
Design And Build Attendance Interface System Using Rfid-PC

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ABSTRACT

Attendance is a routine before carrying out activities such as education at schools and campuses. This is a list of attendance records present when starting the activity until the activity ends. At this time the attendance system used is still manual by hand. In this case the attendance system will be created automatically using an RFID tag as an identification card and an RFID reader as a card reader. This tool works by using two series contained in the AT89S52 microcontroller as an RFID Starter Kit controller. Communication uses serial communication or RS 232. Communication with the microcontroller used in the RFID Starter Kit is serial while RS 232 is used in the microcontroller module. In addition to the addition of hardware, this tool is supported by design software including Visual Basic 6 and SQL. Visual Basic is used for programming student data processing and SQL is used for student databases. The advantage of this tool is that it is relatively inexpensive and does not require a computer. So there are only tools present in each class to replace the PC and on the server side there is a PC as the center secretary.

Keywords: *RFID, Microcontroller, Presence.*

1. Introduction

The world of education currently prioritizes the level of discipline so that the teaching and learning process can take place according to a predetermined schedule. Especially at institutions or universities, with no delays by students in attending courses. The problem that often arises in universities today is that many students are late in attending lectures. This causes students to take disciplinary actions, including taking care of absences so that lecturers cannot know the actual number of students who attend. To avoid the occurrence of such disciplinary action, the author makes an attendance system automatically. This system utilizes a Radio Frequency Identification Device (RFID) Reader as a student card identification.

According to Saputra quoted by Fatoni (2012). The application of technology in attendance development is very helpful in facilitating the data collection of students who have attended. Making attendance automatically can reduce student delays in attending lectures because each student has their own RFID card. This system consists of a microcontroller, RFID starter kit, wiz110sr RFID module, ID-12 module, LCD, RTC and computer server. The system for the software used is Visual Basic 6.0 and SQL and MYSQL databases. The microcontroller functions as a data processor from the module. RFID with transmission control protocol / Internet Protocol communication. The RFID module functions as student identity detection, the WIZ110SR module functions as a serial communication converter to TCP/IP communication, ID-20 module

is used for tag reading and software development system, because the tag that will be used instead of ID card and reader is used to read information regarding data to be automatically stored directly into the database. LCD is a display of liquid crystal material that operates using a doc matrix system. RTC (Real Time Clock) is a serial RTC with low power consumption that provides time and countermeasures in BCD (Binary-Coded Decimal) format and has SRAM (Magnetores Random Access). Memory) for data storage of 56 bytes and the computer serves as a comparison of existing student data. because the tag that will be used instead of the ID card and reader is used to read information regarding data to be automatically stored directly into the database. LCD is a display of liquid crystal material that operates using a doc matrix system. RTC (Real Time Clock) is a serial RTC with low power consumption that provides time and countermeasures in BCD (Binary-Coded Decimal) format and has SRAM (Magnetores Random Access). Memory) for data storage of 56 bytes and the computer serves as a comparison of existing student data. because the tag that will be used instead of the ID card and reader is used to read information regarding data to be automatically stored directly into the database. LCD is a display of liquid crystal material that operates using a doc matrix system. RTC (Real Time Clock) is a serial RTC with low power consumption that provides time and countermeasures in BCD (Binary-Coded Decimal) format and has SRAM (Magnetores Random Access). Memory) for data storage of 56 bytes and the computer serves as a comparison of existing student data.

Setiawan (2013).Explaining RFIDor Radio Frequency Identification is an identification method using a means called an RFID label or transponder to store and retrieve data remotely. Employee Attendance System Using RFID, works quite simply so it is very useful for agencies that have a large number of employees so they can monitor and check for delays (discipline) of each employee. This tool can help work in collecting employee data to be assessed from daily attendancees.

2. Methodology

The waterfall method or what is often called the waterfall method is often called the classic life cycle, where it describes a systematic and sequential approach to software development, starting with the specification of user requirements, then continuing through the planning stages.), modeling (modeling), construction (construction), and delivery of the system to customers / users (deployment), which ends with support for the complete software produced (Pressman, 2012).

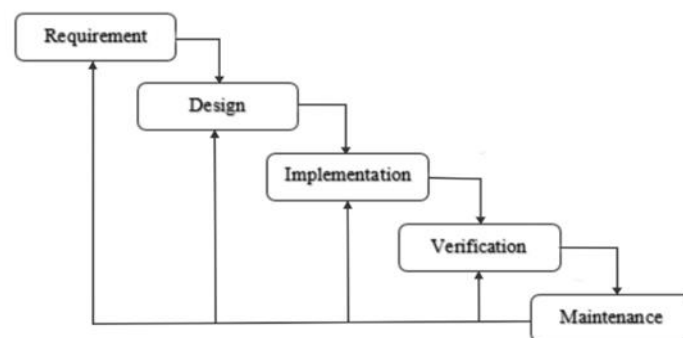


Figure 1. Waterfall Method

In its development, the waterfall method has several sequential stages, namely: requirements (needs analysis), system design (system design), Coding (coding) & Testing (testing), Program implementation.

3. Results and Discussion

3.1 Main View

This form is a form of designing the main display of the design and manufacture of student attendance using an RFID reader based on Visual Basic 6.0 if the media file has been processed on the user's computer that has been stored displaying the logo of the agency ID that uses the application program.

3.2. Student Attendance Display with RFID reader

This form is designed to display information from the attendance application with an opened RFID reader: (a) Display student attendance data in full in the form of admission hours, name, nim, date and absence status. (b) Identification card equipped with the card code from the scanned ID, using an RFID reader. (c) Automatically, data from student attendance will appear on the computer.

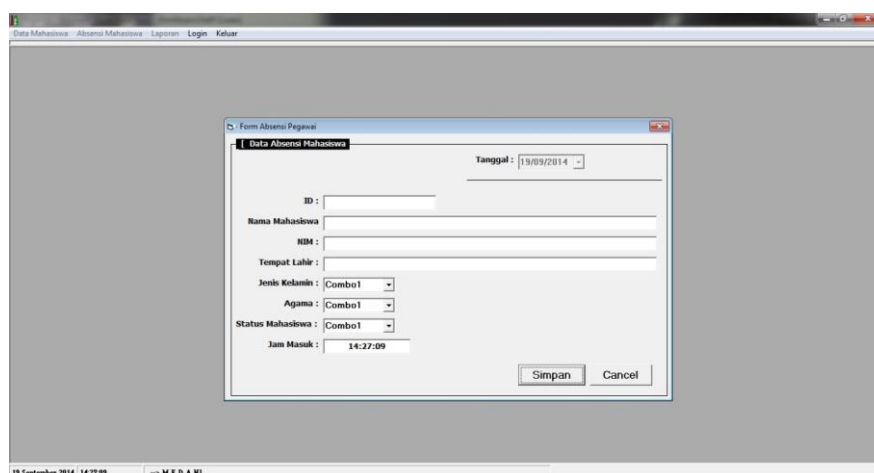
The image shows a screenshot of a Windows application window titled "Form Absensi Pegawai". Inside the window, there is a sub-form titled "Data Absensi Mahasiswa". The sub-form contains several input fields: "ID:" (text box), "Nama Mahasiswa:" (text box), "NIM:" (text box), "Tempat Lahir:" (text box), "Jenis Kelamin:" (dropdown menu showing "Combo1"), "Agama:" (dropdown menu showing "Combo1"), "Status Mahasiswa:" (dropdown menu showing "Combo1"), and "Jam Masuk:" (text box showing "14:27:09"). There is also a "Tanggal:" field with a date picker showing "19/09/2014". At the bottom right of the sub-form are two buttons: "Simpan" and "Cancel". The main application window has a menu bar with "Data Mahasiswa", "Absensi Mahasiswa", "Laporan", "Login", and "Keluar". The status bar at the bottom of the main window shows "19 September 2014 14:27:09" and "M S D A W".

Figure 2. Display of Attendance Form with RFID Reader

3.3. Show Input Manage User

This form is a display for using admin and user passwords to open student data and display the active timer.

A login dialog box titled "Login" with a close button (X) in the top right corner. It contains two input fields: "User Name:" with the text "admin" and "Password:" with masked characters "xxxxxx". Below the fields are two buttons: "OK" and "Cancel".

Figure 3. Display of Input Manage User

3.4. Show Student Biodata Form

This form is a complete student biodata display

A form titled "Form Data Mahasiswa" with a close button (X) in the top right corner. It contains several input fields: "ID:", "Nama Mahasiswa:", "NIM:", "Tempat Lahir:", "Tgl Lahir:" (with a dropdown menu showing "16/07/2008"), and "Jenis Kelamin:" (with a dropdown menu). To the right of these fields is a table with the following data:

Nama	NIM	Tempat Lahir	Tg
budi	81282920	medan	02
sya	78191919	medan	04
aasa	12233333	aasas	16
roy	242525	hsdh s	16
erik	120154	dolak sanggul	16
masdelita	154230	medan	16
hull	6757	gofoul	16
ibrahim	11320145	porsea	16
sehat	11320166	silalahi	21
jepri	1312321	siantar	22

Below the table are buttons: "Simpan", "Baru", "Edit", "Hapus", "Batal", and "Keluar". To the right of these buttons is a search field labeled "Cari Record:" with a "Kata:" label and an input field.

Figure 4. Student Biodata Form Display

3.5. Student Biodata Input Form

This form is a sub menu of the file menu to input and store all student data contained in student data

A form titled "Form Data Mahasiswa" with a close button (X) in the top right corner. It contains several input fields: "ID:" (with the value "125343"), "Nama Mahasiswa:" (with the value "masdelita"), "NIM:" (with the value "154230"), "Tempat Lahir:" (with the value "medan"), "Tgl Lahir:" (with a dropdown menu showing "16/07/1991"), and "Jenis Kelamin:" (with a dropdown menu showing "Wanita"). To the right of these fields is a table with the following data:

Nama	NIM	Tempat Lahir	Tg
budi	81282920	medan	02
hhahsah	277132719	bsqhhij	02
sya	78191919	medan	04
aasa	12233333	aasas	16
roy	242525	hsdh s	16
erik	120154	dolak sanggul	16
masdelita	154230	medan	16

Below the table are buttons: "Simpan", "Baru", "Edit", "Hapus", "Batal", and "Keluar". To the right of these buttons is a search field labeled "Cari Record:" with a "Kata:" label and an input field.

Figure 5. Student Data Input Form

DATA ABSENSI MAHASISWA

Tanggal 18/08/2014 0:00:00

ID	Nama	NIM	Sex	Maruk	Absen	Izin	Sakit
1111111111	budi	81.282.920		Y	-	-	-
1222222222	aasa	12.233.333		Y	-	-	-
12333333	sya	78.191.919		-	Y	-	-
192882998	hhahsah	277.132.719		-	-	-	Y

diketahui Prodi

()

Figure 8. Print Student Attendance Report

4. Conclusion

The conclusion of this research is to produce an application program that can be used in every agency or company, where the application program is. And of course this will fix all the fraud that exists in the manual process within an agency or company. This application program can be implemented in the business world, especially for agencies and companies. This will facilitate efficiency and effectiveness and reduce existing frauds.

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