Mobile Applications Quick Response Reports For Successful Practices In Computer Laboratory

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ABSTRACT

With the rapid advancement of information technology today, every world of education requires campuses to develop teaching and learning services in their special practicum in the laboratory. Rapid response laboratory services are a form of participation to take part in the implementation of practicum adjusting standard operating procedures (SOP). In this case, the author takes a case study at the Atma Luhur ISB computer laboratory, making a damage report or PC troubleshooting now still in the form of LOG books and manuals, and the processing time is waiting for lecture hours to finish. Thus, a rapid response application process for response and information service laboratories is needed to make it easier for laboratory workers to carry out job descriptions. The method used in designing this rapid response system application is the waterfall model and is run on the Android operating system. The results of the rapid response application in the Atma Luhur ISB laboratory can help smooth practicum in this laboratory, making it easier for the laboratory and to obtain service responses and practicum services more quickly and effectively. This application after being tested for functional aspects by distributing questionnaires to laboratory assistants got an average value of 87.083% (good criteria), so overall it can be concluded that this application can be applied in the Atma Luhur ISB laboratory.

1. INTRODUCTION

The development of Android smartphones is very fast, because of the use of technology and components that include sending short messages, as a tool to communicate with one another, playing games and various other components such as mobile phones in general, such as listening to music, the internet, and so on. In addition, smartphones also seem to be made to be able to replace the function of a computer in a smaller form so that it provides an advantage compared to computers, namely that it can be gripped and easy to carry anywhere. but seeing from the rapid development of technology this has not been fully utilized by the world of education, one example is in the field of services for students, especially in serving the lecture practicum process in the computer laboratory.

The computer laboratory is a place where practicum takes place as one of the academic activities in the Study Program, namely: Informatics Management, Informatics Engineering, Information Systems, and Information Management, and the Faculty of Economics and Business by establishing 1 Digital Business Study Program. In carrying out practical activities, laboratory assistants are needed. Laboratory assistants are students who are selected through a selection process. In practical activities in a computer laboratory where the laboratory staff such as technicians, supervisors, staff and laboratory assistants are required to provide services to students, namely to prepare a computer laboratory if there is any damage at any time. Problems occur when the practicum takes place, the laboratory staff is still making reports in the form of LOG books and manuals, and the processing time is waiting for the lecture hours to finish. With this application is expected to solve the problems that occur at this time.

So the author concludes and takes the title the mobile applications quick response reports for successful practices in computer laboratory.

The research related to the mobile applications quick response reports for successful

practices in computer laboratory at the Atma Luhur ISB Computer Laboratory that has been done before include:

The study [1] entitled "Prototype of Android-Based Public Complaint Service Applications and Web Service" where the application can facilitate the community in overcoming their complaints regarding waste problems in the surrounding environment. Research [2] entitled "Classification of Public Complaints Data on the Cimahi Pesduk Page Using Rocchio" where the application can assist operators in determining the category of complaint messages with text mining using Rocchio automatically without having to be read one by one. The research [3] entitled "Development of Community Service E-Report Applications for Manado Smart City" where the Manado City community service e-report application can realize good public services, as well as make it easier for the community to report an incident.

Research [4] entitled "Design and Implementation of an Integrated Posyandu Information System Based on Android where the application can help the public find out information, schedules and activities at the posyandu. So that the implementation of posyandu activities goes well.

The research[5] entitled "The Implementation of Monitoring Prakerin Programming Expertise Competence of the Department of Computer and Informatics Engineering which in this study contains reports on the performance of prakerin students who carry out industrial work practices.

2. METHODS

Planning as a first step before performing other management functions in an effort to meet laboratory infrastructure. According to [6] "planning is the selection of a set of activities and the subsequent decision what to do, when, how, and by whom". This planning includes the selection process, goal setting by determining the strategies, programs, organizational structures, methods, systems and budgets needed to achieve the goals. According to [7] mentions laboratory organization is a "component of laboratory management.

Practicum is an activity that aims to equip students to better understand theory and practice. According to [8], through practical activities, many things can be obtained by students including 1) practical activities can train skills, 2) provide opportunities for students to apply and integrate their knowledge and skills in practice, 3) proving something scientifically/conducting scientific inquiry, and 4) appreciate the knowledge and skills of inquiry. Practicum supports the subject matter. By using the practicum method, learning will be directed at a concrete learning process and can discuss with friends so that new ideas, ideas or concepts can be obtained. According to [9], the target of the practicum method is so that students can prove the truth of the applicable conceptual theories and so that students get satisfaction from their learning outcomes. This study aims to 1) improve understanding and learning outcomes and 2) knowing the student's response to the practicum method used.
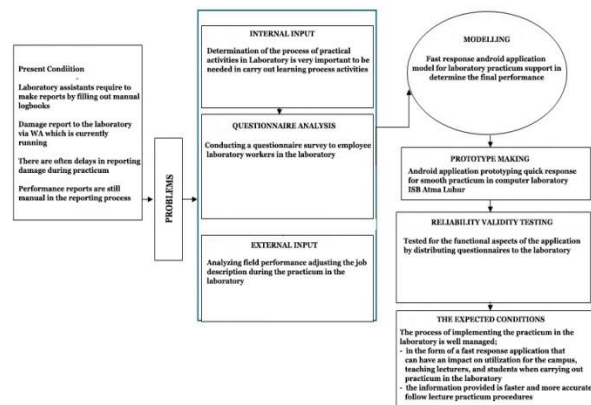

Figure 1. Research Method

Based on the research methodology as shown in Figure 1, the following application models are obtained:
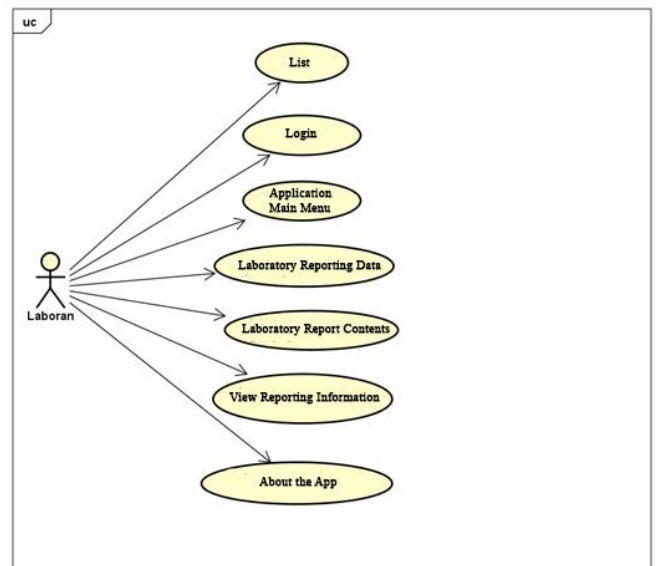

Figure 2. Application Model

As shown in Figure 2, Laboratory assistants are supervisors, staff, and laboratory assistants who have a special task, namely checking each laboratory. The laboratory assistant will make a report in case of damage which will be written in the log book where

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each laboratory assistant has their own log book according to the SOP (Standard Operating Procedure), then it will be repaired by the technician who will be guided by the laboratory assistant who checks / laboratory
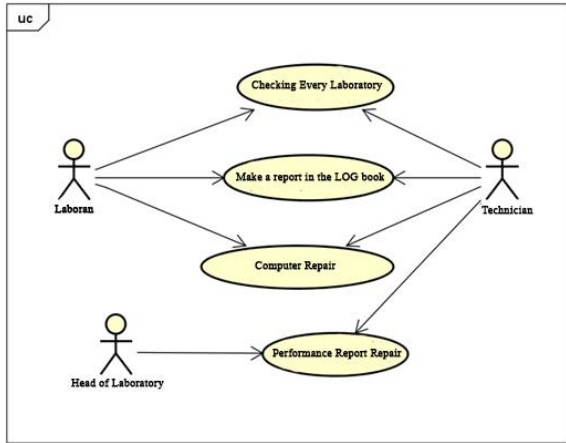

Figure 3. Use Case Diagram of the Fast Responding System of Laboratories

Laboratory Section: The Laboratory Section logs in, records incoming laboratory data, enters laboratory data, deletes laboratory data, updates laboratory data, enters laboratory data, deletes laboratory data, sends replies to Responsive reports as shown in Figure 4.
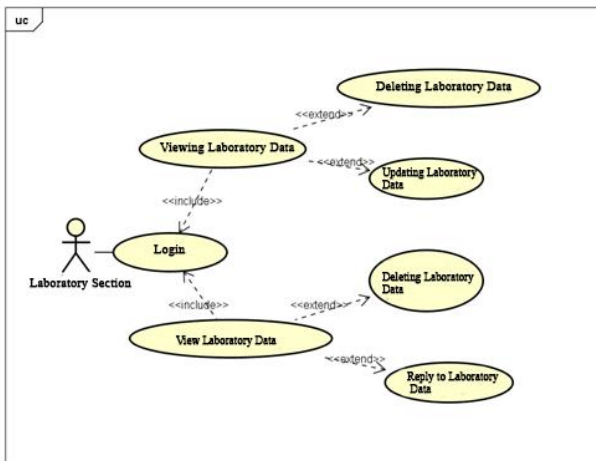

Figure 4. Laboratory Use Case Diagram

3. RESULTS AND DISCUSSION

This research was made using programming prakerin monitoring with 4 stages of research in the implementation process, namely planning, design, coding, and testing:

3.1. Planning

This is the first stage when starting the project, which is carried out by interviewing and questionnaires to laboratory assistants at the Atma

Luhur ISB computer laboratory. Where there are laboratory heads, computer technicians, supervisors and computer laboratory assistants.

The calculation of the questionnaire was carried out after obtaining all the answers and the questionnaire sheet totaled 12 by having 12 questions filled out by the computer laboratory laboratory assistant;

a) Calculating Score

In calculating the score by calculating the total with the formula. So that the calculation is done to get a score for each Questioner.

$$=SUM(C3:N3) \quad\quad (1)$$

b) Calculating Value

The next step is to calculate the value with a formula. Where the total score x 100 / 60 (the highest value of the score). The highest value obtained is 91.6 and the lowest value is 81.6. So it will be done to find out the average value.

$$=(03*100)/60 \quad\quad (2)$$

c) Average Score

The average value is obtained from the average value of the 12 laboratory assistants who fill out the assessment of the application. The formula used is as follows.

$$=AVERAGE(03:014) \quad\quad (3)$$

d) Minimum Value

The minimum value obtained is the value obtained from the average value of the 12 laboratory assistants who fill out the questionnaire assessment of the application. The formula used is as follows.

$$=MIN(03:014) \quad\quad (4)$$

3.2. Design

This is done by designing the application system using UML with Usecase Diagrams in order to clarify the flow of system performance from start to finish[10].

3.3. Coding

Done to create android applications using the Android studio programming language. As for the CMS, it uses PHP and the framework uses Laravel. Database used MySQL.

3.4. Testing

We do the application first after the coding process is complete to check all the functions of this laboratory rapid response application. There are some menus that are not optimal so they must be corrected several times before being tested by the laboratory in

the computer laboratory.

Figure 5. Login menu

The Main Menu display will appear when finished logging in, where in the Main Menu there are 4 menus, namely Data (LABORATORY), Laboratory Report Data, Laboratory Report Information, About Applications.

Figure 6. Main menu

In the Laboratory Report Data Display, it contains the name, report, upload photo, photo name where the laboratory assistant is required to fill out the report form to send responses

Figure 7. Laboratory Report Data

In the Information Display, the Response Report contains the laboratory's responses as well as the responses of other laboratory assistants.

Figure 8. Display of Response Report Information Screen

The following is the response information that has received a reply from the laboratory

Figure 9. Quick Response Report Reply Screen Display

The following is a Server implementation of several layouts made:

The following shows the main menu display consisting of Home, Laboratory Data, Laboratory Reports, and also Log out if you want to exit.

Figure 10. Main menu of webserver

In the following display is the incoming laboratory data where there are Id, Username, Password, Nik, Address, Phone, Email, and also delete and update actions where the laboratory assistant can delete or update the laboratory data.
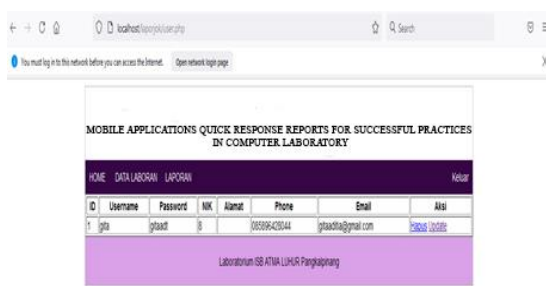

Figure 11. Laboratory Data

In the following display is the incoming report data where there are Id, Name, Report, Photo, Photo Name, Reply and also delete and reply actions where the laboratory assistant can reply to the report or delete the report data.
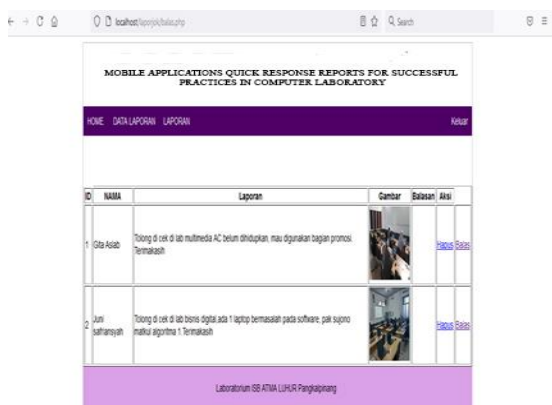

Figure 12. Report Menu

In the following display, the Reply Menu for incoming report data is where the laboratory assistant can reply to the report data.
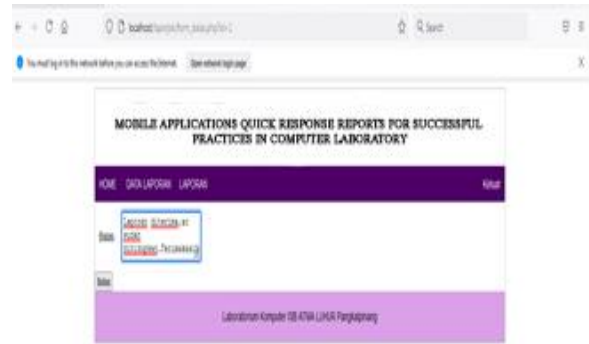

Figure 13. Menu Reply Data Report

After analyzing the data sourced from questionnaire data, here is a recapitulation of the results of the quick response application quality test.

No	Nama	1	2	3	4	5	6	7	8	9	10	11	12	Skor	Nilai
1	Ari Amir Alkodri, S.Kom, M.Kom	4	5	5	5	3	5	4	5	5	4	5	5	55	91.667
2	Handi Susilo, ST	5	4	4	4	3	4	5	5	4	5	5	5	53	88.333
3	Juni Syafriansyah, S.Kom	4	5	5	3	5	5	4	5	4	5	5	4	54	90
4	Jerry Jamhari	3	4	3	4	4	5	5	4	5	4	5	5	50	83.333
5	Afra Maulana Syafika	4	4	5	5	5	5	5	3	4	5	5	4	53	88.333
6	Vidi Bachrum	5	4	5	3	4	4	5	4	4	3	4	4	49	81.667
7	Muhammad Dafi Mahendra	5	3	4	4	5	5	5	4	5	4	5	4	53	88.333
8	Yunita Yani	4	3	5	5	4	5	5	5	3	4	5	5	53	88.333
9	Hanny Istiqomah	4	5	4	4	4	5	3	4	5	4	4	5	51	85
10	Irgi Rizaldi	3	3	4	5	4	4	5	5	5	5	5	5	53	88.333
11	William Saputra	4	5	5	4	4	5	3	5	4	5	5	4	53	88.333
12	Vivi Oktari	4	3	5	4	4	5	3	4	4	5	5		50	83.333
										Rarata				52.25	87.083
										Min				49	81.667
										Max				55	91.667
										Std				1.8153	3.0256
										Var				3.2955	9.154

Figure 14. Calculation of Questionnaire Results from Laboran

If seen from the table above, it can be concluded that the level of quality of the application for the rapid response of the laboratory assistant at ISB Atma Luhur which was made as a whole has good criteria, with a percentage rate of 87.083% obtained from 12 respondents, namely laboratory heads, laboratory technicians, supervisors and computer laboratory assistants, with a minimum score of 81.6 and a maximum value of 91.6, as well as the assessment of Std 3.02 and Var 9.15.

4. CONCLUSIONS

Based on the results obtained in the research conducted, it can be arranged the implications that are reviewed for aspects of the system, managerial aspects, and also aspects of further research. The implications of the system aspect are related to the concept of strategy, tactics to technical operations, hardware, software, and infrastructure design which requires further coordination between laboratory laboratory assistants, namely the head of the laboratory, laboratory technicians, supervisors and laboratory assistants. The implications for managerial aspects related to practicum activities such as providing information on damage to laptops, lecture software, teaching support and so on related to department work programs, laboratory strategies/policies and rules need to be made to facilitate practical learning activities and the

implications for further research aspects related to further research needed to improve quality, including the development of a student absentee system during practicum, practicum scheduling, linkages with teaching lecturers, increasing respondents, by multiplying the variables studied in detail what are expanded/ reproduced and their respective aims/objectives/targets. The results of the study were in the form of a rapid response application for laboratory workers at the Atma Luhur ISB computer laboratory which could have an impact on utilization in the learning and teaching process, especially in reporting damage so that they could respond quickly to repairs in an effort to increase learning effectiveness. 12 respondents who tried the quick response application directly.

5. ACKNOWLEDGMENT

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