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Barcode Attendance System Based On Visual Basic 6.0 At PT. Priority

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Abstract. The attendance system aims to make it easier for employees to attend the office and this system uses Visual Basic software. The problem with why you have to use this system is because employee attendance still uses manual methods so it cannot be effective and efficient at work. The advantage that can be obtained by using this system is that it can make it easier for employees to be absent from the office by using computer facilities using barcodes. The benefits provided to the company are to simplify and speed up the work of employees so that they can increase employee discipline at the PT company. Priority

Keywords: Barcode attendance system, Visual Besic Software

1. Introduction

The development of the world of information technology is currently increasingly entering various fields, so that more and more companies are trying to improve their business, especially in the business sector which is closely related to information technology itself. Supported by the statement that the use of computers in business applications is to provide information quickly and accurately. This information is like the blood that flows in the body of a company. If a company's information is stopped or hampered, then the company's system will become sloppy.

One of the important developments in information technology is the increasing need for the use of data processing tools that function to produce the required information. Companies that want to develop their business and achieve success must follow the information era by using data processing support tools, namely computers. This is supported by the statement that computers are used to manage the vast resources of companies that view the whole world as their market where company executives invest in information technology.

Barcode technology is generally used in database applications where the data in the barcode only contains a database index, connecting databases that contain more complete

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information. The main purpose of using barcode technology is to identify something by giving it a label containing a line code (barcode). A barcode is a representation of numeric or alphanumeric data in the form of symbols that can be read by a machine and consists of vertical lines and spaces. Barcode width and spacing vary according to the data being encoded and the encoding standard used. Barcodes are read by light-sensitive electronic scanners. When reading a barcode, this kind of scanner will detect the high and low reflection factors of the barcode printed on the base, using the principle of light reflection and absorption, the light is reflected by the lighter areas of the barcode and absorbed by the darker areas. Therefore, the printed barcode shows a high degree of contrast between these two planes, while the lines must be even and sharp.

PT. Priority's address is Jl. MT Haryono no. 964 Peterongan Semarang is engaged in the sales of electronic goods and furniture and has approximately 100 employees, consisting of 60 male employees and 40 female employees with the entry time being 8 am and leaving time being 16.00. Attendance data collection system at PT. The current priorities are still less efficient and effective because all data collection activities are still carried out manually using cards, starting from employee data collection and calculating entry hours, departure times, length of working time, to information about employee absences. Meanwhile, in the personnel department, this access does not yet have a good computerized system for processing attendance data, resulting in inaccurate results and taking a long time to capture attendance data. Another problem is that in recording attendance data there is only one staff member and without an application that helps with this work, therefore PT. It is a priority to have an employee attendance system that can replace the old manual attendance system. This need arose because this company experienced difficulties in processing attendance data, resulting in an increasing number of hardcopy archive sheets and making it difficult for personnel management to recap and re-collect employee data and employee attendance lists. The use of the barcode method in this employee attendance system application will also make this attendance system more effective and efficient because each employee will only attach the employee ID card to the barcode scanner device that is available where the calculation of the employee's entry and departure times will be stored in the database, then the results of inputting the employee's identification number or barcode will be used as a reference for the employee's arrival time.

Based on the description above, the author tries to provide a solution by designing and implementing an attendance system workflow based on the manual attendance system that already exists at PT. Priorities that are still less effective and efficient are creating a database

system that will be used in computerized attendance applications and integrated with barcode attendance card reading tools. Therefore, based on this reason, the author tries to take a theme in writing this final assignment with the title "Visual Basic Based Barcode Attendance System at PT. Semarang Priority".

2. Theoretical Foundation

Basic concepts of Systems

1. Understanding Systems

A system is basically a group of elements that are closely related to each other, which function together to achieve certain goals. (Tata Sutabri, 2008).

The definition of a system is a group of elements that are integrated with the same purpose to achieve a goal. An organization such as a company or a functional area fits this definition, the organization consists of a number of resources and these resources work towards achieving a certain goal determined by the owner or management. A system is an integration of elements that all work towards one goal. All systems include three main elements, namely input, transformation and output. Some systems can control their own operations, and are called closed-loop systems. A closed loop system includes a control mechanism, goals, and a feedback loop. (Raymond McLeod, Jr, 2006).

2. Information Systems

An information system is a system within an organization that meets daily transaction processing needs, assists and supports operational activities, is managerial in nature of an organization and helps facilitate the provision of necessary reports. (Gordon B. Davis, 2008).

3. Computerized Systems

A computer system is a network of elements that are interconnected and form a single unit that works automatically in processing data to carry out a main objective, namely producing an output in the form of the desired information.

4. System Characteristics

a. Organization

Includes organizational structure and function.

b. Interaction

Interconnection between one part and another.

c. Interdependence

One part is dependent on other parts.

d. Integration

An integration between subsystems to achieve goals.

e. Main goal

Focusing on the same goals of each subsystem.

5. System Classification

A. Deterministic Systems

A system where the operations (input/output) that occur within it can be determined/known with certainty.

B. Probabilistic Systems

A system whose input and process can be defined, but the resulting output cannot be determined with certainty, there is always a slight error/deviation in the prediction of the system's progress).

C. Open System

A system that experiences an exchange of energy, material or information with its environment. This system tends to have adaptive properties, it can adapt to its environment so that it can continue its existence.

D. Closed System

A physical system in which the processes that occur do not experience an exchange of material, energy or information with the environment outside the system.

E. Relatively Closed System

A closed system but not completely closed to receiving the influence of other influences. In its operation, this system can receive influences from outside that have been defined within certain limits

F. Artificial Systems

Systems that imitate events in nature. This system was formed based on natural events that humans are unable to do. In other words, imitations that exist in nature.

G. Natural Systems

Systems formed from events in nature.

H. Manned System

A behavioral explanation system that includes human participation. (Gordon B. Davis, 2008).

6. System Development

System development is an effort to develop a new system to replace the old system as a whole, or improve an existing system in the organization. (Raymond McLeod, Jr, 2008).

1. Reasons for the need for Information Systems Development

a) There are problems that arise in the old system

Arises due to irregularities due to fraud, errors, inefficient operations, non-compliance with management policies.

b) There is organizational growth

Market competition situations require information to be provided quickly, precisely and efficiently to seize existing opportunities.

c) To Seize Opportunities

Market competition situations require information to be provided quickly, precisely and efficiently to seize existing opportunities.

d) There are instructions

Instructions from inside and outside the organization can also influence, for example, government regulations.

2. Information Systems Development Objectives

a. Organizations can operate efficiently.
b. The organization can operate effectively.
c. Organizations can provide better services.

3. Information Resources Security

a. Information Resource Security Objectives

1. Confidentiality

Data and information need to be protected from disclosure to unauthorized people

2. Availability

The goal is to provide data and information for those authorized to use it.

3. Integrity

All subsystems must provide an accurate depiction of the physical system they represent.

b. Information Resource Security Threats

1. Unauthorized disclosure and theft
2. Unauthorized use
3. Unauthorized destruction and denial of services

4. Unauthorized modification

c. Access control

Access control can be carried out, among other things:

1. User Identification

   Users identify themselves by providing what they know, for example personal identity.

2. Proving User Authenticity

   Users prove their right to access by providing something they have, for example a password.

3. User Authorization

   Users can be authorized, for example, to only read a file, while other users can be authorized to make changes.

3. Methodology

The method used by the author in the research is:

1. Interview Method

In writing this final assignment, the author conducted direct questions and answers to several employees related to the PT Prioritas Semarang absenteeism problem.

2. Observation Method

The author made observations or observers regarding the programs used in the employee administration system used by the company PT. Semarang Priority.

3. Literature Study Method

The author collects, selects and analyzes several reading sources related to the problem under study.

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4. Results and Discussion

Program View

Figure 4.4 Main Menu Display

The image above is visible the first time the application is run. There are 3 image options to choose from, namely:

1) Image of a person using an absence card to enter the attendance menu.
2) Image of a person wearing a tie to enter the administrator menu
3) Image "EXIT" to exit the application.

If you select the first image, a display like the one below will appear.

Figure 4.5 Appearance of the Attendance Form

To start attendance, you must first select the "Incoming Absence" or "Returning Absence" option, then shoot the barcode tool at the attendance card. If the NIK is known, an image of the employee's photo that has been stored in the database will appear. This process will

immediately save attendance information that has been carried out according to the date and time.

Figure 4.6 Login Form Display

The login form appears when you enter the administrator menu which is intended to limit officers who use this application. Enter the name "MJ" with the password "muji".

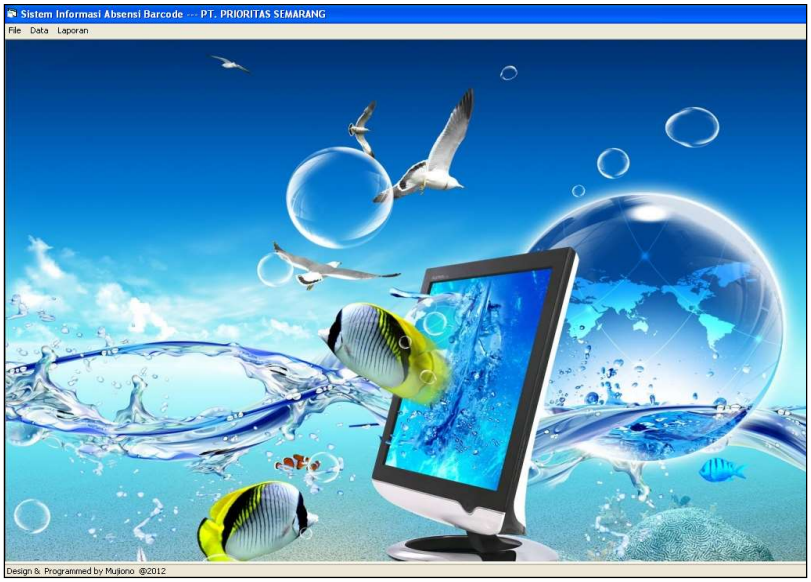

Figure 4.7 Administrator page display

The admin page consists of:

a. File - Exit: used to exit the application.

b. Data

1. Rule

   Used to display the rule input form.

2. Part

   Used to display the section input form.

3. Barcodes

   Used to display barcode forms.

4. Employee

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Used to display employee forms.

c. Report

(1) Employee Reports

Used to display employee reports.

(2) Absence report

Used to display the attendance and salary data processing report form.

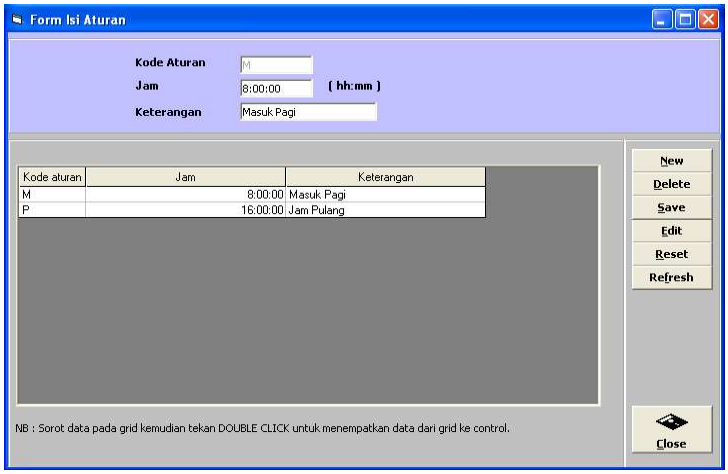

Figure 4.8 Display of the Rule Input Form

This form is used to enter rule data. The function of each existing button is:

a. The New button is used to enter new rule data
b. The Edit button is used to change data.
c. The Delete button is used to delete data.
d. The Reset button is used to delete data entries.
e. The Save button is used to save new data entered or data changed through editing.
f. The Refresh button is used to update the display on the grid.
g. The Close button is used to close the form.

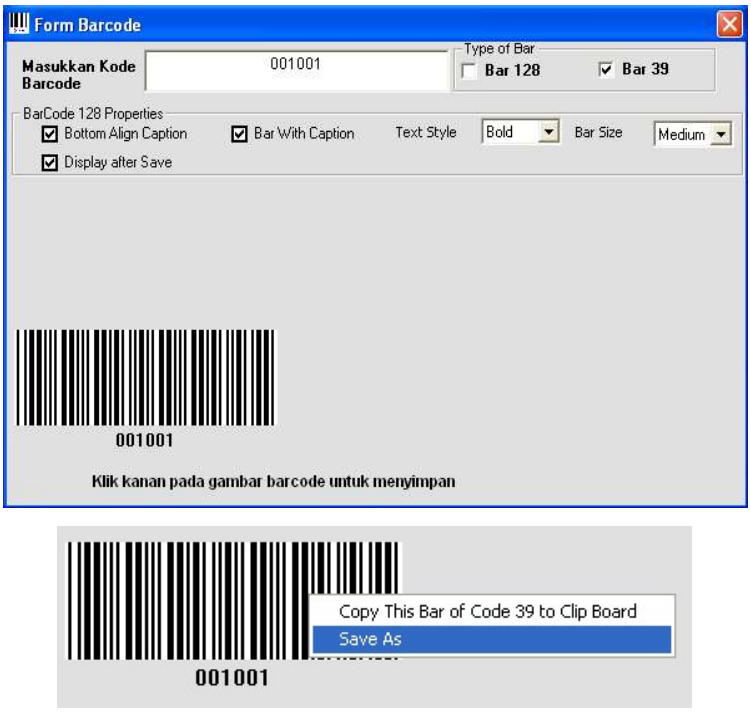

Figure 4.9 Barcode Form Display

The barcode form is used to obtain a barcode image according to the employee's NIK. To save the image, right click on the barcode image then select "save as". Save the image in the image folder in the application folder in "bmp" format.

Figure 4.10 Display of the Rule Input Form

This form is used to enter employee data. The location of the barcode image will be automatically saved according to the location of the image folder. The function of each existing button is:

(1) The New button is used to enter new employee data

(2) The Edit button is used to change data.

(3) The Delete button is used to delete data.

(4) The Reset button is used to delete data entries.

(5) The Save button is used to save new data entered or data changed through editing.

(6) The Refresh button is used to update the display on the grid.

(7) The Browse button is used to search for employee photo images.

(8) The Print Card button is used to print attendance cards as shown in Figure 4.11 below.

(9) The Close button is used to close the form.

Figure 4.11 Employee Attendance Card

LAPORAN DATA KARYAWAN
PT PRIORITAS SEMARANG

22 Mei 2012

NIK	Nama	kdbagia	Tgl Lahir	Jkel	Alamat	No Telp
001001	Mujiono	001	11/11/1987	L	Grobogan, Purwodadi	08977768432
001002	Henny Puspita	001	19/08/1991	P	Pedurungan Tengah No 18	081325467890
001003	Haryadi	001	09/08/1980	L	Jl. Cendana No 18 Semarang	0857652331

JUMLAH 3

Figure 4.12 Employee Data Report

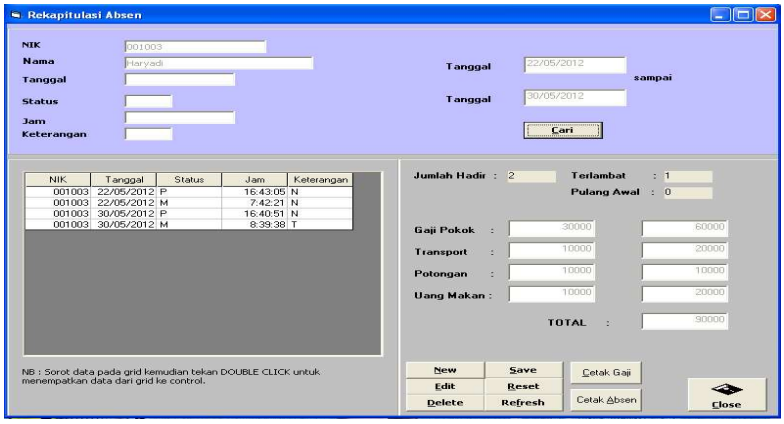

Figure 4.13 Employee Attendance Data Processing Form

This form is used to manage employee attendance data if there may be errors during attendance. Absence recap and salary information will appear automatically according to the NIK and desired date. The total salary calculation is (basic salary+ transport+ meal allowance)* attendance minus (deductions* late amount).

The function of each existing button is:

a. The New button is used to enter the NIK and data search date.
b. The Edit button is used to change data.
c. The Delete button is used to delete data.
d. The Reset button is used to delete data entries.
e. The Save button is used to save new data entered or data changed through editing.
f. The Refresh button is used to update the display on the grid.
g. The Print Salary button is used to print employee salaries.
h. The Print Absence button is used to print employee attendance recaps.
i. The Close button is used to close the form.

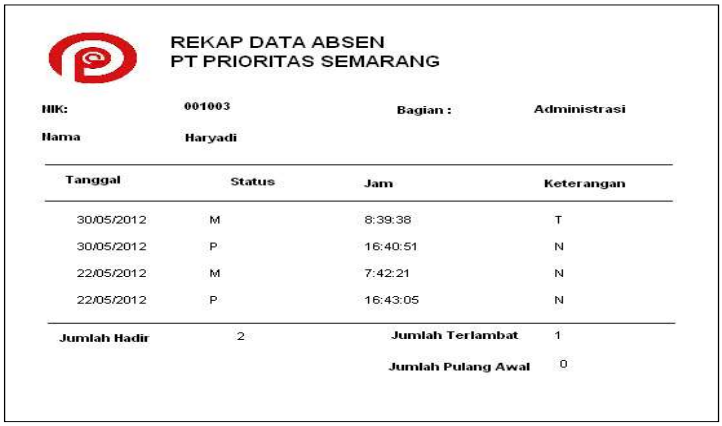

Figure 4.14 Employee Attendance Data Report

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Figure 4.15 Employee salary slip

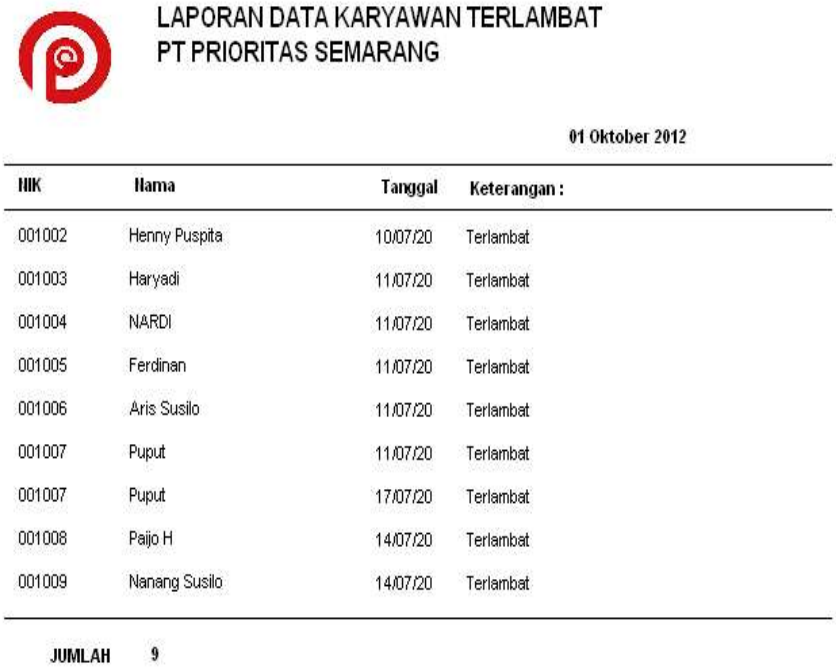

Figure 4.16 Late employee data report

5. Conclusion

From the explanation of the discussion of the entire material in front, in ending the discussion of this thesis the author draws several conclusions as follows:

a. Webcams can be used as a security system using movement detection methods. This method is used to detect differences in movement in objects.

b. The webcam can detect the location of objects by analyzing the RGB values at coordinates determined by the background subtraction method.
c. The results of testing this motion detection program are that the program can run as it should, but this program is less than optimal if the distance between the camera and the object captured is too far because the light intensity captured by the camera is less than optimal.

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