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ANDROID-BASED CAMPUS GOODS LENDING SYSTEM

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A B S T R air conditioning T

In order to carry out learning activities, students need supporting tools such as laptops and others, with the aim of facilitating these learning activities.

On the other hand, the campus provides the necessary facilities and tools, and can be borrowed with the provisions of the applicable regulations, so the activity of borrowing goods often occurs between students and the campus.

In the ongoing lending system, many problems are found because everything is still completely manual, which results in frequent data loss, and misunderstandings.

To overcome this, the author creates a system that will facilitate the activity of borrowing goods to be more efficient, by creating an android-based application that can store data into the database so that the data is stored safely.

ARTICLE INFO

Keywords:

Loans, Android Applications, DataBase .

1. Introduction

Tools are essential for facilitating daily activities and learning, such as laptops and other equipment.

The need for tools and resources is crucial for most students. While the campus provides the necessary facilities and tools, which can be borrowed under applicable terms and conditions, borrowing items frequently occur between students and the campus.

Unclear data, frequently lost or damaged items, and irresponsible borrowers often present obstacles and problems in borrowing items.

With the advancement of science and technology today, many new media can facilitate the delivery of accurate, fast, and reliable information. This is evident in the development of computer science. Information systems are closely linked to computerization, as computers are a supporting tool. This computerized system is essential for organizational management.

Service is a crucial element in a campus/organization's management system. One of the purposes of using technology is to facilitate administrators in processing information systems. The correlation between the growing need for information systems facilitates improvements in the quality of service and information. Through the use of computerized systems, campuses can provide information quickly and accurately.

Seeing the need for information regarding borrowing items on campus, the author was interested in conducting research and designing an information system for this service.

2. Theoretical basis

2.1 Definition Management

Management according to the Big Indonesian Dictionary it means use source Power in a way effective For reach target .

Definition management that Stoner explained , can We Look direct What only that becomes function from management . Stoner said that " Management is the process of planning , organizing , leading , and controlling effort member organization and use all source Power organization For reach goals that have been set ". Now clear that function management according to Stoner there is four that is planning , organizing , leading , and controlling . Management is prerequisite for organization For reach A purpose . In terms of general, management is something *the process* where somebody can arrange all something done by an individual or group . From the understanding said , science management can interpreted as ability in arrange something to achieve the desired goal can achieved . Management can also

interpreted as business planning , coordination , and arrangement source existing power to achieve objective in a way effective and efficient .

2.2 Definition of Tools

Tools or tools is objects used For make things easier work We daily .

2.3 Purpose of Borrowing Equipment

1. Fulfill need .
2. Make it easier work .
3. Doing work to be done use tool certain

2.4 Definition Borrowing

Borrow use or borrowing is handover use goods / assets to something agency government or other parties .

3. Problem Analysis

3.1 Stage Analysis *System*

Collection required *data* in carry out study this is for the lecturer mentor student vocational which also holds facility campus done with method observation to place said . This is intended For identify and evaluate problems , opportunities , obstacles that occur and expected needs so that can proposed the repair .

3.2 Analysis Problems

Steps taken For can analyze problems existing in the *system* borrowing goods campus based on observation is as following :

1. Identify Problem

Identification problem done with observe How *processes* that occur in *the system* borrowing goods , determine problem in management *process* borrowing goods , and determine solutions and goals that can be obtained in management borrowing goods campus . On *the system* 25

manual, *data* who does not clear and frequent happen error understanding communication often very become inhibitor , then in the application borrowing *system* will made two- way and automatic to make it easier loan *process* .

2. Identify *Data*

Identification *data* is done For fulfil needs related *data* with walking *system* existing *data* required is goods *data* and information or specification from goods which will later will run by admin.

3.5 Analysis Input *Data*

Analysis input *data* containing about all *data* which is input (*input*) where consists of from the Borrower's Name , the Goods to be borrowed , information and so on.

Borrower *Data* Analysis

Borrower *Data* or in case This student is *the data* in it contains a list of Borrower Names , addresses boarding house place borrower stay .

No	Borrower Name	Address
1	Jafar Sidiq	Mr. Udin's boarding house
2	Alpandi	Mr. Udin's boarding house
3	Ridwan	Mrs. Aan's boarding house
4	Muhammad Syahid	Boarding house no. 1
5	Anwar Abdul Ghofar	Boarding House

(Source : Case Study developed 2022)

Borrower Data

Analysis *Data* : Based on table 3.1, names of borrowers will be *input* by the Admin manually and sometimes *data* no in *input* which result in often occurrence obstacle moment loan *process* furthermore happen .

Goods *Data* Analysis

Item *Data* is *data of* goods that can be borrowed , complete with specifications or information goods, are in the table following :

No	**Goods**	**Information**
1	Laptop 1	Processor: Intel Celeron, 2 GB RAM
2	Laptop 2	Processor: Intel Core i3 4GB RAM
3	Laptop 3	Processor: AMD A3 4GB RAM
4	Laptop 4	Processor: Intel Core i3 2GB RAM

(Source : Case Study developed 2022)

Table 3.2 Goods Data

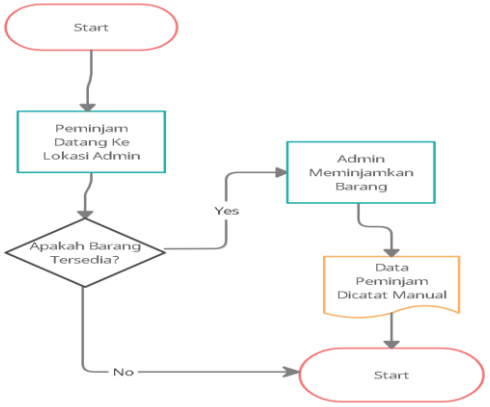
Analysis *Data* : Based on *Data* Table 3.2, Goods *data* is *input* as inventory *data* held by lecturers companion class vocational in Subang.

3.6 Analysis Current *Process* Data

In the analysis current *process* data walk will explained about *system* information management borrower goods campus that is currently walk .

Analysis *system* which is being walk aim For know more clear How method Work *system* and know problems faced *system* For can made into runway proposal analysis current *process* data walking that is done based on order existing events and from order incident the can made *flow chart*

System flow on borrowing goods moment This shown in the flow in the figure .



End.

(Source : Case Study developed 2022)

Figure 3.1 Flowchart of Borrowing Goods

On *the system* which is now walking , student No know information availability items to be borrowed besides with contact the admin directly directly, thing the can become obstacle Because No existence certainty in stock goods, too with borrower *data* written manually often become obstacle Because frequent *data* is lost or difficult accessible, because That writer will make *system* that overcomes constraint said . 28

3.7 Analysis Output *Data*

Analysis *output data* (output) is processing *data* generated by a simulation and analysis .

Document output is documents used as *output* or documents used as information to users . And for moment This document *output* Still in the form of manual written *data that* is not Can accessed by borrowers / students .

4. Result and Discussion

4.1. Design *System*

Design *system* is part from methodology development something device software that is done after through stages analysis . Design *system* is also a something determination from *processes* and *data* required by the *system* the new one . If *the system* That based computer so design can enter specification from type the device used .

The purpose of design *system* This is so that the structures and operations created can with easy understood and the procedure can easy followed . In addition , also for fulfil need from user about clear picture to *system* which will made as well as its implementation .

System computerized can reduce use power humans and can also reduce time used For do work . *System* submitted is A application For manage activity borrowing goods campus that occurs in class vocational .

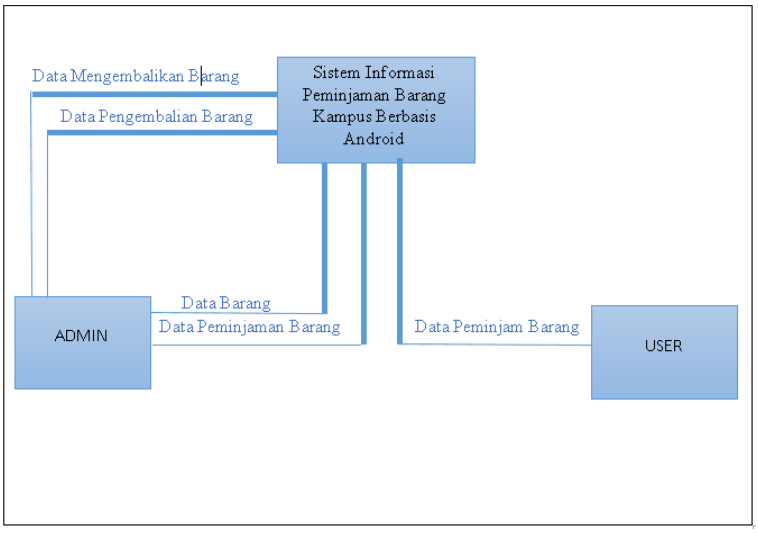
4.3. Design Context *Diagram* and *Data Flow Diagram* (DFD)

Data flow diagram is tool aids used For describe *system* in a way complete and clear , good *system* which are already There is and *system* which is still in design . In this *data flow diagram* explained about flow information *process data* , results *data* and sources objective *data* carried by the *system* .

Levels or level *data flow diagram* (DFD) begins from context *diagram* , namely *diagrams* that explain and illustrate about *system* in a way general consisting of from a number of *external entities* (elements) outside *system*) which provides *input* into *system* . Context *diagram* the will described Again into the several existing *diagram* levels in *system* so that produce description *system* which are more detailed .

4.3.1 Context *Diagram*

Context *Diagram* is A image showing in a way comprehensive about flow *data* on *the Data Flow Diagram (DFD)* . Context *Diagram* or context *diagram* is also the highest level from the DFD that describes all over *input* to *system* or *output* from *system* . The entity that



interact in *system* namely Admin, Borrower / *User* .

(Source : Case Study developed 2022)

Figure 4.2: Application Context Diagram Borrowing Items

Information *process* :

1. Admin Entity inputs Goods *data* into *process* .
2. User Entity receives item *data* from *process* , then input personal *data* borrower to *process* .
3. The process of giving personal *data* complete borrower to Admin.
4. Admin inputs the description *data* return goods .

4.3.2 *Data Flow Diagram* Level 0

Data flow diagram level 0 is depicted globally *the* processes *that* exist in the application borrowing goods . DFD level 0 on borrowing barn This started from manufacturing goods *data* , input data borrower *data* and processing of return status . *Data flow diagram* level 0 can seen in the picture

(Source : Case Study developed 2022)

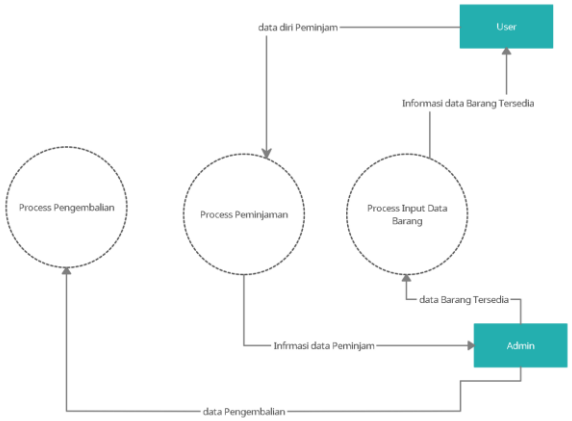
Figure 4.3: DFD Level 0 Application Borrowing Items

Information *Process* :

1. Admin Entity inputs Goods *data* into *process* .
2. User Entity receives item *data* from *process* , then input personal *data* borrower to *process* .
3. The process of giving personal *data* complete borrower to Admin.
4. Admin inputs the description *data* return goods .

4.3.3 *Data Flow Diagram* Level 1 Management Master *data*

Data flow diagram level 1 is *diagram* that describes *processes* that exist in *the data flow diagram* level 0. In DFD level 1 it is depicted in a way more details main *processes* namely management *database*



(Source : Case Study developed 2022)

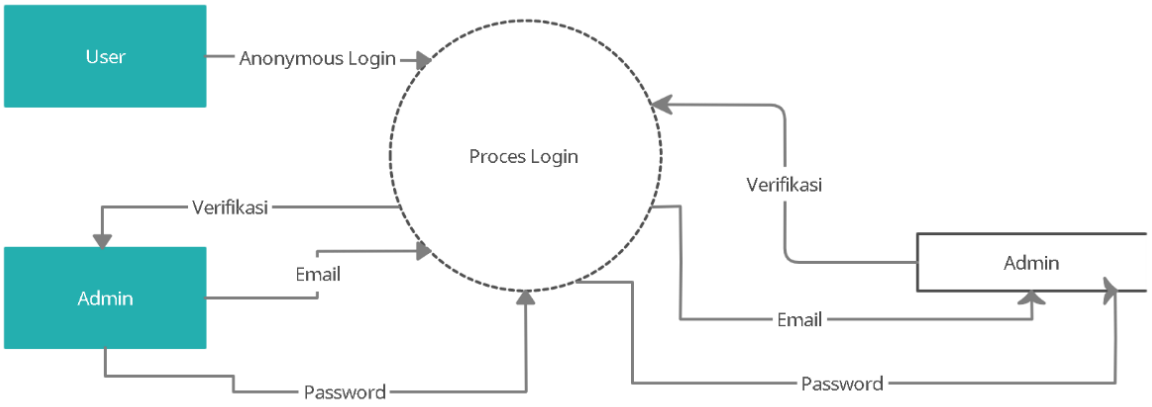
Figure 4.4: DFD Level 1 Database Management

Figure 4.4 is *Data Flow Diagram* level 1 Management Master *Data* is a detailed *process* that occurs in the management *process* . master *data* . There is three *the process* is *process* s *input* goods data , the borrowing *process* by the user, and return *process* by admin.

Information *Process* :

1. Goods *data input process* is the process of inputting goods *data* which will later can borrowed and displayed to user, *data* This was *input* by the admin
2. Loan *process* is *the process* by which a user borrows A goods Then input personal *data* borrower, who Where its *output* will recorded and change availability status goods become currently borrowed
3. Return *process* is *the process* carried out by the admin when goods Already returned by the user, with *output* status of goods to be changed become available return .

4.3.4 *Data Flow Diagram* (DFD) Level 1 User and Admin Login *Process*



(Source : Case Study developed 2022)

Figure 4.5: DFD Level 1 Login process

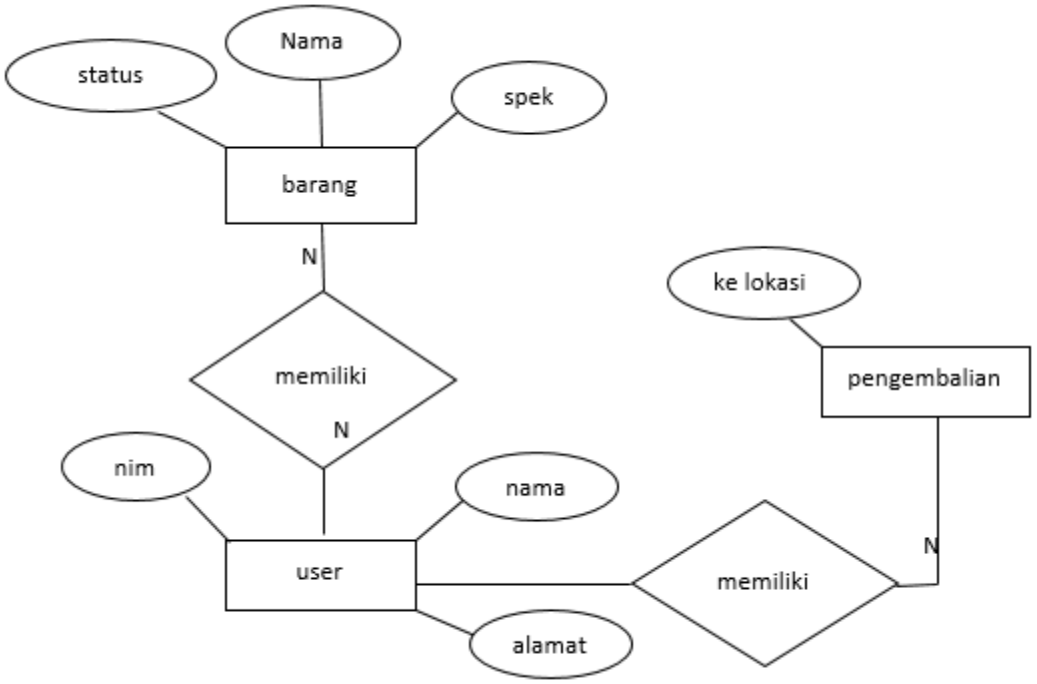
Figure 4.5 is *Data Flow Diagram* level 1 Login *process* is a detailed login *process* for users and admins.

Information *Process* :

1. User will login without an account with method *anonymous* login, and will direct brought to user page

2. Admin will log in using combination of email and *password* that has been registered in *the database*

4.4 Design *Entity Relationship Diagram* (ERD)



(Source : Case Study developed 2022)

Figure 4.6 Entity Relationship Diagram Design

4.5 Design Database Structure

Design database structure is design specification *database* used here writer use *realtime database* where No own type *data* and length *data* that remains , so *data* only consists of from the *data* name and *data id* . Here is design borrower database structure goods :

No	Name	Information
1	Name of goods	R. id.itemname
2	Specification	R.id.spec
3	Borrower's NIK	R.id.nik
4	Borrower Name	R. id.borrowername
5	Borrower Address	R. id.address
6	Status	R. id.Status

(Source : Case Study developed 2022)

Table 4.1 Database Contents Table

5. Conclusion

From the results analysis conducted by the author to *system* which is in the existing Campus Goods Loan moment this , found a number of things to do updated and improved . With the system designed by the author based on the system analysis carried out , it is hoped that can update in matter This as well as can improve and enhance efficiency . The conclusions drawn based on results analysis and design from *System Campus*- Based Loan of Goods *Android* is :

1. With existence *system* This so will make it easier the loan *process* that occurs
2. *System* This capable keep goods *data* and borrower *data* with Good .
3. *System* This own right access with including admin as processor overall *data* .

Reference

Alfa Satyaputra . (2016). Let's Build Your *Android* Apps with *Android* Studio

R Rosaly, A Prasetyo . (2019 *) Understanding Flowcharts and Their Applications The Most Commonly Used Flowchart Functions and Symbols* ,6-8

C Riyana . (2008). The Role of Technology in Learning

Damanik, R. (2013). Analytic Hierarchy Process (AHP) and Calculation AHP Case Example

Irwan Abdullah. (2008). Research Methods Lecture Material Administration . Yogyakarta: Master of Public Administration, UGM.

Jav Stoner (1996) . Management Volume 2

I Saukani , PA Rohana (2019) - Integrated Lab Journal, System Equipment Loan in the Electronic Engineering Laboratory Malang Polytechnic