DECISION SUPORT SYSTEM OF OPTIMAL ROUTE IN BANDUNG CITY WITH GENETIC ALGORITHM

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ABSTRAK

Based on field observations and interviews in Bandung city Transportation Department, the obtained results that the entrants who visited the city of Bandung have the difficulty in determining the route to get to your destination efficiently with time, therefore it needed a system that can handle problems route to obtain the fastest time destination place.

In an efficient route solution, required a system with methods that can assist in determining the optimal route. The method is genetic algorithm, because the genetic algorithm is a method by using variable speed in every way that affects the travel time on each road and take advantage of the natural selection process known as evolutionary process, this process has the function of recombination, mutation and individual improvement, with using a process - a process that most of the random generated a good solution in the optimal route search process.

Based on test results that the application of Decisions Systems built with the method of genetic algorithm, can solve the problem of optimal routes for these applications can be time-efficient menberikan onto the destination

Keyword: Decision suport system, genetic algorithm

1. INTRODUCTION

1.1 PROBLEM IDENTIFICATION

How to Build Decision suport System Application Route Opimal Bandung With Genetic Algorithm.

1.3 OBJECTIVES

The purpose of this research building decision-making system applications optimized route bandung city with genetic algorithm The goals of this research are:

1. *Helping immigrants, the road to the destination city of Bandung.*
2. *Search help route to the road in the city of Bandung purposes*
3. *Help search the optimal route to the destination path in the city of Bandung.*
4. *Help improve the effectiveness and efficiency of the road in the city of Bandung purposes.*

2. *MODEL, ANALYSIS, DESIGN AND IMPLEMENTATION*

2.1 Model

1. Data colocteion pahse
   a. Literature Study.
   b. *Observation.*.
   c. Interviews.

2. Stage of software creation
   a. *Requirements analysis and definition*
   b. *System and software design*
   c. *Implementation and unit testing*
   d. *Integration and system testing*
   e. *Operation and maintenance*

2.2 Problem Analysis

Based on field observations and interviews at the Department of Transportation, the streets of a big city so menbingungkan and Bandung is one of the major city in INDONESIA,

while mapping the city of Bandung is quite pretty good, but immigrants still faced confusion with the streets of Bandung, with It became difficult for newcomers to find a way to go, and pendatangpun confusion to find a route to the destination path

2.3 *genetic algorithm*

gentika algorithm is an abstraction which adopted the "evolution" and "genetic" in simplified from these abstractions, gentika algorithm is "only with processes megunakan mostly random, genetic algorithm can produce good solutions with acceptable speed

2.4 Desaign

1. Usa Case

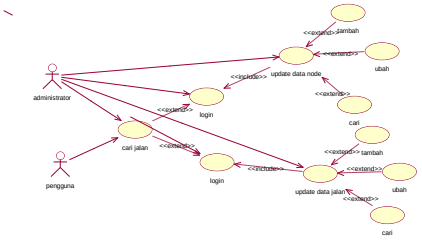


figure1. usecase

2. Class Diagram

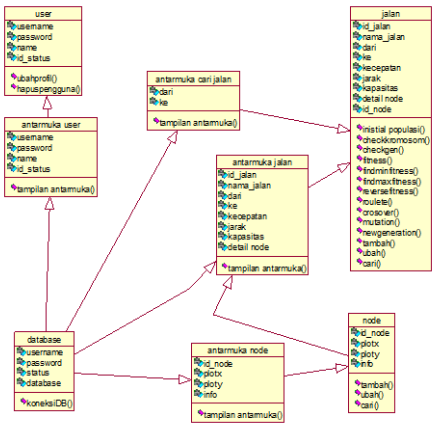


figure 2. Class Diagram

3. table relasi

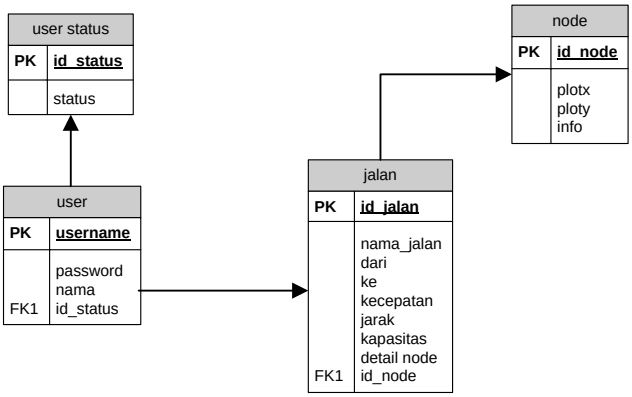


figure 3. table relasi

2.8 Implementasi

The software used on computer systems in building GIS Web site identification potential of this region are as follows

1. Operation sistem *Windows XP Profesional SP 2*.
2. visual studio 2008

.

1. main

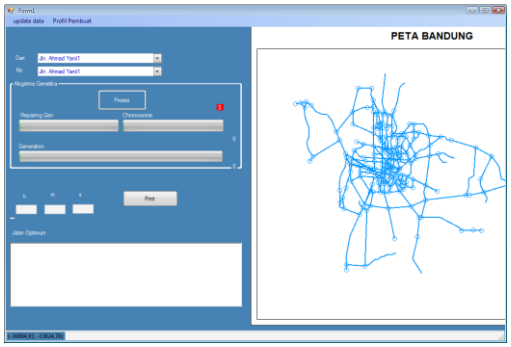


figure4. main menu

2. main login

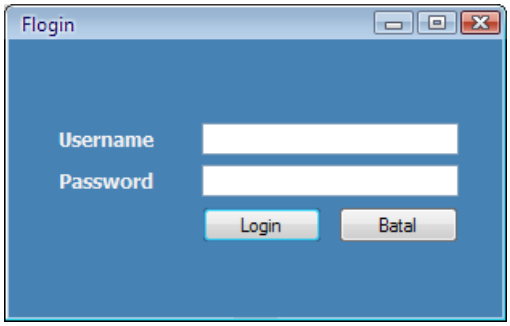


figure 5. login

3. *Display update node data*



Figure 6. upadate data node

4. view street data update



figure 7. update data jalan

2. RESULTS AND DISCUSSION

3.1 Fasiliti

applications that have built the following capabilities:

a. *Generate point the way to the street purposes.*
b. *Generate travel time.*
c. *Generate maps and menberikan bandung city road in the map*
d. *Can print road*
Can update the data path and the node

3.2 SOFTWARE

This application will run normally on the software specification as follows:

a. Windows operating sistem

4.*CONCLUSIONS AND RECOMMENDATIONS*

4.1 CONCLUSION

This application can provide a tool for users in the destination path search process

1. *This application users can find a route to the destination path and provides the optimal route.*
2. *genetic algorithm can solve the optimal routing problem.*

4.2 Advice

1. *develop GIS maps into Geographic Information Systems*,
2. *merubah menjadi aplikasi yang di akses melalui website*

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