



# Mobile Web Application Development in Administration Services in Nursing Department Laboratory

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ARTICLE INFO	ABSTRACT
<p><i>Article history:</i></p> <p>Received Sep 29, 2022 Revised Oct 06, 2022 Accepted Oct 20, 2022</p> <p><i>Keywords:</i></p> <p>Skill Laboratories Software Mobile Web Administration Services</p>	<p>Moment this, many skills laboratories have been depending on various progress technology information for help and make it accessible in management administration in the skill laboratory, including using computers and software/ applications. Study this use type research and development. The development model in the build system uses SDLC (System Development Life Cycle) with the Waterfall model. This study is quasi-experimental research with one group pretest and posttest designs. Applications created containing loan tools and space laboratory, reporting inventory equipment laboratory, documentation activity practicum and system evaluation and reporting. The sample in a study consists of 40 selected respondents using a purposive sampling technique. Test convenience use application uses a questionnaire consisting of 12 questions with a choice very appropriate, appropriate, sufficient appropriate, no suitable, very no appropriate. Data analysis used paired sample t-test. This mobile website is named SiMAPiN based on nine items of need: user, item, category item, unit goods, officers, submissions loan, submission item, category application and borrowing. The analysis shows a change perception of convenience in using application loan tools and goods laboratory (p-value = &lt;0.001). The average change perception is as much as 13.1 points (33.7 – 46.8). The effectiveness of the application of the results is -5.98, which is enormous (&gt;2.0). We conclude that application loan tools and materials, as well as room, can make it easier for stakeholders and laboratories to do management laboratory. Moment conducted testing application, got results that occur enhancement perception to convenience use application. Future research could focus on integration applications this with procurement goods Required laboratory government.</p> <p><i>This is an open access article under the <a href="https://creativecommons.org/licenses/by-nc/4.0/">CC BY-NC</a> license.</i></p>



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## 1. Introduction

Laboratory further education, called laboratory, is a support unit academic at the institution of education. Laboratory and equipment types are facilities and infrastructure

necessary for supporting the learning process on campus (Afifah & Astuti, 2017). It was stated in PP Number 13 of 2015 concerning National Education Standards Article 42 Paragraph (2) and Article 43 Paragraph (1) and paragraph (2) that every unit of education is required to have infrastructure that includes land, space, class, room leader unit education, space educator, administrative room, room \_ library, room laboratory, room workshop work, production unit space, space canteen, installation power and service, place exercise, place worship, place play, place recreation and other necessary space/place for support an orderly and continuous learning process (Holilah & Pohan, 2018).

In general, the laboratory is designed to allow it to do its activities under control. The laboratory must be managed and utilized by good to increase efficiency and effectiveness. Management The laboratory is assisted institution laboratory education (PLP). A suitable laboratory must be equipped with various facilities to make it easy to use the laboratory To do activities. Development Technology Information in the current era could be utilized as a partner in the complete profession so that more fast (Zulmeida, 2021, p. 19)

System information alone is a tool or purposeful means for processing data into information that takers' decisions can use. System information plays a role in helping managerial in build services that use technology system information to face challenges from tough competition. System Information Laboratories can also explain as something system inside something organization that brings together needs processing transactions daily, support operations, character managerial and strategic activities of something organization and provide parties outside particular with required reports (Buhari & Sari, 2022).

Management Laboratory in field service administration in the laboratory primary nursing push use the manual form so that the data is at risk of being lost or experiencing various archiving problems. Institution Education Laboratory (PLP) in the laboratory Major Nursing push not enough more every day serve 2-3 practice independent nor structured so that scheduling and maintenance tools must be scheduled and maintained with good. According to the results observations and during this, perceived researchers as Educational Personnel in the laboratory Major Nursing Health Polytechnic Ministry of Health still experience constraints in To do processing service fast laboratory and good archiving.

With the use of the existing manual system, no close possibility of administration. Becoming a pile-up queue and less controlled in condition dense activity practicum in the laboratory, see the situation the already appropriate if laboratory use side progress computer suitable device hard nor soft in effort help previous operational management conducted manually. So the researcher interested To do studying Development Services at the Department of Education Laboratory Nursing Health Polytechnic push Based on System Information Software.

## 2. RESEARCH METHOD

Study this use type research and development. The development model in the build system uses SDLC (System Development Life Cycle) with the Waterfall model. Study this is a quasi-experimental research with one group pretest-posttest design. The researcher used a pretest questionnaire for one group of respondents. After intervention by introducing Laboratory Web App Nursing in the group respondent, the researcher then stages measurement after (post-test) in the group respondent. Applications created containing loan tools and space laboratory, reporting inventory equipment laboratory, documentation activity practicum and system evaluation and reporting. The sample in a study consists of 40 selected respondents who use the purposive sampling technique. Test convenience use application uses a questionnaire consisting of 12 questions with a choice very appropriate, appropriate, sufficient appropriate, no suitable, very no appropriate. Data analysis used paired sample t-test.

### 3. RESULTS AND DISCUSSIONS

#### 3.1 Result

##### a. Mobile web design

This mobile website, given name SiMAPiN based on nine items of need that is user, item, category item, unit goods, officers, submissions loan, submission item, category application and borrowing, as shown in Figure 1 below ;

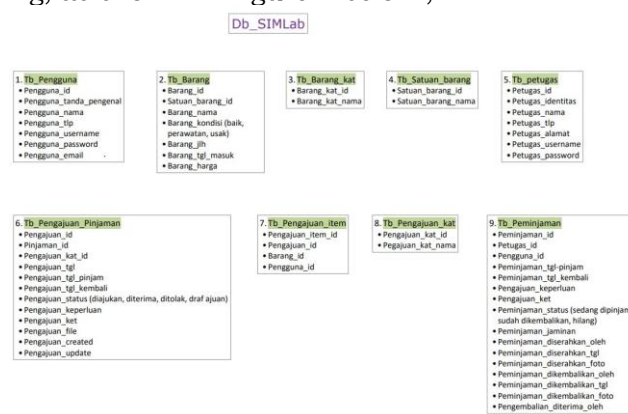


Figure 1. Mobile Web Database Relations

The homepage for entering applications is based on two categories: users and admins. The welcome page from the application this like the following figure 2 ;

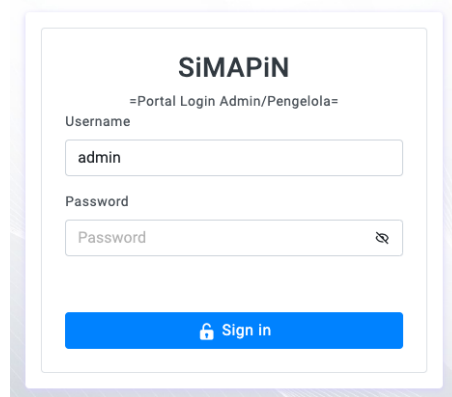


Figure 2. Application Initial Screen

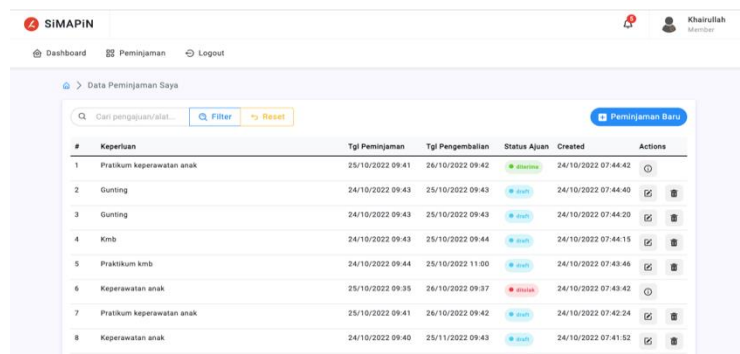


Figure 3. Dashboard Borrowing

The screenshot shows a web application interface for SIMAPiN. The user is logged in as 'Khairullah Member'. The navigation menu includes 'Dashboard', 'Peminjaman', and 'Logout'. The current page is 'Data Peminjaman Saya > Entri'. The main content is a form titled 'Form Entri Peminjaman Barang/Alat'. The form has the following fields: 'Keperluan \*' with a text input and a 'Please fill out this field.' message; 'Usulan Tanggal Peminjaman \*' and 'Usulan Tanggal Pengembalian \*' with date pickers; and 'Keterangan' with a text input. At the bottom of the form are three buttons: 'Save & Next', 'Back', and 'Add New'.

Figure 4. entry form loan tools and goods

Appearance manager from application this is as following;

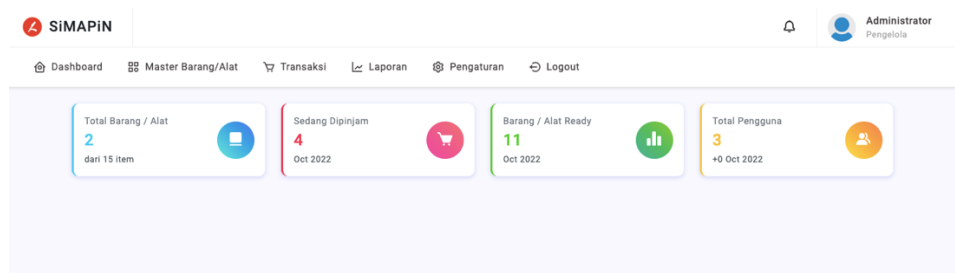


Figure 5. administrator dashboard

The screenshot shows the 'Master Barang/Alat' page in SIMAPiN. The user is logged in as 'Administrator Pengelola'. The navigation menu includes 'Dashboard', 'Master Barang/Alat', 'Transaksi', 'Laporan', 'Pengaturan', and 'Logout'. The page has a search bar with 'Cari barang' and a 'Kategori barang...' dropdown. Below the search bar is a table with the following data:

#	Kode	Nama Barang/Alat	Harga	Stok	Tersedia	Status	Tgl Masuk	Actions
1	2210240001	Gunting Plester	50.000	5 Pcs	10 Pcs	Ready	01/01/2018	[Edit] [Delete]
2	2210210001	Stetoskop Dewasa	100.000	3 Pcs	5 Pcs	Ready	01/01/2015	[Edit] [Delete]

Total data 2 record. Maximum showing data for each page 10 record

Figure 6. master of goods and tools

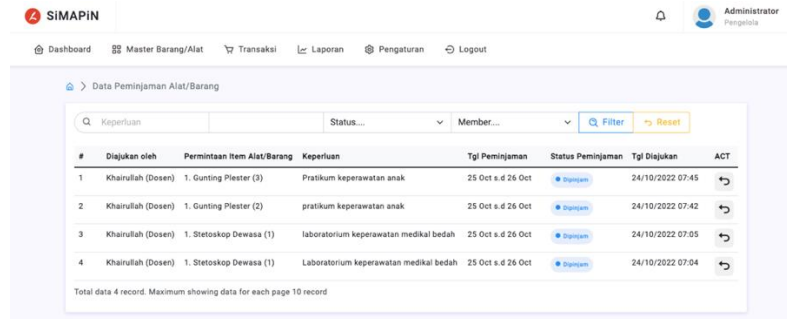


Figure 7. Borrowing data tools and materials

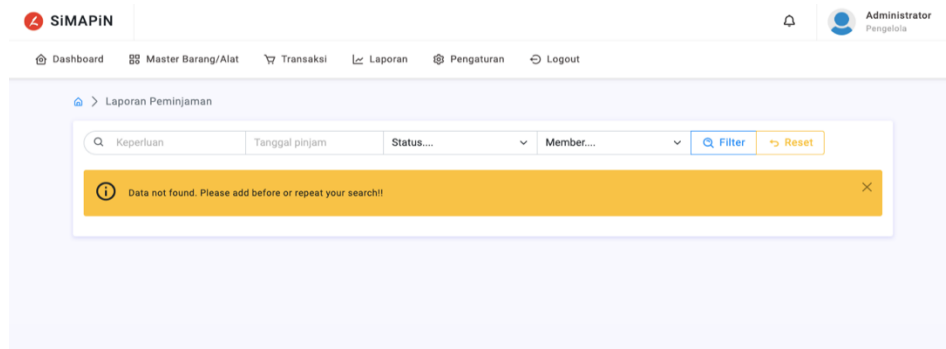


Figure 8. Report Borrowing tools and materials

b. Test

A total of 40 respondents contribute to the testing application. Most respondents were manifold sex female (70%) and aged 19-20 (62.5%). The data are presented in table 1;

Table 1. Characteristics respondent

Variable	Frequency	Percent
Type Sex		
Man	12	30
Woman	28	70
Age		
19-20	25	62.5
21-22	15	37.5

Analysis result convenience use application presented in table 2 below

Table 2. Analysis convenience use application loan tools and goods laboratory

Paired Samples T-Test	statistics	df	p	Mean difference	SE difference	Effect Size
before after	-37.8	39.00.00	<.001	-13.1	0.239583333	Cohen's d 5.98

Table 3. Analysis change perception convenience use application loan tools and goods laboratory

	N	mean	median	SD	SE
before	40	33.7	34	0.106944	0.2125
after	40	46.8	47	1.15	0.126389

The analysis shows a change perception of convenience in the use of application loan tools and goods laboratory ( $p$ -value  $= < 0.001$ ). From table 2 can be seen that the average change perception this as much as 13.1 points (33.7 – 46.8). The effectiveness of the application of the results is -5.98, which is enormous ( $> 2.0$ ). The average change perception convenience use application can be seen in the following figure

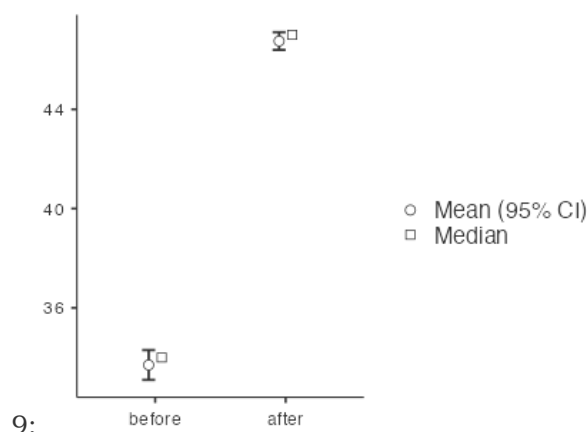


Figure 9. average change perception convenience use application loan tools and goods laboratory

### 3.2 Discussion

Primary nursing is the knowledge to do activity practicum during the learning process. For that required, there are facilities capable of infrastructure to support the implementation of activities of the practitioner. One of them that is must availability means infrastructure laboratory as support activity study teach (Bobihu, 2013). Explain related phenomena with knowledge nursing needed for support learning, such as a laboratory. In education, the nursing activity laboratory is integral to activity study teaching (Maulana et al., 2022).

The laboratory is one means of infrastructure that the campus must own for skeleton support activity study teaching. Because of the existence of laboratories capable support successful learning, both in diploma education and bachelor. Minister of National Education Regulation No. 24 of 2007 concerning Infrastructure Standards states that one of the necessary and necessary means owned by every education unit to support successful activities, observation and experiment is availability laboratory (Islami et al., 2016).

According to (Kedeo et al., 2015) laboratory is a room well-closed or designed open by needs for To do related activities with functions of education, research and service to society. In utilization laboratory walk with ok then laboratory they must manage with good, and management good laboratory must be supported with management good lab too.

According to (Mulyadi et al., 2020), the more good implementation management laboratory, the more competence also increases from the source power of existing humans. However, in reality, there is still a campus with a laboratory, but in side management, many are not yet maximum.

For that required accessible app manager laboratory, laboratory and head laboratory To increase competence in the management laboratory. Management laboratory is something effort to manage laboratory to have good governance (Ramdan et al., 2019). Management laboratories could be managed well, determined by mutual factors related to the others. Several tools state-of-the-art laboratory, with skilled professional staff not yet, of course, could operate fine if not supported by the existence management good

laboratory. Because of that, the management laboratory is something the part that does not could be separated from the activity laboratory (Silvia & Aryanti, 2022).

Moment this, many skills laboratories have been depending on various progress technology information for help and make it accessible in management administration in the skill laboratory, including using computers and software/ applications. The application is used to Simplify related administrative processes with service to students, lecturers, and the academic community outside campus, like loan goods and space. For Fulfill the demands of progress technology and improve the service skills laboratory to stakeholders, needs system information in the skill laboratory is felt the need for support service so that the process can walk with fast and efficiently (Aviany et al., 2021).

Application loan tools and materials in the nursing skills lab help laboratory and students in the implementation practicum. This is proven by the perception of convenience use application increases after a test application. With existence computer as a tool makes it easy to work, then in something field instantly could computerize; Thing this is considered field essential because Thing this could support the success of something a company or agency in reach purpose.

Every institution nursing vocation naturally must have an innovation. new in management system service so that it could maximize existing processes through the use of various available technology. This Thing aims to increase service and improve campus quality (I Made Raka & Alva Cherry Mustamu, 2022).

#### 4. CONCLUSION

We conclude that application loan tools and materials and room make it easier for stakeholders and the laboratory to do management laboratory. Moment conducted testing application, got results that occur enhancement perception to convenience use application. Future research could focus on integration applications this with procurement goods Required by laboratory government

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