TRAFFIC LIGHT CONTROLING SOFTWARE AND USING OF CCTV (CLOSE CIRCUIT TELEVISION) CAMERA AS-MONITORING

Hery Heryanto

Department of Informatics, Faculty of Engineering and Computer Science,
University Computer Indonesia
Jln. Dipati Ukur No.112 Bandung 40132
Hery.if10105027 @ gmail.com

ABSTRACT

Has conducted research in the Department of Transportation District Subang waterfall method, and using structured methods of Entity Relationship Diagram (ERD) to illustrate data model, and Data Flow Diagram (DFD) to describe the functional model. The results showed that the Department of Transportation District Subang face difficulties in managing the turnover time of traffic lights and monitoring of road conditions on the crossing.

Based on the results of the test, control systems and traffic light camera use of CCTV (Close Circuit Television) as the monitoring that has been built is required by the Transport Department officials to facilitate the Subang Regency in turn regulate the traffic lights, monitoring the condition of the road on the crossing and set the time change light at each traffic light.

Keywords: software, control traffic lights and monitoring.

1. PENDAHULUAN

1.1 Identification of Problems

Department of Transportation has the main tasks, one of which is set on the traffic order to provide a crossing facility traffic lights to regulate traffic flow on each street. Crossing the street in the district has two types of earrings that can be controlled intersection, which is four and crossroad intersection of three, two types of this intersection each have 6 state of the lamp can be controlled. Controller when the traffic light changes in Subang district currently uses two time control systems, namely manual systems and digital systems should be in the settings directly into the field, both have shortcomings sisitem the timing of traffic lights change. Control system time manually using the SCC (Supply Clock Control) to set the time change of the traffic lights by moving the position of jumpers to get a turnover time of traffic lights in seconds. System time digital controller using a micro-chip IC (Integrated Circuit) Mp.8 programs made by CV. Medal INSUN LESTARI (Imel) Cimahi Bandung, the timing of traffic lights turn can only be done by the company.

Seeing the two control systems lack the time, Department of Transportation has set the problem in time change the traffic lights at every intersection.

Goal formulation and writing of program reports this final task is to change the time control system of traffic lights that still use manual system and a digital system should be done directly to the field settings, using a computer that can be controlled at the Transport Department's office to control the timing of lights turn traffic and directly monitor the condition of roads and vehicle density level in each particular intersection.

2. MODEL, ANALYSIS, DESIGN AND IMPLEMENTATION

2.1 Model

1.Tahap data collection
- *a.Studi library*
- *b.Studi field*
  - *b.1 Interview*
  - *b.2 Observations*

2. Software development stage.
- *a.System engineering (Engginneringsoftware)*
- *b.Requirement analiysis*
- *c.Design*
- *d.Coding (implementation)*
- *e.Testing (testing)*
- *f.Maintenance (treatment)*

2.2 Problem Analysis

The problem that occurs in Subang District Department of Transportation to regulate the turnover time of traffic

lights Subang District Department of Transportation can not do alone penganturan lamp replacement time, but must contact the manufacturer of traffic lights, or dial direct tersebuat technicians from outside to make the timely replacement .

2.3 Understanding Port Perinter

Parallel port or printer port consists of three parts namely Data Port (DP) address at 378h (888), Printer Control (PC) address at 37Ah (890), and Printer Status (PS) address at 379h (889). DP is used to send the data to be printed by the printer, the PC is used to send control codes from the computer to the printer, for example, to roll up the paper, and PS is used to send status codes to the computer printer, for example to inform you that the paper had run out.
PC port is port read / write (read / write), PS is a port read only (read only), while the DP port is port read / write (read / write) as well. However, this ability is only possessed by the Enhanced Parallel Port (EPP), whereas the standard parallel port, port DP only has the ability write it (write only).

2.4 Design

1. ERD (Entity Relationship Diagram)

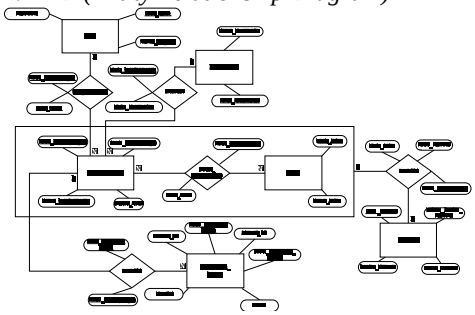


Figure 1. ERD (Entity Relationship Diagram)

2. Relation table

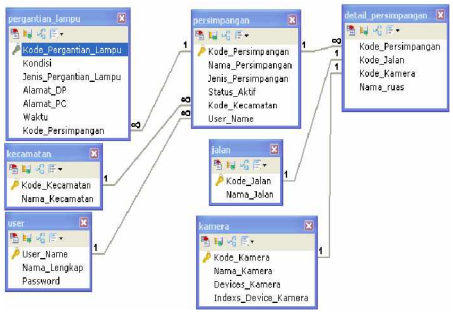


Figure 2. Relation table

3. Context Diagram

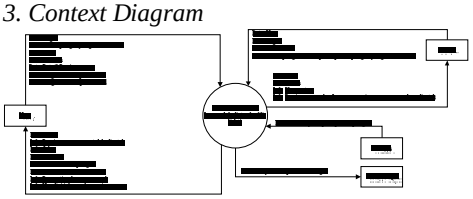


Figure 3. Context diagram

4. DFD (Data Flow Diagram)

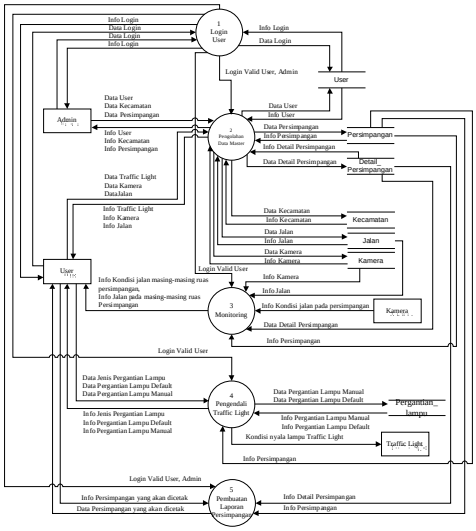


Figure 4. DFD level 0

5. Structure of the admin menu

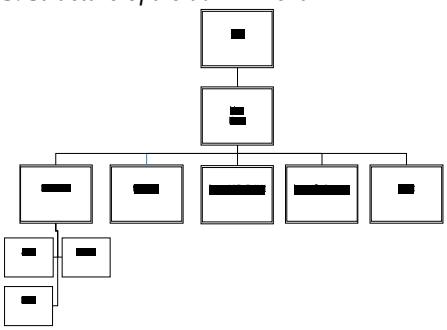


Figure 5. Structure of the admin menu

2.5 Implementation

1. Software Implementation

The software is installed on a computer system used to build this information system are as follows:
Operation

1.Sistem Windows XP SP 2.
2.MySQL 5.0
3.Borland Delphi 7.0
4.mysql-connector-odbc-5.1.5-win32.msi

2. Hardware Implementation

Hardware used for the operation of this information system is a computer with 1 unit of the following specifications:

a.Processor Intel Pentium IV 2.6 Ghz
b.Monitor 15 "
c.Hardisk Drive 120 GB
d.Memory / 1 Gb RAM
e.VGA Card 256 Mb
f.CD ROM drive
g.Keyboard
h.Mouse
i.Printer

3. Interface Implementation

1. Display Home



Figure 6. Display Home

2. User Data Processing Tampilan



Figure 7. View User Data Processing

3. Display Data Processing District

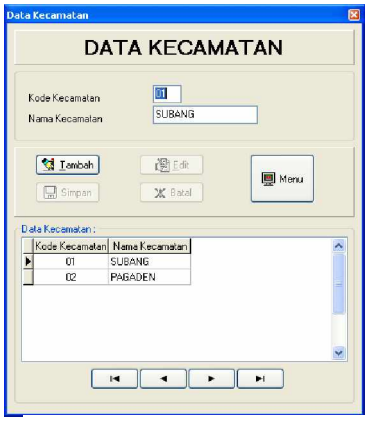


Figure 8. Display Data Processing District

1. *Display Monitoring*



Figure 9. Display Monitoring

5. Display Controller Traffic Light

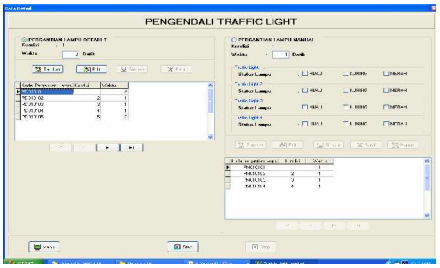


Figure 10. Display Controller Traffic Light Processing

RESULTS AND DISCUSSION

3.1Facilities Control Traffic Lights

The software has the capability built as follows:

a.Can to monitoring road conditions in each segment intersection.

b.Can to set easily change the lamp.

c.Can to gain easy control of traffic lights.

CONCLUSION AND SUGGESTIONS

4.1 Conclusion

Conclusion of controlling traffic lights (traffic light) and the use of CCTV cameras (Close Circiut Television) which can be built:

Easily constructed

1.Sistem regulate the traffic lights turn on each segment according to road conditions and vehicle density without having to contact the technician from the outside or call the manufacturer of these controllers.

Facilitate

2.Sistem built replacement timers set of traffic lights directly in the Office of Transportation District Office Subang and not have to come to the field.

Simplify built

3.Sistem Transport Department officers to control traffic lights directly at the Transportation Department's office.

4.Sistem traffic light controller that can replace the built control systems that still use the SCC (Supply Clock Control) and micro-chip IC (Integrated Circuit) which is still manually set the time to change the light-meminda way to get mindakan jumpers perhantian time and must download the program again micro chip and replaced with a computer application that includes the value of time tingal change and save the database.

5.Sistem traffic light controller that is built easily monitor road conditions on the crossing at the office of Subang District Department of Transportation and not have to come back to the field to find out road conditions and the level of vehicle congestion at the intersection.

4.2. Advice

Based on the above conclusions, it is expected that the suggestions as follows:

Used 1.Port output can be developed again using the USB

port (Universal Serial Bus) that can control more than one crossing in a single computer.

2.Media link between the serial port parallel to the traffic light was still using the cable, expected to be developed again using the wireless network using a modem with the internet.

3.Monitoring crossing the road conditions can be expected to be developed by monitoring the crossing in a single computer.

5. DAFTAR REFERENCES

[1] Abdul Kadir,(2000). Konsep dan Tuntutan Praktis Basis Data, Andi, Yogyakarta.

[2]. Arbie, (2004), Manajemen Database dengan MySQL, Yogyakarta : Andi.

[3] Fatansyah, (2004). Basis Data, Bandung: Informatika.

[4]. Hafidz, Firdaus, (03 September 2009) Pengertian Monitoring dan Definisi, http://republikbm.blogspot.com/2007/10/pengertian-monitoring.html

[5]. Ladjamudin bin Al-Bahra, (2005). Analisis Dan Desain Sistem Informasi, Yogyakarta: Graha Ilmu.

[6]. Prasetya, Retna dan Catur, Edi Widodo, (2004), Interfaceing Port Paralel dan Port Serial Komputer dengan Visual basic 6.0, Yogyakarta : Andi.

[7]. Wahana komputer. (2009), Aplikasi Cerdas Delphi, Yogyakarta: Andi.