Design of Application for Students Attendance Checking in Islamic Boarding School

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Abstract. This research aims to create applications that can facilitate in conducting absences this is done to see the liveliness on the santri (a student who schools at Islamic boarding school) in the Koran as well as facilitate reporting on the offer in the form of software that can be open in Smartphone. The methods used in developing this application was observation. The results of this research are a system used to take attendance absences in each session a lesson in a payroll activity. This application is made so that the santri do not do cheating during absences so that information would be more valid.

1. Introduction
Attendance is an activity that has already commenced, we often hear of problems that often occur in an activity, as is usually done manually using a paper and we must look for him one by one. Then fill out the sheet presence, it would be easier if only mark your presence with one click on the device [1]. Based on the previous research system developed so that absent students can do the attendance by scanning ID on their Android devices [2]. If we were glued using conventional methods, in addition to the long, time-consuming methods are also at risk of students cheating on their presence, since that method of absences that are efficient and effective is to employ application the Android platform [3]. Possible problems of man in his absence and inaccurate data, attendance manually is very time-consuming [4]. To ensure students are present, then the required Android-based face recognition and students absent using image capture and display a QR code on their smartphone [5]. android-based timesheet application using facial catchers make the inspection hiatus is much faster and easier [6]. Learning style is currently illustrating the design of the intelligent system of attendance for students or colleges to a more optimal learning time [7].

A College in the presence of the android platform increases the efficiency of the presence [8]. The presence of absence, technology makes it easy for humans to access information and to process information [9]. Course technology will greatly assist in the detection of students who often comes late and save into the database. Based on the results of the research there are several already made similar absentee applications in various fields of education, business, and others, but there has been no research that indicated to a boarding school, considering boarding schools also is an important institution in a country. Therefore, we try to implement the Absentee Application Click and slide-based santri in an educational institution boarding school. The rapid development of technology in everyday life has become common, one of which in the field of education and religious affairs. In recent years, the development of technology in a boarding environment also increases. Technologies that are commonly used today are smartphones-based android. This
technology makes it easy for human beings to obtain information and process data [10].

The purpose of the research is to create applications that can facilitate in conducting absences this is done to see the liveliness on the santri in the Koran as well as facilitate reporting on the offer in the form of software that can be open in Smartphone An. The methods used in developing this application was observation.

2. Method
The research methods used were participatory observation by watching and listening to the action or event to get the data naturally by using a detailed questionnaire with the tools google form.

3. Results and Discussion
Analysis of data and information needs
In making the application attendance santri data required is the data of the data subjects, the santri, and teacher’s data. While the information in the report is the presence of the santri need and reports the presence of teachers.

Actor Analysis
There are 2 principals in attendance of this santri application, namely the admin login as data manager absent santri, and check for absences santri. General users (santri) who can do the course and view the reports presence.

Use Case of User Diagram
Use case diagrams that describe the activities or measures of users in the running of the system to generate the access rights obtained per user (Figure 1).

![Use case of user diagram](image-url)

After designing the user use case diagrams, class diagrams to design next. The result of the class diagram is as follows:

- Table of students: A student could permit someday. This class has an attribute name, NIS, password, jk, and address.
- Table permissions: few days be in use permitted by a student. This class has attributes
tanggal1, tanggal2, NIS, description, date, and status.

- Tables login: the class that has a right of access. This class has attributes username, password, and level.
- Table of absence: a student could be absent from some of the lessons. It has a class attribute of the NIS and the absent date.

The conclusion of the results of the use of class diagrams is to determine the relation or relation of each table in the application of absent students (See Figure 2).

After creating a class diagram, the next is designing the following structure:

- **Student Table**
  
  To make a class diagram, the first thing to do is create a student data table that consists of the student's parent number, name, password, gender, and address. This will be needed to assist students in logging into the online learning system (See Table 1).

| Field        | Type | Length |
|--------------|------|--------|
| Student’s Parent Number | Varchar | 8      |
| Name         | Varchar | 25     |
| Password     | Varchar | 10     |
| Gender       | Varchar | 20     |
| Address      | Varchar | 50     |

- **Permission Table**
  
  To assist in the licensing process in learning activities, a permission table is needed to be inputted into the application system to be made, consisting of the student's parent number, the date the permit letter was submitted, an explanation, and the status of the student concerned (See Table 2).
Table 2. Permission Table

| Field          | Type   | Length |
|----------------|--------|--------|
| Student’s Parent Number | Varchar | 8      |
| Date1          | Date   |        |
| Date2          | Date   |        |
| Explanation    | Varchar | 20     |
| Date           | Date   |        |
| Status         | Varchar | 20     |

- **Absent Table**
  
  To assist teachers in seeing students’ attendance in class, as well as helping students to know the total attendance and permits that have been made, it is necessary to make attendance tables in class diagrams, consisting of student parent numbers and attendance dates (Table 3).

Table 3. Absent Table

| Field          | Type   | Length |
|----------------|--------|--------|
| Student’s Parent Number | varchar | 8      |
| Attendance date | date   |        |

- **Login Table**
  
  While the final stage in making tables for class diagrams is the creation of tables for viewing logs in to the online learning system, consisting of a username, password, and level or class of students (Table 4).

Table 4. Login Table

| Field    | Type   | Length |
|----------|--------|--------|
| Username | varchar | 10     |
| Password | varchar | 10     |
| Level    | varchar | 10     |

When you are finished designing the structure and the next step is database system interface design application.

**Application interface design**

The front page of the absent santri was application login page, in the login page admin gave different access rights between santri, officials or teachers. Santri only gives permission to view reports, timesheet and see activities conducted while opening the application. While the officers or teachers were given access to verification santri who were absent. CRUD (Create, Update, delete data) the study material provided by teachers. In the login page, there was two validation; username and password, when applying to become santri at PPM Miftahul Khoir santri will get the username and password to be able to login into the application of absent santri (See Figure 3).
In the login interface when we enter a valid username and password, then the application will automatically go into the main view application absent santri. In the main view, some features can be used with appropriate access privileges. If a user login with the status of santri then the feature that can be used is the account features, help, reports roll call, profiling santri, santri do activities. If the sign-in application with the status of the officer or teacher, then several advantages access rights are not owned by the status of the santri. Among them are absent from the schedule of each lesson, editing, and deleting absent santri that do not fit or are not valid when santri doing the cheating when the Koran. On the main page, there is also a help feature, in case santri not familiar with using the santri absent application click the feature will then appear the help or a full explanation regarding the application of absent santri. The additional features in this application IE settings when santri want to change profiles then live click menu settings in the bottom right corner, then there is a sub-menu such as changing your profile photo, change the account password. Reporting features absent on the application of absence santri become a benchmark santri who aren't diligent in reading the Qur'an, and this feature can be used as the main runway when judged on santri who are unruly or not discipline. The last features out applications when santri want to exit the application, click the username feature at the top right corner and it will pop up a sub-menu to exit the application. (See Figure 4).
4. Conclusion
In designing an application absent santri based click and slide several factors should be considered. One of them is a consideration in terms of users and timesheet application officer, santri must comply with the habits or characteristics of the application user so absent santri can help the system to make it more effective and efficient. Through the application of absent santri can monitor, the officers more honest, active and not cheating in the Koran. Hence the need for an absences santri Application to facilitate all parties so that the creation of a modern education institution without changing the culture of a boarding school.

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