPP is really important to people that work at mathematic sector, CPP can be another solution for Traveling Salesman Problem. But people does not really care about learning CPP, because people do not want to be bothered. So with this project, CPP on Android they can easily understand how CPP works.

This problem is fairly easy to understand in class. This android application simulation project of CPP will make the student easier to simulate a problem of postman with the aim of the student will be understood more about the solution.

This project designed for user interests of CPP, this project can handle infinite pattern of graph designed by user, and so make a solution of the graph that draws by user.

Keyword : Chinese Postman Problem, Tabu Search Algorithm

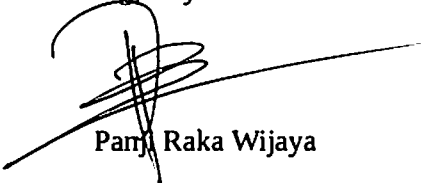
FOREWORD

It is with great pleasure that I present to you the report for my project entitled Chinese Postman Problem Solution Using Tabu Search on Android. I hope you will find this report both informative and functional that it will give you a greater understanding of the work undertaken by me. More importantly, I hope that you will gain an appreciation of the difficulties faced by me, all of whom face some form of disadvantage in their lives, whether it be financial difficulties. Also in this opportunity, I would like to give my deeply thanks to :

- my supervisor for helping, guiding and giving me a lot of ideas, advice, and feedbacks in the process of this project.
- all lecturers in Faculty of Computer Science Soegijapranata Catholic University for teaching me and giving me knowledge while I was studying in Faculty of Computer Science.
- Every person that either directly or indirectly had already supported me, given me a lot of motivation. Including all of my friends in Faculty of Computer Science Soegijapranata Catholic University.

Finally, I would like to apologize if the project still has many shortcomings. I look forward to any suggestion and criticism.

Semarang, July 18th 2014



Pamy Raka Wijaya

TABLE OF CONTENTS

APPROVAL AND RATIFICATION PAGE.....	ii
LETTER OF STATEMENT.....	iii
ABSTRACT.....	iv
FOREWORD.....	v
TABLE OF CONTENTS.....	vi-vii
TABLE OF FIGURES.....	viii
TABLE OF TABLES.....	ix
CHAPTER I INTRODUCTION	
1.1 Background.....	1
1.2 Scope.....	1
1.3 Objectives.....	1
CHAPTER II LITERATURE STUDY	
2.1 Data Structures.....	2
2.2 Algorithm.....	2
2.2.1 Tabu Search Algorithm.....	2
2.2.2 List of Vertex.....	3
2.2.3 Count List of Vertex.....	3
2.2.4 Position Change of Vertex.....	3
CHAPTER III PLANNING	
3.1 Research Methodology.....	5
3.2 Project Management.....	5
CHAPTER IV ANALYSIS AND DESIGN	
4.1 Analysis.....	6
4.1.1 Use Case Diagram.....	6
4.2 Design.....	7

4.2.1 Class Diagram.....	7
CHAPTER V IMPLEMENTATION AND TESTING	
5.1. Implementation.....	8
5.2. Testing.....	15
5.3 Interface.....	18
5.3.1 Start interface.....	18
5.3.2 Result	21
CHAPTER VI CONCLUSION	
6.1 Conclusion.....	23
6.2 Further Research.....	23
REFERENCES.....	24

TABLE OF FIGURES

Figure 2.2.2 Example Pattern.....	3
Figure 2.2.4 Change Position.....	4
Figure 4.1.1 Use Case Diagram.....	6
Figure 4.2 Full Class Diagram.....	7
Figure 5.3.1 Main Layout.....	18
Figure 5.3.2 Result View.....	19
Figure 5.3.3 Result View Edge.....	20
Figure 5.3.4 Result View CPP start.....	21
Figure 5.3.5 Result View User Page.....	22

TABLE OF TABLES

Table 2.2.4 Table of Changing position.....	4
Table 3.1 Project Management.....	5
Table 5.1 Testing Table.....	15