

RANCANG BANGUN SISTEM INFORMASI PENGAJUAN ANGGARAN DAN LAPORAN KEGIATAN BERBASIS *ANDROID* (Studi Kasus : Universitas Trilogi)

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ABSTRAK

Dalam penulisan skripsi ini penulis akan membahas rancang bangun Aplikasi Pengajuan Anggaran dan Laporan Kegiatan (SIMPAKAT) berbasis Android pada Universitas Trilogi. Pembuatan sistem ini dilakukan karena proses pengajuan anggaran kegiatan, Laporan kegiatan, dan pengelolaan data unit kerja, pada Universitas Trilogi belum dilakukan secara konvensional alat bukti anggaran saat ini unit kerja mengajukan dan proses Laporan Kegiatan masih berupa kertas dan nota pembayaran saja. Adapun tujuan dari penulisan ini adalah untuk menerapkan sistem Aplikasi Pengajuan Anggaran Kegiatan dan Laporan Kegiatan yang terdigitalisasi dengan baik. Sistem ini dibangun menggunakan metode *waterfall*, *mysql*, dan menggunakan metode perancangan sistem *Entity Relationship Diagram (ERD)* dan *Data Flow Diagram (DFD)*. Aplikasi Pengajuan Anggaran dan Laporan Kegiatan berbasis Android ini di harapkan pengguna jadi lebih mudah dalam proses pengajuan anggaran dan laporan kegiatan. Aplikasi ini juga terdapat beberapa user level, yaitu Unit Kerja, Atasan Langsung (Dekan), Wakil Rektor 1 dan 2, Rektor dan Bagian Keuangan. Masing-masing aktor mempunyai hak akses yang berbeda dalam melakukan aktivitas di aplikasi tersebut.

Kata kunci: *Android, Laporan kegiatan, Pengajuan Anggaran.*

ABSTRACT

In writing this thesis the author will discuss the design of a budgetary submission application and the android based activity report (SIMPAKAT) at the university of trilogi. The creation of this system is due to the processing of budget for activities, activity reports, and data management of the work unit, the university of trilogi has not been done in the conventional budget evidence for the present time units filed and activity reports for paper and payment notes only.

The system development methodology used is the Waterfall Model Development Life Cycle which includes the stages of planning, analysis, design and implementation of the system. This system was built using the Android programming language and Database Server using MySQL. The results to be achieved in this study are the budgetary application and the android's based activity report are expected by the user to be easier in the process of budgeting and activity reports. It also includes the user levels, the work unit, the direct superior (dean), vice rectors and the finance department. Each actor has different permissions in the Application.

Keywords: Android, activity reports, budget applications

1. INTRODUCTION

The growing development of information technology has had a considerable impact on the organizations and activities it represents. Information technology helps organizations in the process of processing to disseminate information to all elements, and helps build a competitive advantage. Positive contributions through the use of information systems are believed by some to assist an organization's activities of fairly low cost, quality, and consumer services (yusdiarin, 2015).

The information systems available in college vary widely, all depending on the level of individual needs. Not only as a media when it comes to teaching, academic, but also in another area of related activities. The university of trilogy is one of the universities that uses information systems as media to facilitate the academy's less curative of the processes that address college needs. However, the budgetary process and activity reports are still using manual systems

The annual activity budget is a routine unit for the university of trilogy. It aims to align outside activities or tasks funded by the university of trilogy. It is not free of the planned budget of activities as a process where precision is pursued, in order for the lack of budget appropriations of work programs. Each application, should be based on the annual activities agenda published in the annual budget of each work unit submitted to the university, and each completed activity is required to make a report on responsibility (LPJ) of the activities to be submitted to the finance department. However, In the process of filing and budget statements filed by each unit of the university of trilogy, the system of applications is still employed by filling out application forms and creating a approved budget activity report by applying a receipt of the payment that is still on each piece of paper and then signing over to the finance and requiring a longer process for data management Filing.

Given the importance of an information system supporting such needs, an information system should be established to facilitate the monitoring, evaluation, decision making for filing budgets and reporting on related activities at the university of trilogy. Based on a background above the writer picks up the title "the application of a budgetary file and an android activity report" so that in the execution of a duty-based application is easier, effective, efficient and transparent

1. BASIS OF THEORY

According to the problem with the application of a budget at the university of trilogi, there must be further research to address the problem. As a step in following up on the problem at hand, a design system for the application of a budgetary application and an android based activity report aimed at facilitating the worker's entry into the process is accessible through the android. As for the use of methods in designing a information system, the use of SDLC waterfall. The correct use of these methods is to design any system because the process at the stage is highly structured and detailed to the testing point. Therefore the use of these methods is very effective to implement into steps to devise a service system of any kind. There are 5 stages to the waterfall model, for prediction analysis and definition, system and software design, testing and units, testing and maintenance, and operation and maintenance. The SDLC waterfall is also commonly called the sequential model or classic life cycle. As for the main use and advantage of SDLC waterfall methods, they accommodate several needs, usually based on end user needs, as well as in reflecting engineering practices that keep the software quality under control Presman (2015)

According to Yusdiarin (2015) the information system, which provides information for management in decision making and also for the operation of the company, is a combination of the people, information technology and procedures that are dependent on. Information systems can be defined as an interconnected array of people, data, processes and information technologies to collect, process, store and provide the information output needed to support an organization. The Sutabri ordinance (2016) states that a system has certain characteristics or qualities that characterize it as a system.

Meanwhile, the definition of activity budgeting to M. Riduanshah (2015) The activity budget is one of the main components of a government agency. Within the government arrangement, the budget of activities became sensitive and required good administration and management functions. Each government agency has a designated activity budget within the income and budget of the region (M. Riduanshah, 2015). According to (Joseph Annuzzi, Lauren Darcey, Shane Conder, 2016) the Android is an operating system and a software platform where applications are built. Androids are the world's most widely used mobile operating system. Collections of applications-applications that are used daily-day, such as web browsing and emails can be loaded on an Android platform. The Android is an open-source operating system. Java is not only an object-oriented programming language but also a set of technologies that make software development faster and the applications that are generated more sturdy and safe according to the course (2015). The definition of XML is used for decryption documents using a standard format that can be read by any compatible XML applications. This language is used in HTML pages, but XML is itself not a markup language, but a language that can be used to make markup language for a specific application (Christensso, 2017).

The design of the system of budgetary submission and activity reports uses flowchart, design flow diagram (DFD), and entity relationship diagram (ERD). As for the design using the modelling it is much easier in designing and specific in modeling, so the process of designing this system of information filings can be more structurally structured and detailed. According to Indrajani (2015:36), "a flowchart is a graphic depiction of a program's steps and sequence of procedures. It is hoped that the design of the system of budget applications and Android based activity reports will enhance the quality of user workers in the University of Trilogi

2. RESEARCH METHOD

As an effort to solve the problems that have been described, the development method used to build an Android-based Budgetary filing and activity report is the SDLC Waterfall method. Where this method is a very significant model in a systematic and detailed stage process. The process stages to get initial information include the interview and observation stages at University of Trilogi so that the data obtained is concrete and accurate. In the SDLC Waterfall development process, there are several stages starting from the user requirements, which function as the initial data collection process to create an application, then proceed to the analysis design phase. Where in this phase it is done by simulating the analysis modeling based on the data generated at the user requirements stage where the modeling will be transformed into several design models such as the first is Flowcharts, the second is Data flow Diagrams (DFD) and Entity Relationship Diagrams (ERD).

Data flow diagrams (DFD) are data logic models or processes created to describe where the initial data was obtained, where is the direction of the output generated from the system, where the data will be stored, the processes that will be generated by the data and the interaction between the data stored up to processes related to data that has been built. Furthermore, the third

design modeling is Entity Relationship Diagram (ERD). In the development of software engineering, ERD is an abstract and conceptual representation of data, as well as a database modeling method used to produce a conceptual schematic of a Android-based Budgetary filing and activity report Information System design. However, regarding the design of this booking service service system can be seen specifically in Chapter 4. The following is a picture of the SDLC Waterfall model.

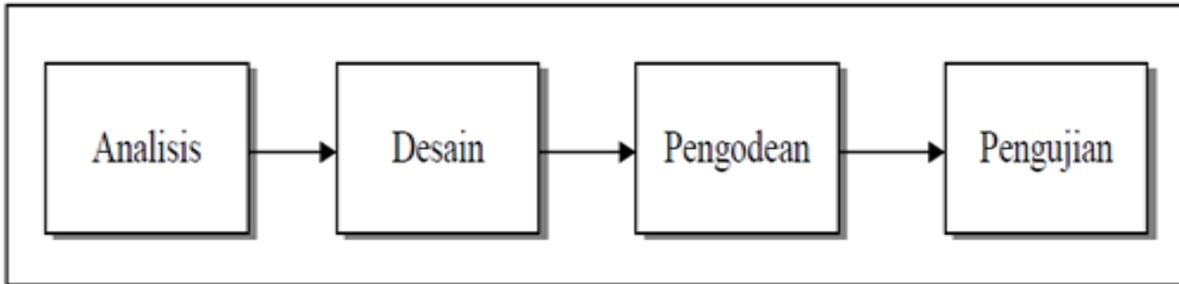


Figure 1. Schematic of SDLC Waterfall Model

3. RESULTS AND DISCUSSION

The following describes the results of the design and interpretation that has been made in chapter 3 regarding the schematic of the Android-based budget submissions and activity report Information System to be made. The entities involved in this budgetary submissions include work unit, direct supervisor, finance department, and the Rector Vice Chancellor. The development of the management of this budgetary filling at the universitas trilogi will be carried out by utilizing existing technology so that it is computerized and integrates with one another to make it easier for work unitto carry out the budgetarying submission process

4.1 Flowchart Of Proposed Budgetary Submission System

The development in the Android-based budget submissions and activity report Information System that will be proposed in this research study can be seen in the Flowchart, Data Flow Diagram (DFD), Entity Relationship Diagram (ERD) below.

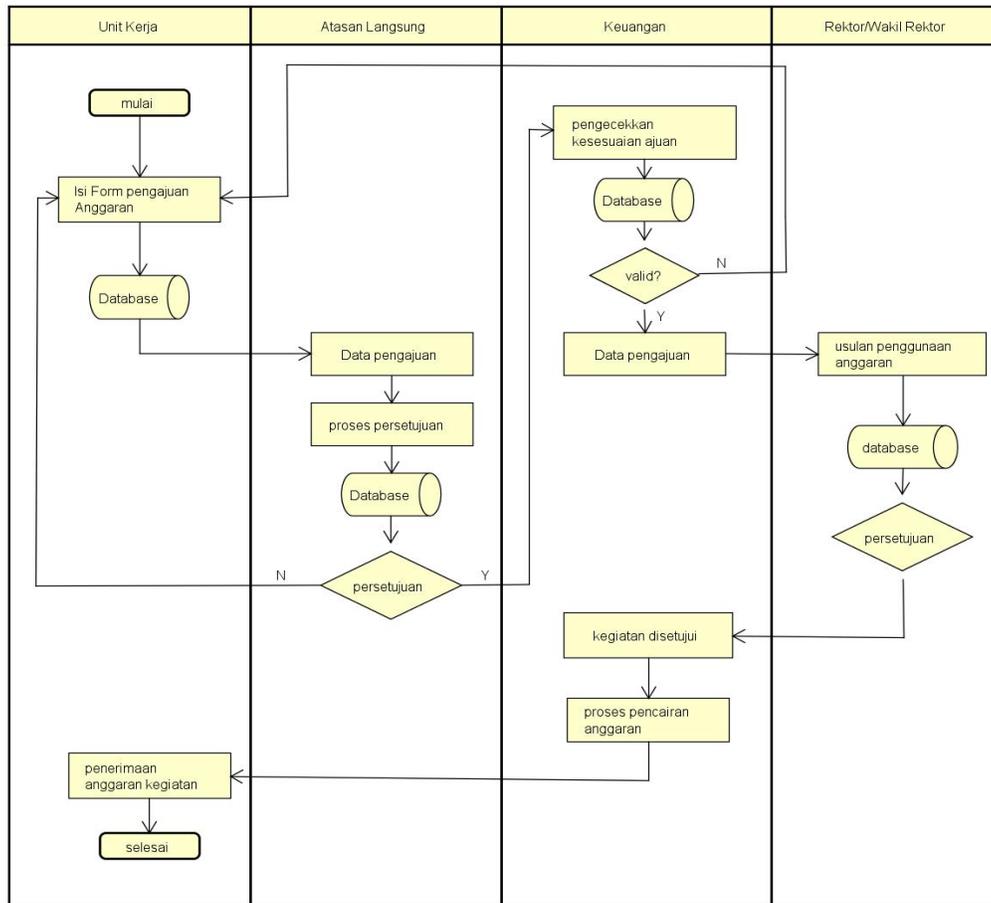


Figure 2. Proposed Flowchart

The flowchart of this proposal aims to facilitate the running of the system designed for entities related to the describes the current system for the submission process and Activity Reports at Trilogi University based on the planned annual budget and activities. The system currently running is still a manual system without an information system that supports the submission process to the reporting process. The budget submission process begins with the work unit submitting it by filling in the planned activities then entering the activity budget nominal into the form, which can be seen in Figure 2

If the activity has been approved then the finance department processes the budget disbursement, the work unit receives the activity budget to be used. After carrying out the budget submission process that has been used, to meet the requirements and in accordance with the procedures at Trilogi University, the work unit makes an Activity Report by printing a proof of activity evidence attached to the activity report and then given to the finance department. letters that have been printed and legalized or approved by the head of finance.

4.2 Data Flow Diagram Level 0

Data Flow Diagram (Context Diagram) is the earliest level at the DFD stage which has described the entire flow starting from the input to output processes in the system. Data Flow Diagrams (Context Diagrams) are also modeling to make it easier to create cycles or process stages of a system development that aims to develop from flowcharts in the scope of a system.

Data Flow Diagram (Context Diagram) level 0 process flow for designing a Android-based budget submissions and activity report Information System can be seen in Figure 3.

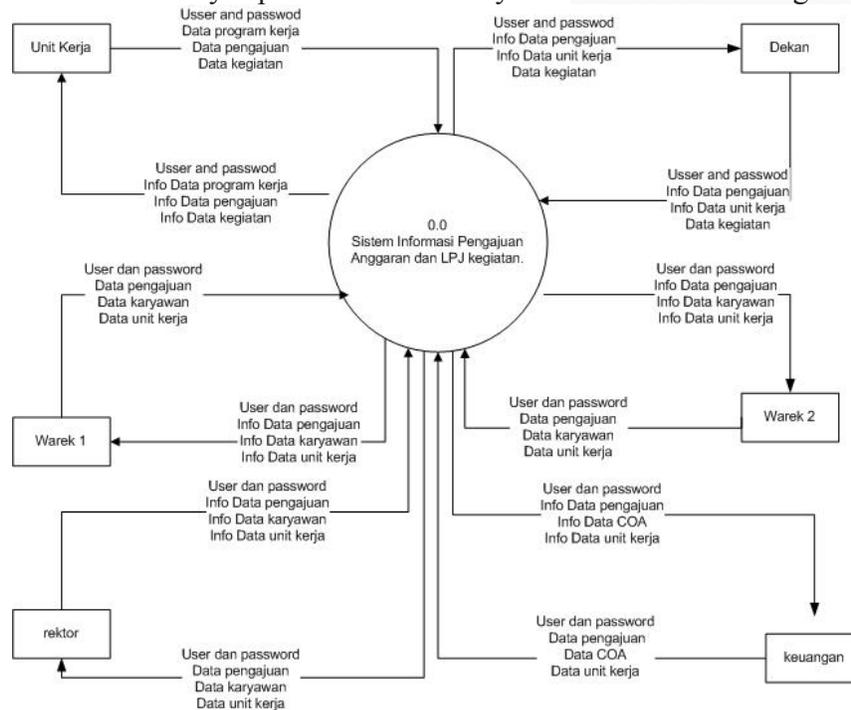


Figure 3. Data Flow Diagram(Context Diagram) Level 0

The level 0 data flow diagram (Context Diagram) process flow that has been created is to have 4 entities or actors in the design of a Web-based Motorcycle Service Information System at the Adhel Custom Bike Workshop. describes the general description of the budget submission system and LPJ activities, there are 6 external entities that have interactions with the system, including: Work Unit, Dean, Warek1, Warek2, Chancellor, Finance Section. Where the Work Unit manages work program data, submissions, activities. Dean manages submission data, work units, activities. Warek 1,2 and Chancellor manage submission data, employees, work units. Finance department manages submission data, COA (Count pof account). Level 1 diagram illustration can be seen in Figure 4.

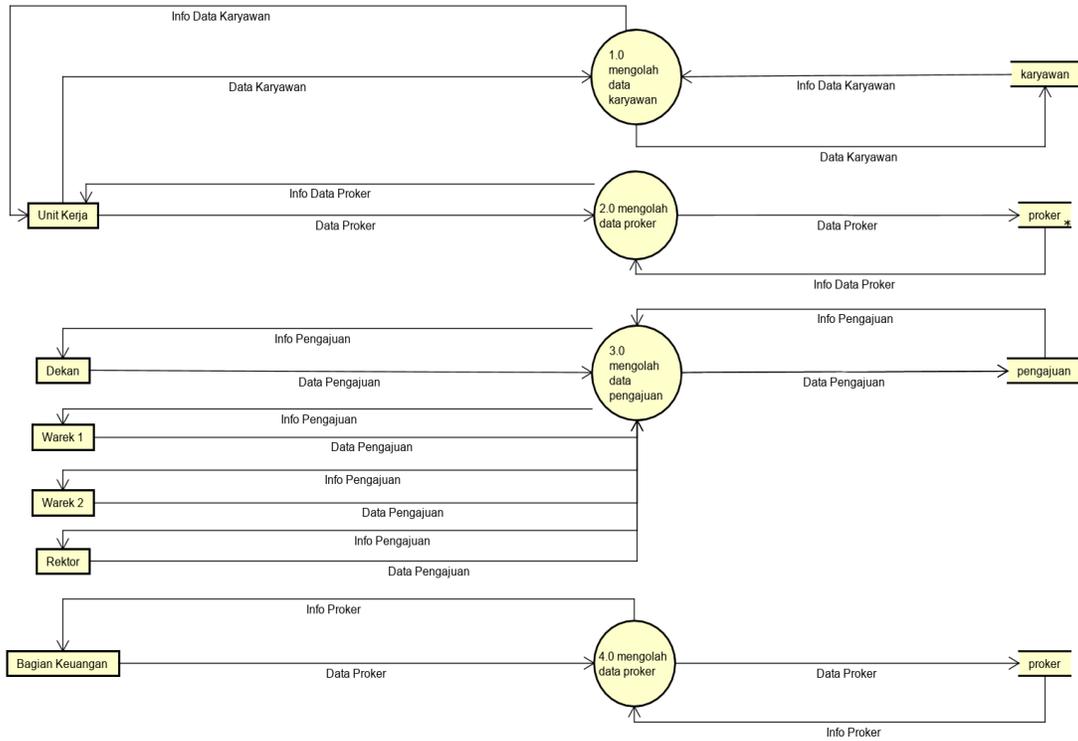


Figure 4. Data Flow Diagram Level 1

The ERD which has been designed based on the functionality of each entity is interrelated from the entirety of each relationship between entities in the Web-Based Motorcycle Service Information System at the Adhel Custom Bike Workshop. ERD can be seen in Figure 5 below.

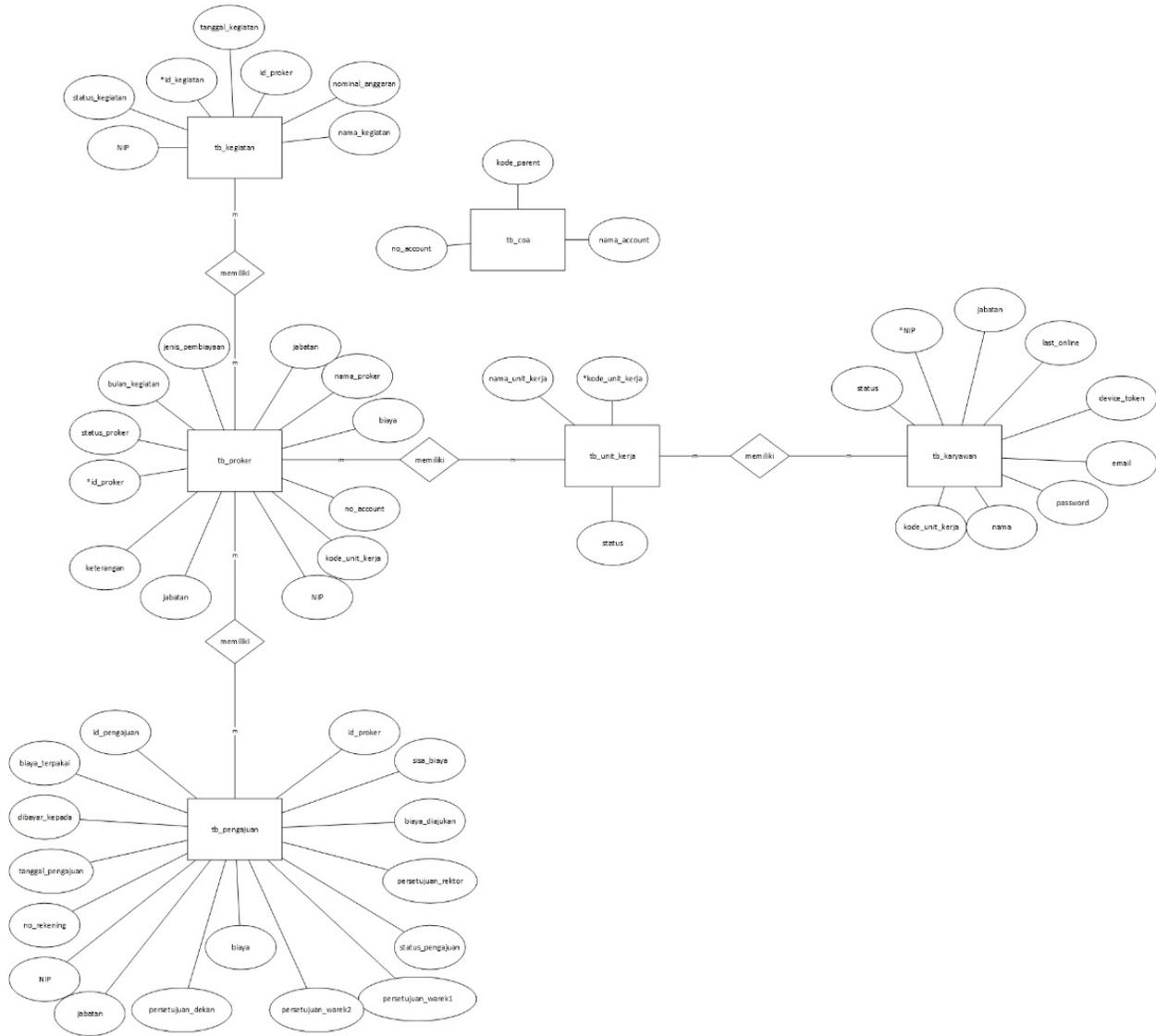
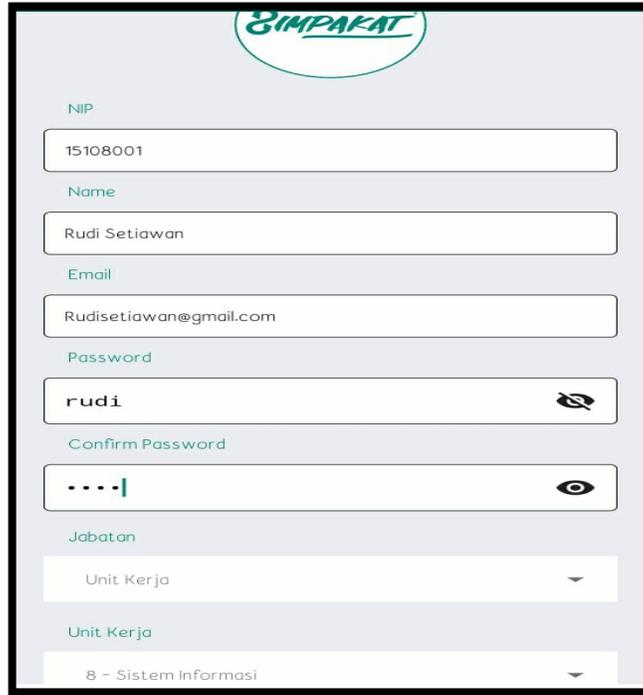


Figure 5. Entity Relationship Diagram (ERD)

4.3 User Interface Prototype

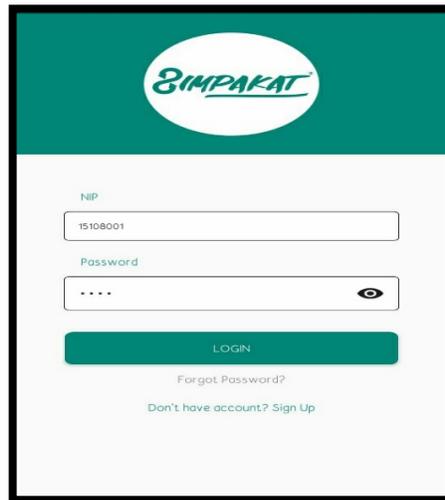
Interface design is needed to bridge the information system built with the user. The following is an interface design for an Android-based Budget Submission Information System Application Design and Activity Report (Case Study: Trilogi University).



The registration form for SIMPAKAT includes the following fields and options:

- NIP:** 15108001
- Name:** Rudi Setiawan
- Email:** Rudisetiawan@gmail.com
- Password:** rudi
- Confirm Password:** (masked with dots)
- Jabatan:** Unit Kerja
- Unit Kerja:** 8 - Sistem Informasi

Figure 6. Form Regsitation



The login form for SIMPAKAT includes the following fields and options:

- NIP:** 15108001
- Password:** (masked with dots)
- LOGIN:** (button)
- Forgot Password?** (link)
- Don't have account? Sign Up** (link)

Figure 7. Form Login work unit

Tambah Pengajuan Proker

Program Kerja
LDKM & MAKRAB SISTEM INFORMASI 2019

Biaya
10000000

Biaya Telah Dipakai
5000000

Sisa Biaya
5000000

Biaya Diajukan
10000000

Dibayarkan Kepada
M. Riezki Hidayatulloh

Jabatan

SIMPAN

Figure 8. Form submission work unit

Data Pengajuan

LDKM & MAKRAB SISTEM INFORMASI 2019
Menunggu Persetujuan

Tap Here Slide Down

LDKM & MAKRAB SISTEM INFORMASI 2019

Pengaju	Rudi Setiawan - 15108001
Biaya	10000000
Biaya Terpakai	5000000
Sisa Biaya	5000000
Biaya Diajukan	10000000
Dibayar Kepada	M. Riezki Hidayatulloh
Jabatan	Ketua Himasi
Nomer rekening	123456789

APPROVE REJECT

Data Pengajuan

Figure 9. submission data

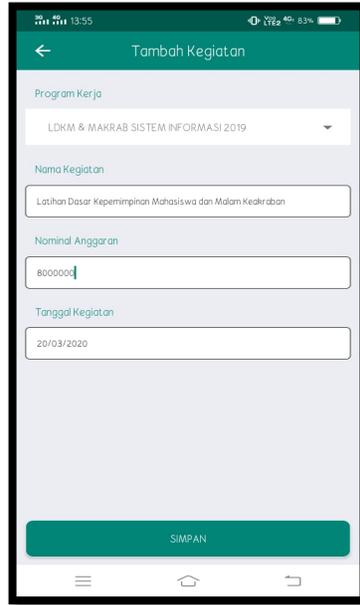


Figure 10. activity report

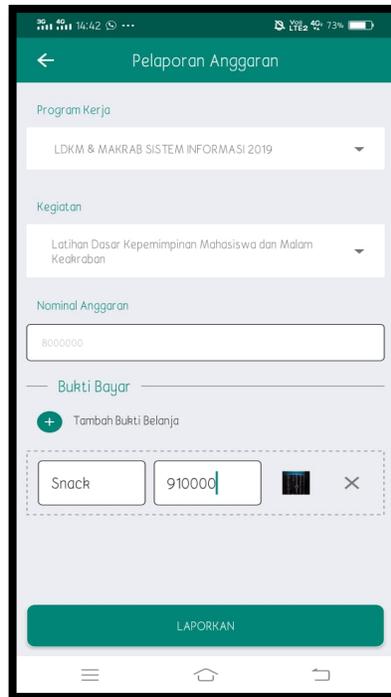


Figure 11. activity report

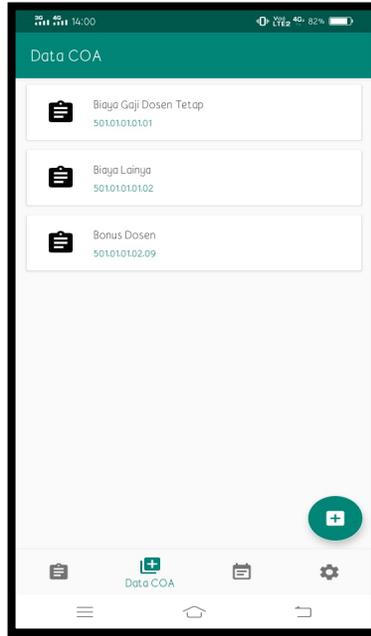


Figure 12. *Data count of account*

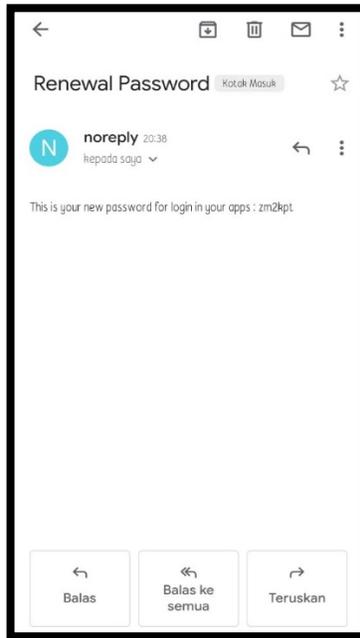


Figure 13. *confirmation email of renewal password*

5. CONCLUSION

From the discussion that has been described, the authors make the following conclusions:

1. With the work unit activity budget submission system at Trilogi University, there is no need to use a lot of paper, so that the service process becomes more effective and efficient.
2. The Accountability Report Process at Trilogi University is now systemized with an Android-based system.

6. SUGGESTION

From the results of the conclusions that the authors describe above, there are several suggestions, including:

1. There is need for maintenance of the system so that system effectiveness can continue to run properly and optimally.
2. In entering all data, accuracy is needed to avoid mistakes that occur during the process and It is necessary to develop and improve the system to make it better.

7. REFERENCES

- Christensson, P. (2017). Retrieved Maret 2019, from TechTerms:
<https://techterms.com/definition/xml>
- Fandi Rosi, agustus (2016). Teori Wawancara Psikodiagnostik. Yogyakarta: LeutikaPrio.
- Farida Nuraini, maret (2015). “Sistem informasi perencanaan anggaran dan biaya universitas respati Yogyakarta”: Vol . X - Jurnal Teknologi Informasi
- Indrajani, A. P. (2015). *Perancangan dan Pembuatan Forum Makanan Berbasis Web*. Jakarta: Jurnal Manajemen Informatika, Vol4, Nomor 01.
- Indrajani. (2015). *Database System*. Jakarta: PT> Elex Media Komputindo .
- Jubilee Enterprise. (2017). *Otodidak MySQL Untuk Pemula*. Jakarta: Penerbit PT Elex Komputindo.
- Kurniawan, B. (2015). *Java: A Beginner's Tutorial*. BrainySoftware.
- Nafarin, M, (2015). *Penganggaran Perusahaan, Edisi Ketiga*. Jakarta: Salemba Empat.
- Pressman, R.S (2015). *Rekayasa Perangkat Lunak: Pendekatan Praktisi buku I*: Yogyakarta: Andi Offset
- Rizal Andrian Rudiarko, agustus (2018). “*SISTEM INFORMASI RENCANA DAN PELAPORAN ANGGARAN PROGRAM UNIT KERJA DI YAYASAN PENDIDIKAN AL IRSYAD SURAKARTA*”. Publikasi ilmiah Universitas Muhammadiyah Surakarta, vol 13, nomor 3.
- Rosa , dan M.Shalahuddin. (2015). *Rekayasa Perangkat Lunak Struktur dan Berorientasi Objek*. Bandung : Informatika.
- Sukanto, Rosa Ariani. dan Muhammad Shalahuddin. (2016). *Rekayasa Perangkat Lunak Terstruktur dan Berorientasi Objek*. Bandung: Informatika.
- Sutabri, Tata. Analisis Sistem Informasi. Yogyakarta: ANDI Yogyakarta. Kamus Bahasa Indonesia. (2015).
- Sutarman (2015). *Buku Pengantar Teknologi Informasi*. Jakarta: Penerbit Bumi Aksara
- UC Berkeley. (2017). *Why Use an API?* Retrieved from UC Berkeley: <https://integration-services.berkeley.edu/using-apis/why-use-api>