# Component Loan Application Design and Check Loan Transactions for Dependent Free Letters at the AI Building at The State Polytechnic of Malang Web-Based

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Abstract — The development of information and communication technology is a major need in this advanced era with the aim of all computerized activities ranging from office work, banking, administration, libraries, education, government, organizations, and many more that are very dependent on the sophistication of computers and existing applications. inside it. In the AI Polinema Building in the component borrowing room, the component borrowing system and transaction checking for existing collateral-free letters still use the conventional system which causes ineffectiveness in component borrowing and free-of-liberty letter processing. Therefore, a research will be conducted to design a component loan application and check loan transactions for a Web-based free letter. Based on the problems above, in this study the researchers created a system that can support component lending and checking loan transactions for Web-based free letters. This system uses the Visual Studio Code application. From this study, it was found that the system that has been created by the researcher can run well and can help improve the performance of the technicians on duty in the loan room as well as the effectiveness of time for students in the loan process and managing free letters.

Keywords - Loan Applications, Loan Transactions, PHP and Visual Studio Code.

## I. INTRODUCTION

The development of information and communication technology is currently increasingly rapidly making people compete to use it according to their goals and needs in both business and non-business environments. In this advanced era, everything is computerized, starting from office work, banking, administration, libraries, education, government, organizations, and many more that depend on the sophistication of computers and the applications in them [1]. The use of information technology in an organization is currently quite important because it can facilitate an organization to process data that can be used by its users. The easier it is to access information from the organization, the easier it will be for the organization to develop for the better and the better the system created, the easier it will be for humans to complete all their work and problems [2]. One of the forums or gathering places for people who can take full advantage of information sources is the organization, in order to make the processing of inventory data easier, faster, efficient and accurate [3].

In the AI Polinema Building, the system for borrowing components and checking loan transactions for collateral-free letters still uses the conventional system. If you are still using the borrowing system and checking loan transactions for collateral free letters conventionally, it will cause ineffectiveness and take longer. For example, when borrowing from the AI Building laboratory, students have to come and write down on a small piece of paper what components are needed or which will be borrowed from the technician. After writing, you have to wait for the technician to pick up the borrowed components [4]. At the time of observation, the technician said that the method was not effective because those who borrowed components were not only representatives of the group but almost all group members joined the crowd in the component borrowing room which caused other groups who would apply for component loans to be hampered due to groups of students who were not interested and for the students themselves as well [5] have to waste time practicum for borrowing components. And at the time of observation, the technician also conveyed the obstacles when checking loan transactions for free letters, namely the loss of small student loan records that made student dependents who damaged components or removed not replaced or lost from their responsibilities [6].

Based on the problems above, a study was made with the title "Design of Component Loan Applications and Checking of Loan Transactions for Dependent Free Letters at the AI Building of the Malang State Polytechnic Web-Based". In this study there is a Web-Based Component Lending Information System, an Information System that will be created using the PHP programming language with MySQL as the database [7]. With this information system, it can help and make it easier for technicians in the component lending room in processing data on borrowing goods, both from the process of borrowing

or returning goods, collecting data from component transactions, component coding processes and making component loan transaction reports for free letters [8]. So that the data collection process carried out by AI Building technicians becomes more organized.

# II. METHOD

A. The System Block Diagram

The block diagram of the system in this study is shown in Figure 1 below.



Figure 1. Block Diagram System

Figure 1 shows the planning of the component lending system and checking the loan dependents for the management of the dependent letter. First, technicians, in this system technicians can access all the features that exist in the system. Such as technician login, component input, technician login input, student login input, lecturer data input, course data input, loan input, loan recap, view loan dependents, and loanfree checking. For students, they can only access several features such as student login, loan input, view loan recap, view loan dependents, check loan free [9].

For the loan process, students get a username and password from the technician to log in, then students can go directly to the menu for borrowing goods. On the menu, students can directly input the components to be borrowed along with the amount to be borrowed and then click save. After that, students wait for approval from the technician to then be able to take the borrowed components in the loan room [10].

For students who want to know if they have loan dependents or cannot go directly to the dependents menu, if the student wants to print a dependent letter, they can go directly to the dependent free check menu. For students who have loan dependents that have not been completed, the student cannot download the dependent letter. However, if the student is free of dependents, he can directly download the free letter which can then be taken to a technician to ask for a signature [11].

## B. The System Work flow

Figure 2 below is a flowchart of how the system works starting from logging in as a student. To make a loan, you must fill out the loan form first and then choose the component to be borrowed, if the component is still available, you can proceed to the next stage, namely providing the component borrowed by the technician, if the component is not available, the student must choose another component that is still available.



Figure 2. System Work flow

After the technician has prepared the borrowed components, students can pick them up by submitting their KTM card as collateral for the loan [12]. Then for the return of components, the technician must go through the checking stage, if the component is damaged the student must replace it and if the component being inspected is not damaged, the student can take his KTM. Furthermore, the printing of the dependent letter can only be downloaded if the student does not have dependents then can ask the technician for initials. If you have dependents, you must complete the dependents first so that the free letter can be downloaded.

# C. Database Design



Figure 3. Diagram Entity Relationship (ERD)

The database serves as a place to store data. Database planning is used to design program inputs and outputs to match what is planned. Database planning takes reference from the data analysis process [13].

# III. RESULTS AND DISCUSSION

- A. Standart Operation Procedure User as Student
- 1. Make sure the cellphone is connected to the internet.
- 2. Then click the following link <u>https://indoscriptt.xyz/simponen-polinema/</u>
- 3. Login by entering the username and password given by the admin then enter the user as a student.
- 4. Students can only access the features of borrowing goods, recap of loans, loan dependents and free checks
- 5. If you are going to make a loan, select the menu for borrowing goods, then fill in all the existing data and select the component to be borrowed and click save.[14]
- 6. For overtime loans there will be a warning on the dashboard.
- 7. To check the dependent letter, students can view it by logging in or without logging in by clicking the check menu for dependents.
- 8. For students who do not have dependents can directly download the letter free of dependents, but for students who have dependents must complete the dependents.
- B. Standart Operation Procedure User as Technician
- 1. Make sure the cellphone is connected to the internet.
- 2. Then click the following link https://indoscriptt.xyz/simponen-polinema/

- 3. Login by entering your username and password then also enter the user as a technician
- 4. Technicians can access all features in the system such as input of goods for inputting components that can be borrowed, technician data input for login access, lecturer data input for data input when students borrow, course input for data input when students do borrowing, borrowing goods, recap of loans, student dependents, input of student data and free checks.[15]
- 5. Technicians can help students make loans if students have problems.
- 6. Students who borrow components must wait for approval from technicians.
- C. Testing user as a Student





Figure 4 Students must first login using the username and password that has been given by the technician and enter the user as a student. Also make sure the device is connected to the internet.

HENU BAR	Sistem Informasi Peminjama	in Komponen					
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	Farida Avinie S, ST, MT	Ranglialan Listek	2022-07-29 18:35:00	2022-07-18 19:34:00	em 🖬		
	Farida Arinia S, ST, MT	Datar Sistem Telekomunikasi	2022-06-29 23 47:00	2123-06-25 23:50:00	co 🖸		
	Ir. Azsam Muzakhim I, MT	Datar Niten Teleksmunikari	2022-05-30 05 30:00	2022-06-30 00:30:60			



Figure 5 On the student dashboard page there are several features such as free checks, borrowing goods, loan recaps,

loan dependents and there are also several notifications in the form of the number of loans submitted, the amount of loans received, the number of loans completed, the number of dependents, loan data and also notifications for notification.

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	Kristel 4 Mills						kompon	NON					
												B Sinpur	

Figure 6. Component Borrowing Page

If students are going to make a loan, they can directly select the borrowed item menu and fill in all the existing data then click save.

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Figure 7. Appearance After Borrowing

After clicking save the component to be borrowed, its status is submitted and if it has been approved by the technician, the status will change to approved.

MENU BAR	Sistem Informasi Pemi	injaman Komponen					& Helo, CND	OWI PUSPITA SARE
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O, Celt Bobas Pinjaman				1				
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II Rokap Peninjaman	Data Peminjaman					Netificasi		
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	Aad Hariyadi, SST., MT	Pemrosesan Sinyal Digital	2022-07-18 10:38:00	2022-07-18 11:40:00	60000 🙆			
	Amalia Eka Rakhmania, ST, MT, MSc	Dasar Sistem Telekomunikasi	2022-07-18 13:19:00	2022-07-06 13:19:00				
	Dianthy Marya, ST, MT	Rangkalan Listrik	2022-07-19 18:15:00	2022-07-18 19:15:00	Copien 🙆			
	Farida Arinie S. ST. MT	Dasar Teknik Etektronika	2022-07-18	2022-07-18	Coptan (0)			

Figure 8. Approved Loan Notification Display On Dashboard

If it has been approved by the technician, the status will change to approved.

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Figure 9. Loan Dependent Menu Page

When finished borrowing, the student returns the component and is checked by the technician whether the component is in good condition or not, otherwise the student must replace it with dependent status. to check dependents can directly click the dependents menu.

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	Fleke Adriati W, ST, MT	Dasor Sistem Teleformunitasi	2022-07-26 11:03:03	2022-07-26 22.00:00			
	Showing 1 to 2 of 2 entries (filte	red from 19 total entries)			Previous 1 Next		

Figure 10. Display Of Loan Dependent Notifications On The Dashboard

The dashboard display on the loan dependent notification is written how many loan dependents have not been completed.

MENU BAR	٥	Sistem Inform	asi Peminjaman Komponen					A Health	er ov	A PUSPIT	X 548
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	Sho	wing 1 to 1 of 1 en	tries					Pred	-	1 Ne	nt

Figure 11. Display On Dependents-Free Checks For Students Who Have Loan Dependents

If you have dependents, the student cannot print the dependents and must complete the dependents.

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	Farida Avinie 5, 57, MT Ranghalan Listek 2022 07-29 1835:00 2022-07-18 18:34:00 🚥 🧧	
	Farida Arisia S, ST, MT Dasar Satem Talakomunikaal 2022-06-20 223/150 2022-06-20 223000 🚥 🧕	
	Ir Aznen Munikhini, MT Dava Setem Tekismusikari 2022 05-30 01,0000 2022-06-30 00:0000 🚥 🧧	

Figure 12. Loan Notification Completed On Dashboard

Students who do not have dependents or have completed their dependents, on the dashboard notification the loan has been completed according to the loan that has been made.

MENU BAR	Sistem Informasi Peminjaman Komponen	Hels, CHOY DWI POSPERASARE
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	SK Boba Pemirjaman	
	Deta Tanggangan Peninjaran	
	Show 10 a retries	Search
	NIM 11 Nama Mahasiswa 11 Desen 11 Waktu Pinjam 11 Waltu Kembali	11 Status 11 Aksi 11
	No data available in table	

Figure 13. Printing Page For Students Who Have No Dependents

For students who do not have dependents, they can directly download for free fiber borrowing.

Jala Telp (0	DAN PENDIDIKAN TINGGI DLITEKNIK NEGERI MALANG n Soekarno-Haita No.9 Malang 65141 341) 404424-404425 Fax (0341) 404420
Su	rat Keterangan Bebas Pinjaman
Yang berdata diri dibawah ini :	
Nama : CINDY DWI PU	SPITA SARI
NIM : 1841160077	and the stand of the
Program Studi : D4 Jaringan Tele	komunikasi Digilal
Periode	Jumlah Peminjaman
Semester 1	0 Peminjaman Selesai
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Semester 3	0 Peminjaman Selesai
Semester 4	0 Peminjaman Selesai
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Semester 4 Semester 5 Semester 6	0 Peminjaman Selesai 0 Peminjaman Selesai 0 Peminjaman Selesai
Semester 4 Semester 5 Semester 6 Semester 7	0 Peminjaman Selesai 0 Peminjaman Selesai 0 Peminjaman Selesai 5 Peminjaman Selesai
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Semester 4 Semester 5 Semester 6 Semester 7 Semester 8 Demikian Surat Pernyataan ini dibuat	0 Peminjaman Selesai 0 Peminjaman Selesai 5 Peminjaman Selesai 1 Peminjaman Selesai 1 Peminjaman Selesai untuk dapat digunakan sebagaimana mestinya. Malang, 26 Juli 2022
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Semester 4 Semester 5 Semester 6 Semester 7 Semester 8 Demikian Surat Pernyataan ini dibuat	0 Peminjaman Selesai 0 Peminjaman Selesai 5 Peminjaman Selesai 5 Peminjaman Selesai 1 Peminjaman Selesai untuk dapat digunakan sebagainana mentinya. Malang, 26 Juli 2022 Mengetabai, Kepala Laboratorium,

Figure 14. The Result Of The Download Of The Certificate Of Being Free Of Responsibility

This is the result of the download of the certificate of free of responsibility.

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Figure 15. Loan Recap Menu

The borrowing recap menu is the history of the loans that have been made.

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	Dianthy Marya, ST, MT	Rangkalan Listrik	2022-07-19 18 15:00	2022-07-18 19:15:00	CIIII 💽		
	Facida Arinie S. ST. MT	Dasar Taksik Baktronika	2022-07-18 18:09:00	2022-07-18 16:15:00	(1944)		
	Farida Arinio S, ST, MT	Rangkalan Lidzik	2012-07-29 18:35:00	2022-07-181834-08			
	Facilia Arinie S. ST. MT	Deser Sistem Telekomunikasi	2022-06-29 23:47:00	2022-06-29 23 50 00			
	M. Taulik, ST, MT	Deser Scient Heatonstein	2012-06-30 01 50:00	2022-08-30 04:32:00			

Figure 16. Loan Overtime Notification

Students who borrow more than the loan time will display a warning on the dashboard that the borrowing time is overtime.

# D. Testing User As A Technician



#### Figure 17. Login Page

The technician must first login using the registered username and password and enter the user as a technician. Also make sure the device is connected to the internet.

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D Persinjernen Derang	teknisi	
📄 Reksp Denkijsman	Roin : takrisi	
B Tanggungan Peminjaman	Jam Login :	
PENGLEDURAN	20.29.59	
🐵 Hanajaman Habashasa		
In Logicit		



On the technician dashboard there are features in the system such as input items for inputting components that can be borrowed, technician data input for login access, lecturer data input for data input when students borrow, course input for data input when students borrow, goods borrowing, loan recap, student dependents, student data input and independent checks. On the dashboard there are also several menus of information such as login data, notifications, the number of items entered, the number of registered technicians, the number of borrowing processes and the number of registered students.

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MENU BAR	Sistem Informasi Peminjama	n Komponen	
Dashboard	Tambah Barang		
Q. Cek Bebas Peminjaman	lei Ferre Dihaurah lail		
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🝰 Master Teknisi	Masukkan Kode Barang	Masukkan Nama Barang	
🚊 Master Dosen	Harga Masukkan Harga	Stok Masukkan Stok	
🗧 Master Mata Kuliah	Upload Gambar	jenis	
TRANSAKSI	Choose File No file chosen	Silahkan Pilih	~
Peminjaman Barang	*Ukuran file maksimal 5 Mb		
🔋 Rekap Perninjaman	Simpan 🗙 Batal		
🖹 Tanggungan Peminjaman			
PENGATURAN			
🔠 Manajemen Mahasiswa			

Figure 19. Component Input Page

To input items, click the "+" sign in the upper right corner and then you can fill in according to the items to be inputted.

MENU BA	•	🗿 Sistem k	nformasi Peminjaman Kompo	nen						A 164-744
Contributed		Data Baran	g							+ Tota
<ol> <li>Colt Below Parenty</li> </ol>		Daftar Barang								
E Hester Danarg		Show 10 #	entrica					Search	x	
In Horse Tanks		N0 0	Kode Barong (1	Nama Barang	i Hango i	fambar 1	Stek 5	leris .	Aksi	
A Mader Deven		1	CD4001	IC CHOS - CD 4001	Pp 25.000		18	komponen		
TWO DOGE			CD4857	IC CMO5 - CD 4017	Fp 25.000	$\times \mathbb{X}$		hamponen	20	
<ol> <li>Presignent Ren D. Fokap Persigners</li> </ol>						and the second			_	
E Teggesget Per		3	X70.	Kabel Solid	Fp 5.000	1	8	lamponen		
<ul> <li>Harapeter Halo</li> <li>Lapot</li> </ul>		4	Kat54	Kristal 4 Mitz	Fp 15.000	4	16	lomponen		
•		5	Krat35	Kristal & MHz	Pp 15.000	-	17	hemponen		

Figure 20. Component Input Result

# The input result will be like this.

MENU BAR	Sistem Informasi Peminjar	nan Komponen	
Dashboard	Tambah Teknisi		
MASTER	Isi Form Dibawah Ini!		
Master Barang	Nomor Induk	Nama teknisi	
🍰 Master Teknisi	Masukkan Kode teknisi	Masukkan Nama teknisi	
	Username	Password	
🚨 Master Dosen	Masukkan Username	Masukkan Password	
📕 Master Mata Kuliah			
TRANSAKSI	🗟 Simpan 🗙 Batal		
📗 Peminjaman Barang			
Rekap Peminjaman			
🔋 Tanggungan Peminjaman			
PENGATURAN			
🐵 Manajemen Mahasiswa			

Figure 21. Technician Input Page

To add technician data, click the "+" sign in the upper right corner then it can be filled in according to technician data.

MENU BAR	Gistem Inf	formasi Pessinjaman Komponen			A real faces
© Defined	Data Teknisi				+ Tankas
O, CALERIA Presignan					
	Cetter telosial				
🔅 Marter Deneg	Show 10 + er	tofies			Search
An Manar Taired	No.	71 Norece Induk	15 Nama taknisi	11 Username	11 ANI 14
≜ MeterDeses		admin	admin	admin	
🗧 Allerter Maria (Galadi	1	Down	doses	down	
TRANSPORT	3	teinisi	trivid	manid	
<ul> <li>Denkjonen Denng</li> </ul>	Showing 1 to 3 of	3 entits			Previous 1 Not
a supering the					
<ul> <li>Manajaran Mohadiwa</li> </ul>					
the largest					

Figure 22. Technician Data Input Results

The input result will be like this.

h Dosen Dibawah Init nduk kan Nomor Induk	Nama dosen Masukkan Nama dosen	
Dibawah Inil nduk kan Nomor Induk	Nama dosen Masukkan Nama dosen	
nduk kan Nomor Induk	Nama dosen Masukkan Nama dosen	
nduk kan Nomor Induk	Nama dosen           Masukkan Nama dosen	
kan Nomor Induk	Masukkan Nama dosen	
kan Jabatan		
npan 🗙 Batal		

Figure 23. Lecturer Input Page

To add lecturer data, click the "+" sign in the upper right corner and then fill in according to the lecturer data.

	w	Sector in the map				
	Dat	a Dosen				+ Tartes
		FOR BOSSE				
	54	ow 10 ± orbics			Scorth	
	Б	a 11	Kode doen II	Narva doose 11	Akai	
				Aad Hariyadi, SST, MT		
	2		4	In Annuer Munichim UMT		
	3		6	Fields Activity 5, 52, MT		
	4		8	Hendro Daemono, B.Eng. MT		
	5		14	M. Taufik, ST, MT		
mone	6		19	Ir. M., A. Arabosi, NMT		
(D. Manajaman Halandowa			21	Radional Depters, ST, MT	2	
in Legez	9		31.	Amulia Bia Rahimmania, ST, MT, MSc		
3			33	Dianthy Maryn, ST, MT		
		.0	36	Ricke Addiso W. ST, MT		

Figure 24. Lecturer Data Input Results

## The input result will be like this.

MENU BAR	Sistem Informasi Peminjama	in Komponen	
	Tambah Mata Kuliah		
	Isi Form Dibawan Ini:		
	Kode Mata Kuliah	Nama Mata Kuliah	
	Masukkan Kode Mata Kuliah	Masukkan Nama Mata Kuliah	
	Simpan 🗙 Batal		
Master Mata Kuliah			
🔋 Tanggungan Peminjaman			

Figure 25. Course Input Page

To add course data, click the "+" sign in the upper right corner then it can be filled in according to the course data.

			e		
👩 Sistem k	sformasi Peminjaman Kemponen			4	16.00,7080
Data Mata	Kuliah				+ 1m
Defter mk					
Show 10 e	robies			Search	
Na	1 Kode Heta Kalah	11 Nerra	Mata Kubah	11 Atal	
1	RTD211106	linoph	el Elektromekan k	2 🖬	
2	RTD211110	Deser	Sistem Tebelomunikasi		
3	970211107	Dener	Televik Galderanika		
4	RTD203104	Pane	nesen Sinyel Digital		
5	877211506	Points	kam Pimeli & Kiektroeika	20	
	977/232309	Read			
7	0110/203107	Warks	Jop Alat Ukur dan Pengukuran		
8	RTD203110	Wash	ing Minskontrole		
Service Links	d Rantrian			Previous 1	Next

Figure 26. Course Data Input Results

## The input result will be like this.

MENU BAR	Sistem Informasi Peminjaman Komponen					🏝 mala, Takola					
() Dechlosed	Tambah peminjaman					• fental					
0. Get Debes Paralgeron											
	tal Form Dibawah Init										
E Henri Danag	Data Peminjaman										
2. Hono Texas	NH Mihaiana	Ri Mahaziana									
A Hata Dawn	1041160077 - CINDY DWI PUSPITA SARI					v					
E Hater Mite Kalah	Nema Dosen M. Tardis, ST, MT	Tanggal Pinjam	Jam Pinjam	Tang	pal Kambali	Jan Kambali					
		Refars	Seneter	- ) (	Timestame						
B Perigean Same	Deser Teknik Baktronika	48	Samada	7	¥ 2022-07-26-21	09.39					
3 Telepherkpron		*Grow Harrison									
1 Tengangar Persideran	Deta derang										
1.10.41.000	Harra	Kode	Jania	Shak	Juniary						
🕆 Harajeran Hotasinos	PlihBarang					+					
	Detail Pembelian										
O Lagod	Name Barang			Jania .	Juniah	No					
	Tule F Hitan			konperen							
						B Sinpan					

Figure 27. Component Loan Filling

If students have problems, students can ask for help to make loans to technicians. Select the item borrowing menu then click the "+" sign in the upper right corner then fill in all the existing data then click save.

MENU BAR	٥	Sistem Inform	tasi Peminjam	an K	omponen						A Male Tardet	
© Decisional	Deta	il peminja	man								•, Kradali	
O. Oik Babas Paninjaman												
-	Dota	(pompanas - 6	9									
E Heter Denng	ND				1841160077							
Jan Harter Televisi	Nat	na Mahasiswa			CNDY DWI PUSPITA SA	R						
A Hata Dava	Kala	Main         - A. Di singer Matematika Digital           Deven         - M. Trady, St. M.           May Digital         - Dave And Datasets										
El Hater Hes Kiloh	Dee				M. Taarik, ST, MT	Sarda, ST, MT						
	Bold ansighant: 0           Set ansighant: 0           Set ansighant: 0           COV:0015(005.000)           Main: 0         COV:0015(005.000)           Main: 0         4:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0											
B Periginan Desig	Wei	International         Internation         International <th cols<="" th=""><th></th></th>						<th></th>				
E Rikop Pendapanan	Wa	ita Pengembalia	n		2022-07-26-23:00:00							
D. Tanggangan Pambéanan	Star	lua -			(1111)							
PENALTARIN	Show	10 + ortrise								Search		
C Hangaran Hahadoon	No	1	Nama Barang			Kode Barang		Javis 11	Juelah 11	Katerangan		
O Lagost	1		Trafa II Hitam			lations.		lamponen				
•	Show	ing 1 to 1 of 1 en	tria			_				E	Nevious 1 Next.	
						<b>~</b> s	chia 🛛	Tolak				

Figure 28. Return Check Display

Technicians can approve or reject student loan applications.

Sistem Inform	iasi Peminjama	an Ka	omponen	Tang;	ungan		×			± 100.70
etail peminjai	man			NihBr	rong Tanggungan (Riz	sak, Hilang Dab.):				<b>4</b> 9 Eco
Detail paminjaman - 6	9			Set	Barang	Keterangan	^			
NIM			1841160077	<b>~</b>	trihtm - Trafo IF Hitam	Lilens				
Nama Mahasiswa			CINDY DWI PUSPE							
Keles			4A - D4 Jaringan Ta							
Dosen			M. Taufik, ST. MT				v			
Mata Kullah			Davar Teknik Elektro	4			+			
Waktu Peminjaman			2022-07-26 10:00		rangan oncaca angkap apata	a tarang langgungan brisin d	en 1 barong			
Wairts Progembalis			2022-07-26 23:00			Clase	Submit			
Status			62270							
									Search	
No Ti	Nama Barang			Ke	de Berang		Janis	Jumlah	Keterangan	
Showing I to 1 of 1 ent	bles					🗸 Selessi 🛛	Tinggungan			visus 1 Next

Figure 29. Display Of Dependents

After completing the loan, the student returns the component and is checked by the technician whether the component is in good condition or not, if not, the technician fills in the dependents statement of what component needs to be replaced and a description.

MENU BAR	🚳 Sistem I	Informasi Peminjaman Ke	mponen									A Health
	Tanggunga	an peminjaman Ba	rang									+ Tank
	Tanggungan Pr	oninjaman Darang										
	Tanggal Awal				Tanggal Akt	*						
	dd/rum/yyyy			-	dd/mm/ys	707					۲	
	Show 10 +	entries									Search	
	NM I	Nama Mahadasa 1	Program Stud	Walts Pla	pan II	Waktu Kambali 👘 🖯	Kode Earing	Barang	Juniah 11	Status - 1	Kelerangen	Aist
	1841160077	ONDY DWI PUSPITA SARI	Di laringan Telekomunikasi Digitat	2022-07-	26 10 00 00	2022-02-26 23:00:00	stito	TofalF Hitam			Hing	Select
	Shewing 1 to 1	of 1 entries		_	_			_			Previo	n 1 Ned
B Tengangen Penisienen	-											

Figure 30. Loan Dependent Display

To check dependents, you can directly click the dependents menu.

HENU BAR	Sistem Informasi Pemin	njaman Komponen					۵	Halo, Tala
	Cek Bebas Pinjaman							
	Data Diri Hahasiava							
	NN		Nette		Program Studi			
	1841100077		CINDV DWI PUSPITA SARE		DH Jaringan Talahoman kasi D	gital		
	Hasil Pengecekan Data Tanggunga	an Peminjaman						
	Anda menikli 1 tanggungan pe	minjaman yang harus disebuahan						
	Data Tanggurgan Peminjaman							
	Show 10 1 entries					Search		
	NM E Nore	Mahasisan S	Dayes 11	Wolds Pajam 15	Wolds-Gentuli D	Shine	ALC: NO	
	1841160077 CND	Y DIWI PUSPITA SARI	M. Taufis, ST, MT	2022-07-25 10:00:00	2022-07-26-23.00:00	-	•	
	Showing 1 to 1 of 1 entries						Proton 1	Ned

Figure 31. Display on dependents-free checks for students who have loan dependents  $% \left( \frac{1}{2} \right) = 0$ 

If you have dependents, the student cannot print the dependents and must complete the dependents.

HENU BAR	٢	Sistem Infor	nasi Peminjaman Komponen							4	rkas Takolal
Destioned	Cek	Bebas Pin	jaman								
Crit Robert Provingiannan	Det	ta Diri Mohasirwa									
Moder Ranny	NB			N	larna			Program Studi			
, Manazo Trianka		841160077			ONOY DWI PUSP	TA 548		D4 Jaringan Telekonunikas	i Digital		
Heter Done	Har	d Prosecular Da	ta Tuorannan Presirianan								
Histor Hata Kullah											
		Anda tidak memilik	ii tanggungan peminjaman yang hasus diselesai	kan.							
Perihjaman Sarang		SK Bebas Perrinj	arran								
Roleg Presidentia			_								
Tanggaragan Persinganaan	Det	ta Tanggungan Pe	minjaman								
National Statement	98	w 10 + ontic							Scanft		
	N	IN D	Nama Habasiowa	Down		Visidu Pejem	11 Wakta Keel	10 U	Status II	Akal	
Lagost						No data available in table					
•	9x	outing O to O of D e	thies							Previous	Next

Figure 32. Printing page for students who have no dependents

For students who do not have dependents, they can directly download for free fiber borrowing.

J. Telp	MENTERIAN RISET, TERNOLOGI, DAN PENDIDIKAN TINGGI POLITEKNIK NEGERI MALANG alan Soekarno-Hatta No.9 Malang 65141 (0341) 404424-404425 Fax (0341) 404420
5	surat Keterangan Bebas Pinjaman
Yang berdata diri dibawah ini :	
Nama : CINDY DWI	PUSPITA SARI
NIM : 1841160077	
Program Studi : D4 Jaringan T	elekomunikasi Digital
Dengan ini menyatakan bahwa mal peminjaman alat dan komponen pa peminjaman sebagai berikut :	asiswa dengan data diri tersebut dinyatakan telah terbebas dari tanggungan Ia Laboratorium Gedung Al Politeknik Negeri Malang dengan rekap data
Periode	Jumlah Peminjaman
Semester 1	0 Peminjaman Selesai
Semester 2	0 Peminjaman Selesai
Semester 3	0 Peminjaman Selesai
Semester 4	0 Peminjaman Selesai
Semester 5	0 Peminjaman Selesai
Semester 6	0 Peminjaman Selesai
Semester 7	6 Peminjaman Selesai
Semester 8	1 Peminjaman Selesai

Figure 33. The result of the download of the certificate of being free of responsibility

This is the result of the download of the certificate of free of responsibility.

MENU BAR	🍈 Sistem I	nformasi Peminja	man Kempenen											A real terms
© Deheard	Rekap perr	injaman Bar	ang											quet * 🔶 Tantah
O, Cok Belas Pensigeran														
NUTR	Helip Hemilipe	nan sarang												
😑 Manar Baseg	Tanggal Awal					Tanggal Ald	ár.							
Zo Nator Televis	dlinniyyyr					C differency	arr.						т	
🛆 Honer Essen	Show 10 1	entries										Se	esh:	
E Martin Kalah	NH	Nama Maharikwa 11	Program Studi	Kelas	Servetor	Mata Kaliah	Desen	Waldor Di	Wakta Keetheli 11	Kode Renera	Barang	hestab	Status	Keterangan 11
714542														
E Presigners Roong	1041100377	PUSPITA SAR	D4Jaringan Teleforrunikasi Filotori	4.4		Dasar Teknik Eloktroniko	M. Taurik, ST. MT	2022-07-26	2022-07-26 21:33:00	6-thEm	Hitam	1		
Debas Perinjaman														
E Tangpagan Predisparan	1841180377	PUSPITA SAR	D4 Jaringan Talakomunikasi Divitui	4A		Dasar Sidan Telefornunkasi	Rake Addati W.ST.MT	2022-07-26 11:00:00	2022-07-26 22:02:00	Kritl-4	Kristal 4 Miriz			
PERSONAL														
<ul> <li>Energienen Materiana</li> </ul>	1841160377	CNOY DWI PUSPITA SARE	D4 Jaringan Teleformunikasi Digital	45		Dasar Teknik Elektronika	M, Taufik, ST, MT	2022-07-25 10:00:00	2022-07-26 22:02:00	tribte	Trafe IF Hitam		<b>@</b>	
O Lagast													( mut	
•	stawing 1 to 3	or a contento											21110	the second second

Figure 34. Loan Recap View

The loan recap menu is a history of loans that have been made. At the top right there is an export menu to download the results of the loan recap where the technician can choose to download all loan recaps or it can also be filtered.

Sistem Ir	nformasi Peminja	man Komponen		Filter Rekap Pe	minjaman			×					A 1985, 704
Rekap pem	injaman Ban	ang		Tanggal Awal		Tangg	ni. Aithir						lapart * 🔶 Tarrès
Rakap Peminjan	san Darang			dd/mm/yyyy	٥	ddh	nm/gygy	٥					
				Kalas		Serve	itar						
				Pilits Kalas	~	Pile	Semester	~					-
				Dosen		Matal	Gallain						
Show 10 4				Rth Dosen	~	89	Mata Kusah	v					
NM			Kel	Mahasiawa Pilih Mahasiawa				~		Woltu Keribali II			
			4.4.				Close	mt	07-26 100	2022-07-26 21:30:00			
										2022-07-28 22:00:00			
										2022-07-26 23:00:00		62770	

Figure 35. Loan Recap Filtering Page

Filtering can be done by daily, weekly, monthly, yearly, class, semester, lecturer, course, or even by student name.

	2.07.26	KI J. Telp Re	EMENTE DAN I POLITEI alan Socka (0341) 40 kap Riw	RIAN RISET, T PENDIDIKAN T KNIK NEGERI rno-Hatta No.9 N 4424-404425 Fao yayat Transal	EKNOL TINGGI MALAN falang 6: (0341) ksi Pen	OGI, 1G 5141 404420 ninjama	in	winds integrated	
NIM	Nama Mahasiswa	Kelas	Semester	Mata Kuliah	Dosen	Waktu Pinjam	Waktu Kembali	Barang	Jumlal
1841160077	CINDY DWI PUSPITA SARI	4A	7	Dasar Teknik Elektronika	M. Taufik, ST, MT	2022-07- 26 10:00:00	2022-07- 26 21:30:00	Trafo IF Hitam	1
1841160077	CINDY DWI PUSPITA SARI	4A	7	Dasar Sistem Telekomunikasi	Rieke Adriati W, ST, MT	2022-07- 26 11:00:00	2022-07- 26 22:00:00	Kristal 4 MHz	1
1841160077	CINDY DWI PUSPITA SARI	4A	7	Dasar Teknik Elektronika	M. Taufik, ST, MT	2022-07- 26 10:00:00	2022-07- 26 23:00:00	Trafo IF Hitam	1
						Pen	anggung Ja	iwab	
						teki	nisi		

Figure 36. The Result Of Downloading The Loan Recap

This is the result of downloading the loan recap.

MENU BAR	Sistem Informasi Peminjan	ian Komponen
	Tambah Pengguna	
	lei Same Dikeurak leit	
	Isi Porm Dibawan mit	
	Nomor Induk Mahasiswa	Nama Mahasiswa
	Masukkan NIM	Masukkan Nama Pengguna
	Program Studi	Jurusan
	Masukkan Username	Masukkan Jurusan
	* Controls: D3 Televili Lintrik	* Controls Telenik Electro
	Email	Password
	Masukkan Email	Masukkan Password
Peminjaman Barang		
	🖬 Simpan 🗙 Batal	
🖹 Tanggungan Peminjaman		

Figure 37. Student Input Page

For student management menu is data for registration of student names. To add student data, click the "+" sign in the upper right corner then fill in according to student data.

	-						
	Data Per	ngguna					+
	Daftar Pong	Alterna .					
	Show 10	<ul> <li>ertries</li> </ul>				Search	
	No 7	NM II	Nama Lengkap 15	Program Stud	Juusan II	Enal 1	Aki
	1	1841160029	ADUSTIANA PUTRI KUSUMA WATI	04 Jaringan Telekomunikasi Digital.	Teizzik Elektro	ana@gmail.com	2
1.845		1841100042	AMAR KARRICHE, APPUBL	D4 Jaringan Tatokomunikasi Digital	Teknik Exitiro	amat@prol.com	2
	3	1841160079	ANGGRAENI DWI LESTARI NINGGH	D4 Jaringan Telshornunkasi Digital.	Teknik Elektro	nni@gnail.com	<
	4	1841160068	ARI GALAMS UDAINNA	D4 Jaringan Telekomunikasi Digitat	Teknik Elektro	gi@gnal.com	
-	5	1841160008	AULIA BAFMADI ANI	D4 Jaringen Talakornunkani Digital	Teirrik Galdro	adgeateen	
ve leger an	6	1941100072	BEINDI ANDAN SAFARINDA	D4 Jaringen Telekomunikasi Digital	Teknik Elektro	biojjigmaiLcom	
	7	1841100077	CINDY DWI PUSPITA SARE	Dif Jaringan Tabakoman kasi Digital	Teizzili Elektro	cin@gmail.com	
	8	1841160047	DANIAR DW PUTRA WIS PRASCIO	D4 Jaringan Telekomunikasi Digital	Telmik Ecitro	dan§gnal.com	<
)	9	1841103306	DRANDI YUDHIT YUNAR	D4 Jaringan Talakornankani Digital	Teknik Ealdro	thanggenal.com	
	10	1841100012	DHEA /PU ANGERAN	Di bringen Triviornunkeri Digital	Trimit Fieldm	theo()grail.com	

Figure 38. Student Data Input Results

## The input result will be like this.

MENU BAR	Sistem Informasi Peminjaman Komponen	A. Helo, Teknal
Dashboard	Halaman Dashboard	
O, Cek Bebes Perrinjemen	Tertator 1 Peninteran was overfitte	×
HARTER	To supply a non-support of the	
🔠 Maxter Kerang	IDMLER REDAKS	ILLE AN PENCERNA
🕹 Heter Televis	20 3 2	15 🌰
🚊 Master Dosen	Data Logia	Netificari
🗏 Master Mata Kullah	Next coget	
TRANSAUSI	Nama:	Terciapat 44 peminjaman yang pertu
B. Demisjerren Gerang	teknai	disetiju
	Usemarne :	Anda memiliki 1 geminiaman yang sadah
Bekap Demisjonen	tokrisi	overtime.
B. Tansaurean Ponihianan	Role :	
	teknisi	
PERSONNAL	Jam Login :	
🐵 Merajemer Mahasiswa	201932	

Figure 39. Loan overtime notification

On the dashboard, the technician will also get a notification if there are students who borrow more than the loan time with a warning that the borrowing time is overtime.

## E. Performance Testing

https://indoscriptt.xyz/simponen-polinema/		Analyzo	
	Mobile Desktop		
Discover what your real users are experiencing		No Data	
Diagnose performance issues			
$\sim$	_	WATTER	
100		Martine and Antonio an	
100 Performance			
100 Performance West are calimate are in you, the polymore sets to all	Aind		

Figure 40. Performance Test Results

From the results of the performance tests carried out, the results of the performance are 100, which based on the standard of assessment is included in the very good category.



Figure 41. Result Of Performance Calculation

From the performance results, the scores obtained are based on several assessment categories such as FCP (First Contentful Paint) with 10% percentage, SI (Speed Index) with a percentage of 10%, LCP (Largest Fill Paint) with a percentage of 25%, TTI (Time to Interactive) with a percentage of 10%, TBT (Total Blocking Time) with a percentage of 30%, CLS (Cumulative Layout Shift) with 15% percentage

#### CONCLUSION

Based on the results of the tests that have been carried out, it can be concluded that the system has been running well. The system can provide warnings for students who are overtime when borrowing goods that can be seen on the dashboard, can provide information on loan reports, the number of available component stocks, names of students who have component dependents, a recap of loan history that can only be accessed by the technician on duty and liabilityfree printing to take care of the dependent-free letter.

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