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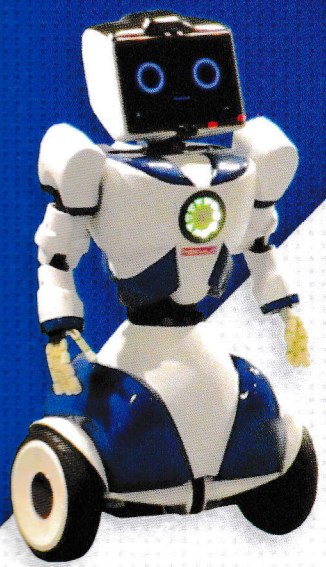

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Coin Lockers as a Technology-Based Public Facility

Fenny, Syafariani R. [1*], **N Raihanah** [2]

[1] Department of Information Systems, Faculty of Engineering and Computer Science , Universitas Komputer Indonesia, Bandung

[2] Department of Japanese Language and Literature, Faculty of Literature, Universitas Komputer Indonesia, Bandung

*r.fenny.syafariani@email.unikom.ac.id

Abstract. The purpose of this research is to see what the community needs by utilizing the interests of consumers who are environmentally friendly, also attractive in business opportunities. Because of that we take samples of products that have been used in Japan namely, Coin Lockers. To support the research, we used a method of exploring reviews of several articles related to our research products. The results of the Coin Lockers show are needed by people, especially those who have difficulty storing luggage when traveling, when they only want to bring some items they only need to carry, Coin Locker is very helpful in increasing tourism resources. From these results, we know that this product is important as a support for facilities that can be obtained by the community. That's because it's easy to use, Coin Locker is also to save users money. Of course, Coin Lockers is very beneficial for business people who want to try this new business line that is environmentally friendly and quite sophisticated in our country.

1. Introduction

Seeing storage places such as lockers in public places today that still use conventional systems where usually using manual keys is considered inefficient. Because when someone uses the manual key on the locker, the visitor must carry the locker key wherever he goes. But this can cause problems when the locker keys that carry are lost. With the increasingly sophisticated technological advancements, the creation of storage devices in the form of paid lockers that work automatically are considered safer and more efficient [1]. The progress of Japan in various aspects, such as in the field of science and technology more specifically in the field of economics, was very astonishing to the world. In a very short time after the defeat in World War II, Japan succeeded in becoming a country in the field of economics and technology that can be equated with countries that has advanced before [2]. Facilities for travel businesses owned by Japan are very diverse, and one of them provides coin-operated lockers, which are installed in the locker door frame [3].

The criteria of an entrepreneur in a business is that the innovation of the proposed business plan is very important [4]. For entrepreneurs, the product is the most basic element of the marketing mix, which includes design, price, image, service, various features, style, service, quality, and guarantee of validity. Here the company must focus on serving the various needs of a particular customer group [5].

Lockers that are needed by the community are electronic locker systems with very economical user enhancements, comfort, functionality, configuration flexibility, and increased profitability for

locker system owners/operators [6]. Electronic lockers are well known, such as hotel safes that can be used temporarily and include a digital key using a keypad for hotel guests [7].

One example of a locker system is an electronic locker that each key can only be released in a closed position [8]. While this coin locker is associated with coin-operated lockers that lock the locker after the coin is inserted [9].

a more detailed embodiment ensures that even people who are not familiar with the installation of the locker can maneuver the required order in the correct order with the central control unit before occupying or reopening the locker, without having to learn uncomfortable operating instructions regardless of whether they must be removed or not [10].

Based on preliminary observations, many people from those who have difficulty storing luggage when traveling, when they only want to bring some items they only need to carry. Lockers are very necessary when such conditions, before users lockers have no way of knowing which lockers are available beforehand. Therefore, they sometimes have to shop around to find available lockers if the nearest locker is fully used. The user must bring the key when leaving the baggage in the locker. Users must pay attention to key handling to avoid compensation if lost. Coin Locker is a new technology that provides convenience, efficiency and security when we have difficulties with luggage and borrowing lockers whose systems are still conventional. This coin locker is very petrific especially for tourists, this technology can increase the economy through tourism resources and can also attract new business opportunities for entrepreneurs. Therefore, the purpose of this research is to see what is needed by the community by utilizing consumer interests that are environmentally friendly. Therefore we take samples of products that have been applied by the Japanese State to later be able to be applied in our country.

2. Method

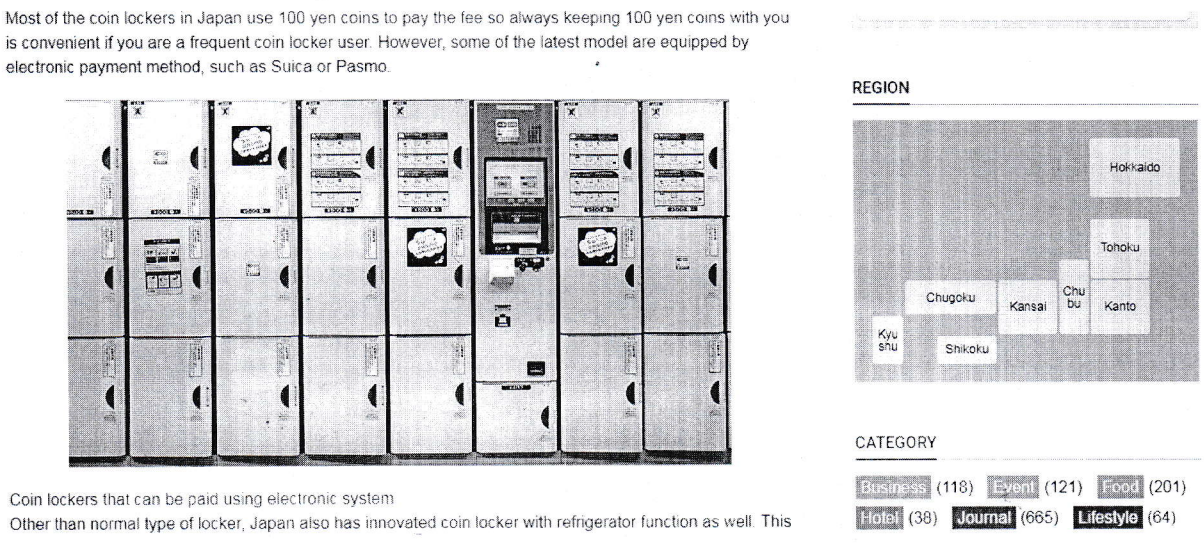
In general, the scientific way to conduct research requires data that has certain purposes and uses. This research is conducted through descriptive research methods because it is the right method to make a description of the situation or research activities.

Choosing the right data collection technique will produce data that has high credibility. The technique of collecting data in this study is a secondary study of documents by exploring several related articles.

3. Results and Discussion

Japan's progress was supported by advances in science and technology and high discipline from the people. Scientists succeed in creating technological innovations with creative ideas. These technologies can make it easier for Japanese people to carry out their daily activities. This is a remarkable thing, how much influence the technological advances of the Japanese state [11]. Coins Lockers represent a number of needs that must be owned when selling a product in a marketing location that is easy to use, high demand, and good. Coin Locker makes it easy to store luggage when traveling, this is proof that Japanese people always provide sophisticated and simple facilities for their people.

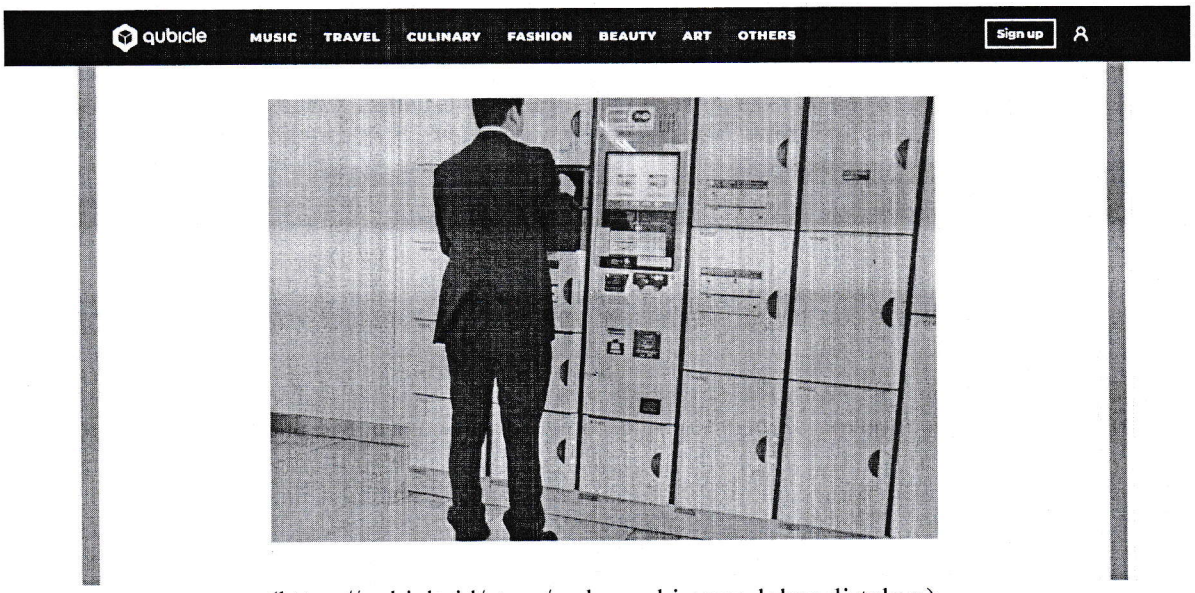
In every corner of the area in Japan we can find various kinds of Coin Lockers that can be rented by all people, both the Japanese community itself and the tourism there. Because the usage method is fairly easy, this Coin Locker rental saves a lot of bags and has advanced English language features. (Figure 1).



(https://www.halalmedia.jp/archives/18084/japan-travel-tips-coin-locker/2/)

Figure 1. Electronic Coin Lockers.

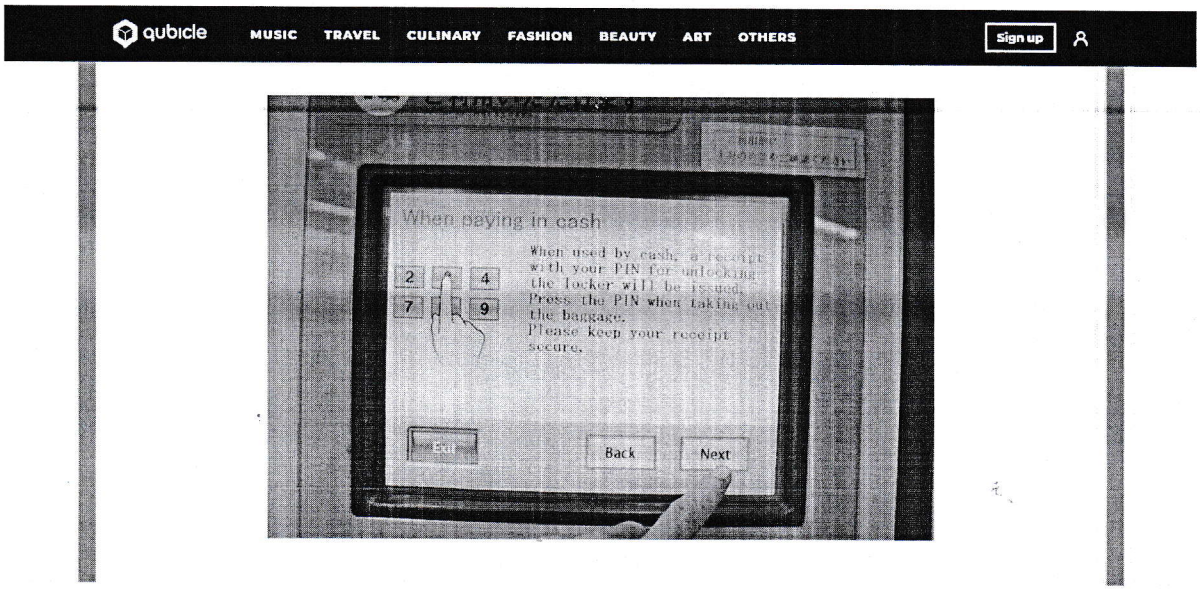
If you want to use one of the facilities provided by the Japanese government, you must first enter the goods first into an empty or unused locker (the red light is not on). Adjust the size of the locker you want to use with your luggage, because each locker is different in shape, certainly different from the rental price. (Figure 2).



(https://qubicle.id/story/serba-serbi-sewa-loker-di-tokyo)

Figure 2. Put the Bag on Locker.

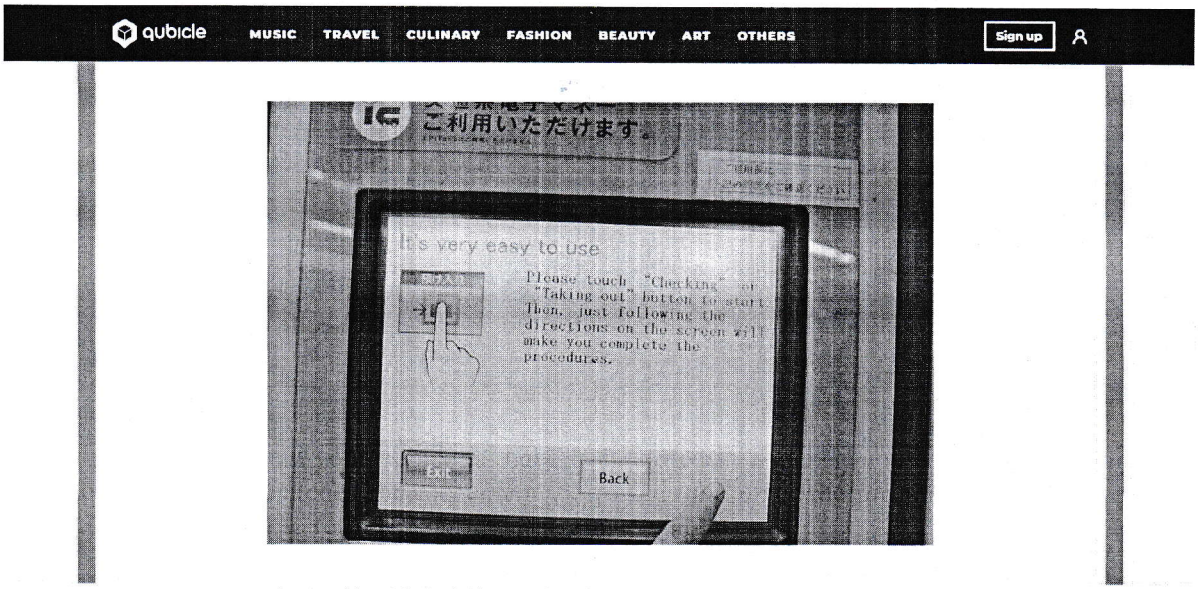
If you have selected features using English, you can choose a locker with the same number as the locker number you are using. Select the features listed, 'Checking' and 'Taking out' on the screen. If you have, choose the rental period, and pay with the number of coins listed if you have finished renting it so that your item can be retrieved. (Figure 3).



(https://qubicle.id/story/serba-serbi-sewa-loker-di-tokyo)

Figure 3. How to Use

If you want to pick up your items that have been stored in a locker, you can click on your locker with the number that matches the locker you borrowed, and enter the pin that matches the pin you received before in order to retrieve your items again. (Figure 4).



(https://qubicle.id/story/serba-serbi-sewa-loker-di-tokyo)

Figure 4. Choose the 'Checking' or 'Taking out'.

Before a user can access his locker, it is necessary for him to first deposit the required amount of money as determined by the price of the service or item to be issued. This is achieved by a unique coin-operated switching mechanism and related circuits which are further described [12].

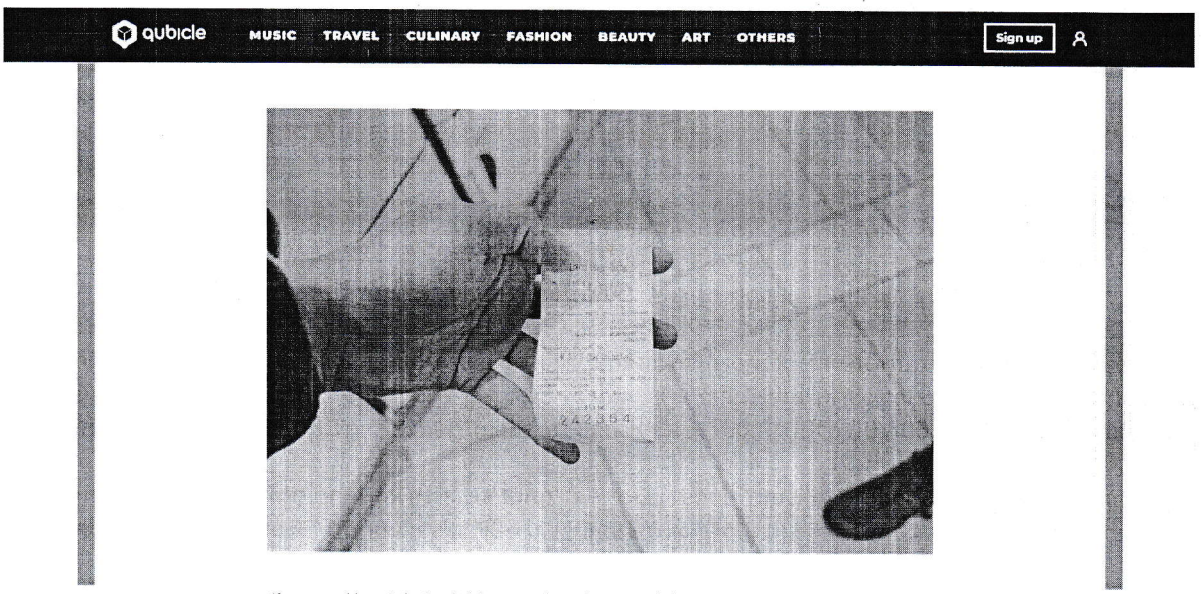
If your locker has been successfully locked, a piece of paper proof of payment as a receipt will come out and display your locker pin to be inputted again on the system when retrieving your items later. To be safer, don't forget to copy the pin at any time - when the paper is gone. (Figure 5).

(https://qubicle.id/story/serba-serbi-sewa-loker-di-tokyo)

Figure 5. The Paper of Nominal Price and Pin.

The price that must be paid is adjusted to the length of use and the form of the locker used. The smaller the locker used, the cheaper the price to pay. Usually, the price taken to use Coin Lockers ranges from 100 yen to 300 yen. If in rupiah, around Rp 13.500,- to Rp 40.500,- (Rate of Exchange in October 2018).

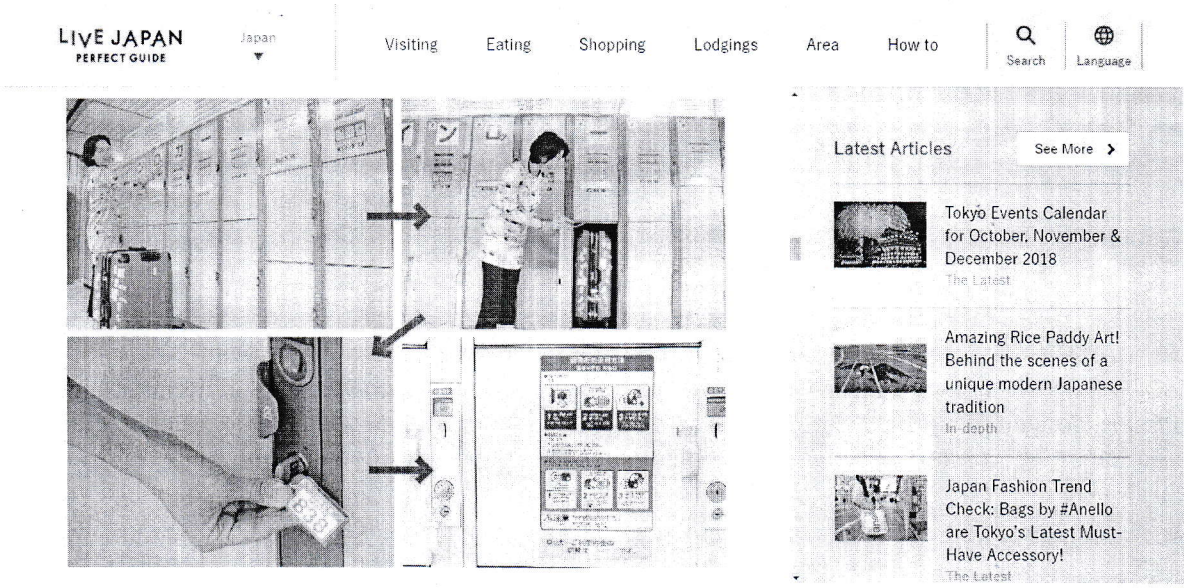
To implement an additional tariff structure, the total rental time is broken down into a number of sub-periods and separate additional costs [13]. (Figure 6).



(https://qubicle.id/story/serba-serbi-sewa-loker-di-tokyo)

Figure 6. The Pin Paper.

If this Electronic Locker Coin is difficult to use for you, you can also switch to Analog Coin Lockers. Analog Coin Lockers are fairly simple to use compared to Electronic Coin Lockers. You only need to enter your items to the Locker, enter the number of coins according to the rental price, *locker door lock with the red key installed, and keep it well - the key is to retrieve your items. If lost,* you will be charged a fine. (Figure 7).



(https://livejapan.com/en/article-a0000274/)

Figure 7. Coin Lockers Analog.

4. Conclusion

This Coin Locker is a sophisticated technology also simple for the benefit of state facilities and in terms of increasing tourism resources. The advantages besides how to use it easily and do not spend too much initial capital, and set a cheap selling price, marketing that is not too excessive is also one of the benefits for business people who want to try to create this Coin Locker in our country. We can see that Japan prioritizes discipline and cleanliness, and it makes facilities and comfort for consumers even higher and makes sales appeal too high.

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WEB-BASED ACADEMIC INFORMATION SYSTEM IN PUSDIKHUBAD VOCATIONAL SCHOOL

by R. Fenny S

WEB-BASED ACADEMIC INFORMATION SYSTEM IN PUSDIKHUBAD VOCATIONAL SCHOOL

S R Fenny*and A Devi
Jurusan Sistem Informasi, Fakultas Teknik dan Ilmu Komputer, Indonesia Computer University,
Jl. Dipatiukur no.112-116 Bandung West Java Indonesia

*r.fenny.syafariani@email.unikom.ac.id

Abstract. PUSIKDHUBAD Vocational School is one of the formal education institutions in Cimahi city. An institution engaged in formal education has a desire to create a quality future generation. In order to create a quality generation, educational institutions have to improve themselves in improving information systems, especially academic. In this case, it could be seen that the system running in PUSIDKHUBAD Vocational School is still considered not working optimally in the process of searching and presenting data. This research was conducted to locate the current system, to design the system, to analyze and test the system and to implement an academic information system in PUSDIKHUBAD Vocational School. Descriptive method is used in this research with a structured approach and development method by using prototype. PHP and MySQL, as the database, are used as the programming language. The results of the research conducted at PUSDIKHUBAD Vocational School are the creation of a web-based academic information system, which can be used in managing the data of students, teachers, grades, scheduling, and other data. Thus, many benefits can be obtained and the school objectives can be achieved.

1. Introduction

In order to maintain and develop an institution, especially in the field of education, it is very important to manage the right information system.[1] A system within an organization consisting of a combination of people, facilities, technologies, media, procedures and controls to provide a basis of information for decision making is the meaning of the information system.[2] It is undeniable that with the development of technology, each agency definitely needs an information system in performing its activities, both in government and private institutions as well as educational institutions.

In the utilization of technology, several institutions and educational institutions have started using computer technology assistance in various jobs.

In the agencies or educational institutions, information technology can help in processing the education system. Among the three government policies that have been established to make fundamental changes to the system in the world of education is to increase the requirement for compulsory education from 6 to 9 years. Directing education to be more relevant to industry development, with information technology or having relevance and suitability, and encourage high school education to prepare more skilled workers thus the graduates do not view universities as the only alternative choices for the future.[3]

An institution or an agency engaged in formal education has a desire to create the younger generation as the nation's quality successor.[4] In order to create a quality generation, educational institution, especially school, have to improve the information system, especially academic, thus the human resources produced by the school can have a high use value. Fields that studies the curriculum and functions to improve learning in terms of education and is managed by educational institutions is the meaning of academic.[5] Services related to parties outside educational institutions and services related to internal education institutions themselves can be increased because it is influenced by the application of a good information system.[6]

Based on the preliminary observations in PUSDIKHUBAD Vocational School, it is found that formal education institution still has some obstacles in performing their academic activities such as there is no integrated evaluation system between teachers, classes and subjects. To avoid repetition in the students' final grades input, each student's attendance still uses writing on a book, which results in files stacking that makes data search slow and inefficient. This can result in damage or loss of data and report making process (report card) requires considerable time, because the student data files number that are inputted one by one in preparing the student's final grade report (report cards).[7] It also often occurs in the process of scheduling, conflicting class hours for less structured schedule. Based on the description above, this research is expected to help in improving the quality of service in schools to achieve the school's objectives.

2. Methodology

In general, the scientific way to obtain data that has a specific purpose and usefulness is defined as a research method.[8] Descriptive research method is used in this research. The aim is to make a systematic, factual and accurate picture of the facts and traits in a particular research object.[9] The primary and secondary data sources is collected by the researcher to obtain the data required for the research object. Primary data sources are obtained by observing and interviewing, while secondary data sources are obtained through indirect data sources such as the internet.

2.1. System Approach and Development Methods

Researchers use a structured approach method. A technique or approach that breaks programs based on functions or procedures required is the meaning of a structured approach.[10] Researchers prototype modeling development methods is used for its development. This prototype modeling has 3 processes and all three processes will continue to repeat until the designed application functions properly and all requirements are met. (Figure 1)

Figure 1. Prototype Method.

2.2. Analysis and design tools

Flow Map, Context Diagram, Data Flow Diagram, Normalization, Data Dictionary, Table Relations and Entity Relational Diagram are the tools typically used in a structured approach.

3. Results and Discussions

The description of academic information systems in the proposed web-based PUSDIKHUBAD Vocational School is focused on the process of class distributions, scheduling, presence recap processing, and student value data processing thus creating the temporary report cards. The procedure used in this academic information system is illustrated by using context diagrams and data flow diagrams (DFD). Context diagram is considered as a diagram describing the scope of a system and consisting of a process. Context diagram generally describes the entire input to the system or the output of the

system and is also considered as the highest level of the DFD, because generally it provides an overview of the entire system.[11] Figure 2 shows the context diagram of an academic information system, while Figure 3 shows the level 1 data flow diagram of the academic information system. (Figure 2)

Original	Translated
SISWA	STUDENT
GURU	TEACHER
KEPALA SEKOLAH	SCHOOL PRINCIPAL
WALI KELAS	HOMEROOM TEACHER
SI AKADEMIK	SI ACADEMIC
Dt_siswa, dt_user	Dt_student, dt_user
Dt_guru, dt_user, dt_nilai, dt_kehadiran	Dt_teacher, dt_user, dt_assessment, dt_presence
Konfirmasi_data_siswa_valid, dt_login, dt_kelas, dt_penjadwalan, dt_kehadiran, raport_bayangan	Confirmation_data_student_valid, dt_login, dt_class, dt_scheduling, dt_presence, reportcard_temporary
Konfirmasi_data_guru_valid, dt_login, dt_penjadwalan, dt_kelas, dt_kehadiran	Confirmation_data_teacher_valid, dt_login, dt_scheduling, dt_class, dt_presence
Lap_dt_siswa, Lap_dt_guru, Lap_ dt_kelas_siswa, Lap_dt_penjadwalan, Lap_dt_kehadiran	Rep_dt_student, Rep_dt_teacher, Rep_dt_class_student, Rep_dt_scheduling, Rep_dt_presence
Dt_nilai	Dt_assessment
Dt_nilai_akhir	Dt_assessment_final

Figure 2. Context Diagram

In representing a system or software, the researchers usually divide it into several levels of abstraction by using Data Flow Diagrams. By using DFD, each process from each level will be explained in more detail on representing information flow and its function.[12] (Figure 3)

Original	**Translated**
1.0 Pengolahan Data Login	Login Data Processing
2.0 Pengolahan Data Siswa	Student Data Processing
3.0 Pengolahan Data Guru	Teacher Data Processing
4.0 Pembagian Kelas	Class Distributions
5.0 Penjadwalan	Scheduling
6.0 Pengolahan Rekap Kehadiran	Presence Recap Processing
7.0 Pengolahan Penilaian	Assessment Processing
8.0 Cetak Laporan	Print Reports
Siswa	Student

Guru	Teacher
Kepala Sekolah	School Principal
Wali Kelas	Homeroom Teacher
- File Pendaftaran	- Registration Files
- File Jurusan	- Department Files
- File Kehadiran	- Presence Files
- File Kelas	- Class Files
- File Siswa	- Student Files
- File Pelajaran	- Lesson Filess
- File Guru	- Teacher Files
- File Nilai	- Assessment Files
- File Penjadwalan	- Scheduling Files
- File User	- User Files
Dt_siswa	Dt_student
Dt_guru	Dt_teacher
Dt_kelas	Dt_class
Dt_jurusan	Dt_department
Dt_penjadwalan	Dt_scheduling
Dt_user	Dt_user
Dt_kehadiran	Dt_presence
Dt_pelajaran	Dt_lesson
Lap_dt_siswa, Lap_dt_guru, Lap_dt_kelas_siswa, Lap_dt_penjadwalan, Lap_dt_kehadiran	Rep_dt_student, Rep_dt_teacher, Rep_dt_class_student, Rep_dt_scheduling, Rep_dt_presence
Dt_nilai	Dt_assessment
Dt_nilai_akhir	Dt_assessment_final
Konfirmasi_data_guru_valid	Confirmation_data_teacher_valid
Raport_bayangan	Reportcard_temporary

Figure 3. Level 1 Data Flow Diagram

Figure 4 shows the level 2 data flow diagram of the scheduling process. (Figure 4)

Original	**Translated**
5.1 Pembuatan Penjadwalan	Scheduling
5.2 Update Penjadwalan	Scheduling Updates
5.3 Cek Data Penjadwalan	Check Scheduling Data
5.4 Cetak Laporan	Print Reports
Guru	Teacher
Siswa	Student
Kepala Sekolah	School Principal
- File Pelajaran	- Lesson Files
- File Guru	- Teacher Files
- File Kelas	- Class Files
- File Penjadwalan	- Scheduling Files
Dt_pelajaran	Dt_lesson

Dt_guru	Dt_teacher
Dt_kelas	Dt_class
Dt_penjadwalan	Dt_scheduling
Lap_penjadwalan	Rep_scheduling

Figure 4. Level 2 Data Flow Diagram Process 5 (Scheduling)

Meanwhile, Figure 5 shows the level 2 data flow diagram from the assessment processing. (Figure 5)

Original	Translated
7.1 Input Nilai	Input Assessments
7.2 Hitung Nilai Akhir	Calculate The Final Assessments
7.3 Update Nilai	Assessments Updates
Guru	Teacher
Wali Kelas	Homeroom Teacher
Siswa	Student
- File Kelas	- Class Files
- File Siswa	- Student Files
- File Pelajaran	- Lesson Files
- File Nilai	- Assessment Files
Dt_kelas	Dt_class
Dt_siswa	Dt_student
Dt_pelajaran	Dt_lesson
Dt_nilai	Dt_assessment
Dt_nilai_akhir	Dt_assessment_final
Raport_bayangan	Reportcard_temporary

Figure 5. Level 2 Data Flow Diagram Process 7 (Assessment Processing)

Report printing process is described in figure 6. (Figure 6)

Original	Translated
8.1 Cetak Laporan Data Siswa	Print Student Data Reports
8.2 Cetak Laporan Data Guru	Print Teacher Data Reports
8.3 Cetak Laporan Data Kelas	Print Class Data Reports
8.4 Cetak Laporan Penjadwalan	Print Scheduling Reports
8.5 Cetak Laporan Data Kehadiran	Print Presence Data Reports
Kepala Sekolah	School Principal
- File Siswa	- Student Files
- File Guru	- Teacher Files
- File Kelas	- Class Files
- File Penjadwalan	- Scheduling Files
- File Kehadiran	- Presence Files

Dt_siswa	Dt_student
Dt_guru	Dt_teacher
Dt_kelas	Dt_class
Dt_penjadwalan	Dt_scheduling
Dt_kehadiran	Dt_presence
Lap_dt_siswa	Rep_dt_student
Lap_dt_guru	Rep_dt_teacher
Lap_dt_kelas_siswa	Rep_dt_class_student
Lap_dt_penjadwalan	Rep_dt_scheduling
Lap_dt_kehadiran	Rep_dt_presence

Figure 6. Level 2 Data Flow Diagram Process 8 (Report Printing)

MySql database, which is an SQL database management system (DBMS) software, is used in this research. The results of this research are in the form of a scheduling and assessment processing information system, which the implementation results can be seen in Figure 7. (Figure 7)

The class schedule page will appear based on class after logging in and accessing the scheduling menu. (Figure 7)

Figure 7. Classroom Schedule Display

The scheduling above can be printed as a report as shown in figure 8. (Figure 8)

Figure 8. Scheduling Report Display

Meanwhile, to do the assessment processing, it is necessary to access the assessment menu and a display will appear as shown in Figure 9. (Figure 9)

Figure 9. Assessment Processing Display

The final result of the assessment processing is the temporary report card as shown in Figure 10 and Figure 11. (Figure 10)

Figure 10. Temporary Report Card Display Page 1

Figure 11. Temporary Report Card Display Page 2

A, B, C, and D cover the final grades for the knowledge and attitudes assessment. In this research, the student's final grades are divided into 4 groups: (0-69) = D, (70-79) = C, (80-89) = B, (90-100) = A.

4. Conclusions

The conclusion is that with the use of this academic information system, it is expected to be able to help the assessment processing and reduce errors in calculating student grades, and to facilitate in creating the assessment recap thus no delay in submitting the student's final grade to the curriculum. The existence of an academic information system is expected to help a better schedules processing and to reduce conflicts. Informing the schedule and student class data can be easier by using academic information system.

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Figure 10

School Name	: PUSDIKHUBAD VOCATIONAL SCHOOL CIMAHI	Class	: X RPL
Address	: KOMP MICROWAVE	Semester	: Even
Name	: AGNIA YASMIN	School Year	: 2017/2018
NIS	: 101706946/0020756010		

Learning Outcomes Achievements

A. ATTITUDE

1. Spiritual Attitude

Predicate	Description
A	already has a good attitude, pious and diligently reciting

2. Social Attitude

Predicate	Description
A	already has concern for the surrounding environment

B. KNOWLEDGE

No	Subjects	Knowledge		
		Grade	Predicate	Description
A.	National Content			
1	Indonesian	100	A	Very good
2	English	88	B	Good
3	Mathematics 1	75	C	Adequate,
4	Religion and manner education 1	No assessment data		
5	Pancasila and civic education 1	No assessment data		

Figure 11

No	Subjects	Knowledge		
		Grade	Predicate	Description
6	Indonesian History	No assessment data		
B. Territorial Load				
7	Counseling Guidance	No assessment data		
8	Japanese	No assessment data		
9	Sports Physical Education and Health	No assessment data		
10	Scout	89	B	Good
11	Art and Culture	No assessment data		
C. Vocational Specialization Load				
C1. Basic Area of Expertise				
12	Physics	89	B	Good
13	Chemistry	No assessment data		
14	Digital Simulation and Communication	90	A	Very good
C2. Basic Program of Expertise				
15	Computer System	100	A	Very good
16	Basic Computer and Network	No assessment data		
17	Basic Programming	100	A	Very good
18	Basic Graphic Design	88	B	Good

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Presence Integration and Course Values for Final Value Creation

by R.fenny Syafariani

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Presence Integration and Course Values for Final Value Creation

Syafariani R.Fenny [*1] , Nugroho B [2]
[1,2]Jurusan Sistem Informasi, Fakultas Teknik dan Ilmu Komputer,
Indonesia Computer University,
Jl.Dipatiukur no.112-116 Bandung West Java Indonesia,
Telp. 022-2504119, fax.022-2533754
[*]Corresponding author , email : r.fenny.syafariani@email.unikom.ac.id

Abstract. *Improving the quality of education services requires the existence of data processing coupled with appropriate and adequate information technologies. Especially, data processing value that uses the 2013 the latest curriculum of Indonesia, namely the 2013 curriculum or K13, where the 2013 curriculum is conducted based on competence oriented on learning process, character building, and skills. In other words, this curriculum is qualitative. Acknowledging the procedures system of final value data processing, the contents consist of presence data and value data of each subject in the 2013 curriculum, The objective of this article is to propose and design new systems that can help and simplify the process of final value creation. There are two methods used in making this final value: approach method and development method. The approach method is the method of approach with Object Oriented Analysis (OOA). The tool is Unified Modeling Language (UML). Meanwhile, the development method used is the prototype method. This research result is the 2013 curriculum software that has functions or features in accordance with the desired, especially able to answer existing problems.The implication of the findings is in the form of the 2013 curriculum software that was made as the research result to show contribution to science in the theoretical model of problem solving.*

1. Introduction

The curriculum is like a compass in guiding the ship to sail the world of education. Like a compass, curriculum plays an important role in organizing, directing, and guiding the learning activities. Hubball & Burt .The development of information technology can also be a big influence in human life and way of thinking for the future. Computer, senceSmartphone and other electronic devices connected to the internet play an important role in supporting the work activities undertaken in an agency. During this time, it has been easier to access information that can be obtained anywhere and anytime, as well as database processing that has so far helped to facilitate the performance of various educational institutions. Increased professionalism and quality of education services in schools that performs a lot of data processing activities in the learning process activities, to determine the final grade of the student, should be accompanied by adequate information technology necessities. Resulting in a well-performed storage and processing also always up to date.

This article does not aim to create yet another account of social presence; rather, it aims to discover the similarities and contradictions within the existing literature. To do this, we reviewed, analyzed, and classified the definitions, theoretical foundations, measurements, and applications of social presence in computer-mediated communication (CMC) and online learning research

2013 curriculum or K13 is an instructional guidance method or a guide in the process of teaching and learning activities at school, developed on the "Standard Based Education" and Competency-Based

Curriculum theory. The 2013 curriculum is oriented towards the learning process, character building, and skills. In this case, data processing is required to support the necessity of the curriculum assessment.

In problem identification that the absence of a mutually integrated assessment system between subject teachers and homeroom teachers, to avoid repetition in the student's final grade input, the necessity and the usage of grades processing data of 2013 curriculum and each student presence still use the writing on books, which resulted in stacked files thus making data searches slow and inefficient, this may result in damage or loss of data, and the process of creating the student's final grade report requires considerable time, because of the student data files number that will be inputted one by one in preparing the student final grade report (report card).

Based on the elaboration above, this research is important to analyze the readiness and the implementation of the 2013 curriculum or K13. And the measuring instruments include several aspects, namely, 1) socialization of the curriculum by the Education Office of the district; 2) mental readiness of the students and teachers related to the pedagogical readiness; 3) training for main teachers in the implementation of the curriculum and giving explanations for peers; 4) assessing the teachers' competence; and 5) monitoring and assisting the implementation of the curriculum

2. Methodology

To approach this case, the descriptive method was used with the aim of deciphering properties or characteristics of a symptom and events that occur today.The author conducted the research to get data on the research object. Data types are classified into two types, primary and secondary data. descriptive method was used to collect the data. A primary data source is data obtained directly from the source, data and information observed and recorded. The primary data sources were obtained from various ways such as direct observations and interviews. A secondary data source is data collection in the form of documents or information owned by the agency, by collecting the necessary data and information from relevant sources with the problem under research.

2.1 System Approach and Development Method

Object-Oriented Analysis approach method was used for this research. At Figure 1 that prototype method was used for information systems data processing goods and production. Because it could facilitate the author, if one stage was not appropriate then it could go back to the previous stage so it would be quite effective in getting the clear necessities and rules. System development method prototype.

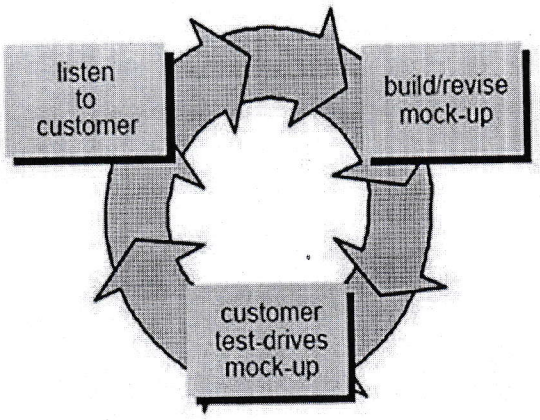

Figure 1. Prototype Method

2.2 Analysis and Design Tools

The tool used in this research was Unified Model Language (UML). According to Djono Irwanto (2006: 1) UML is one of depiction graphics languages supported by a single meta-model, which helps descriptions and design of software systems, especially systems built using technologist.

3. Results and Discussion

Overview of the proposed system is a Web-based 2013 curriculum grade processing information system, which focuses on assessment, presence for report card.The proposed procedure design for 2013 curriculum academic information system is using *usecase* and *activity diagram*.Use Case is a depiction particular function in a system of components, events or classes. In figure 2 showing usecase processty and activity diagram at figure 3 for process presence, figure 4 showing process assessment , and figure 5 for report card in this system.

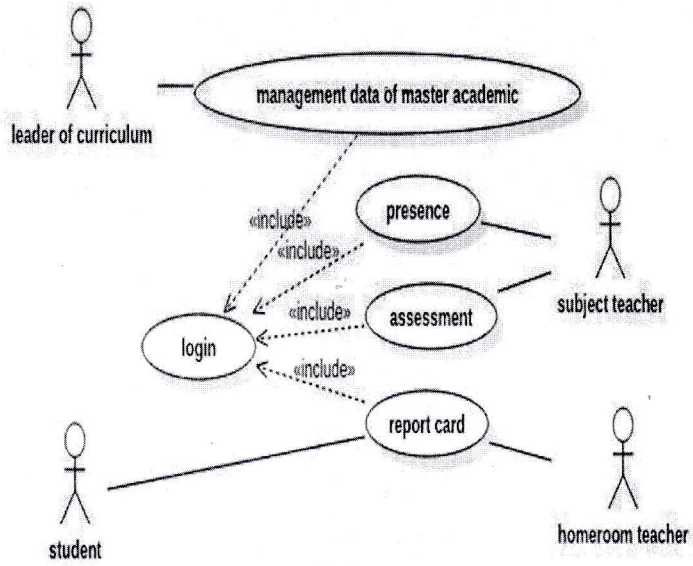

Figure 2. Usecase.

Activity diagrams depiction on execution and system flow.. This diagram not only modeling software but modeling the business model as well. Activity diagram shows activity of actor behavior.

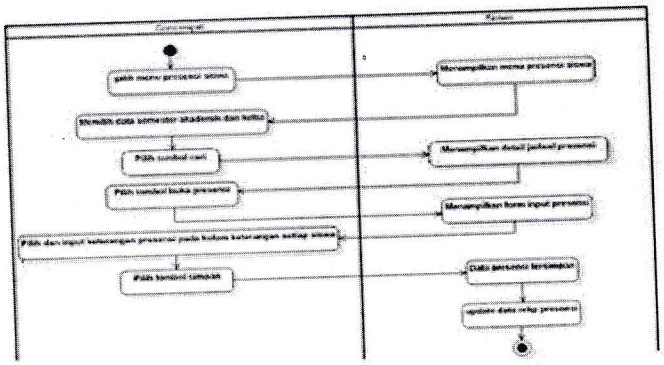

Figure 3. Activity in process presence.

In **Figure 4** showing activity in process assessment for make procedure information system

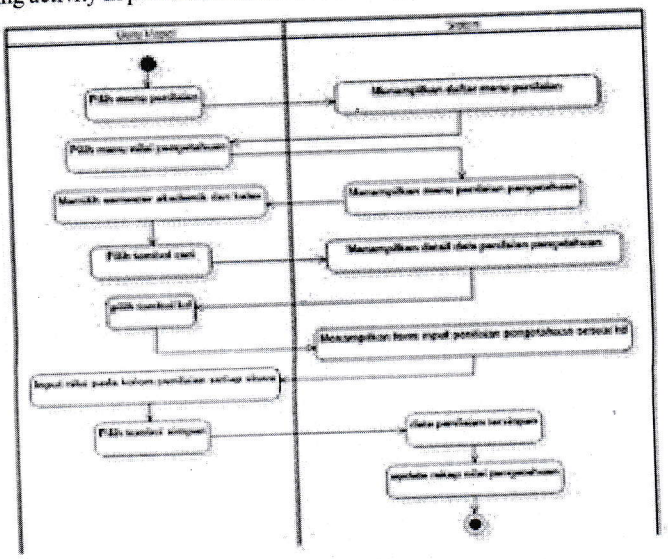

Figure 4. Activity in process assessment.

For activity in report card is in **Figure 5**

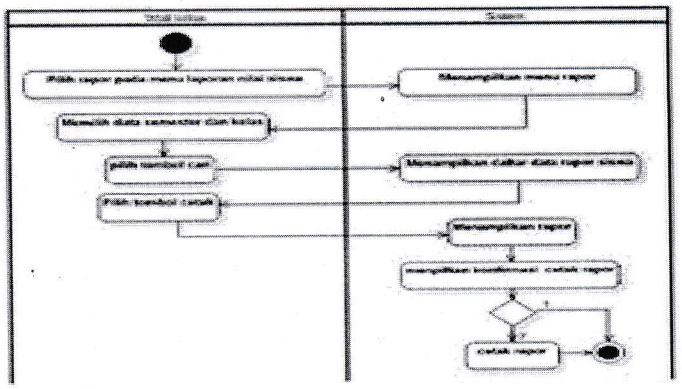

Figure 5. Activity in report card.

Using database for implementation the information systems of goods data processing and production is as the storage of overall academic information systems data and presence assessment data containing the command of SQL codes in the software.

The result are depictions in the system application. In **Figure 6** for implementation the student's assessment.

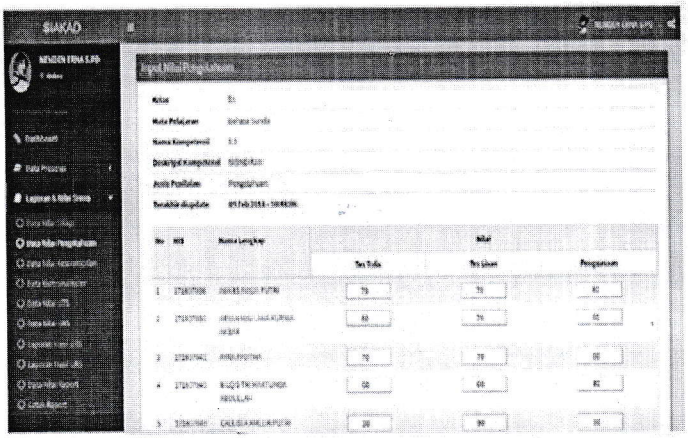

Figure 6. Showing student's assessment

For the presence at **Figure 7 .**

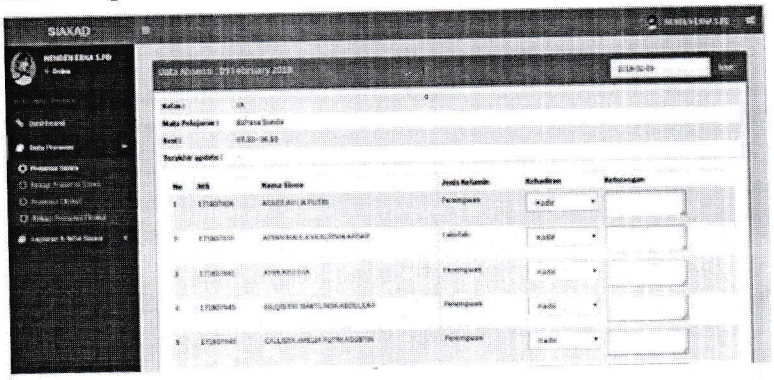

Figure 7. Showing student's presence.

And for the report card application at **Figure 8.**

Criterion variables: final grades and retention. One of the criterion variables, final grade, was

Nama Sekolah : SMP NEGERI 32 BANDUNG
Alamat : Jaln jalan
Nama Peserta Didik : AGNES AVILIA PUTRI
No Induk Siswa : 171807008

Kelas : 7A
Semester : Semester Ganjil 2017/2018
Tahun Pelajaran : 2017/2018

A. Pengetahuan dan Keterampilan

Mata Pelajaran	KKM	PENGETAHUAN		KETERAMPILAN	
		Nilai	Predikat	Nilai	Predikat
Kelompok A					
1 Bahasa Sunda	70	76	B+	37	C-
2 Bahasa Indonesia	75	40	C-	80	B+
3 Bahasa Inggris	75	0	D	0	D
Kelompok B					

Predikat									
D = Kurang	D+ = Kurang	C- = Cukup	C = Cukup	C+ = Cukup	B- = Baik	B = Baik	B+ = Baik	A- = Sangat Baik	A = Sangat Baik
0 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 80	81 - 85	86 - 100

B. Sikap Spiritual dan Sikap Sosial

Deskripsi Nilai Sikap Spiritual	Deskripsi nilai Sikap Sosial
sebelum memulai belajar menyebut bismillah dahulu.	Suka membantu teman

C. Extrakulikuler

No	Kegiatan Extrakulikuler	Nilai	Deskripsi
1	BTQ	B+	Juara 1 BTQ tingkat kota
2	PRAMUKA	B+	Memahami dasar pramuka

D. Ketidakhadiran

Sakit	:	1
Izin		0
Tanpa Keterangan		0

Orang Tua / Wali

Mengetahui
Kepala SMP Negeri 32 Bandung

BUDIARTO, S.PD
NIP: 789456

Bandung, 09 Feb 2018
Wali Kelas

NENDEN ERNA S.PD
NIP : 196605[illegible]1219

Figure 8. Student's report card.

based on the class records from online program administration staff at the end of the semester. Course

final grades included A, A-,B+,B,B-,C+,C,C-,D+,D, .In this study, students' final grades were divided into 10 groups: (0-45) = D, (46-45) = D+, (51-55) = C-, (56-60) = C, (61-65) = C+, (66-70) = B-, (71-75) = B, (76-80) = B+, (81-85) = A-, (86-100) = A.

Another criterion variable, namely knowledge and skills include subjects taken by students ,spiritual attitudes and social attitudes with descriptions, extracurricular with descriptions,and also absence, was defined as indicators of assesments for final grade of students

4. Conclusions

The conclusions of research entitled are the management process of preliminary assessments until final assessments can be performed effectively and efficiently with this application and could reduce the burden of homeroom in inputting the final student grade report because this academic information system has a feature to fill report cards automatically, which is already integrated between the school teacher and the homeroom teacher, facilitate the teachers in evaluating student assessment results because the system is easy to understand in grades management.

5.Acknowledgement

First of all, thanks to Dr. Ir. Eddy Soeryanto Soegoto as Rector and Founder of University Computer Indonesia (UNIKOM) and Dr. Ir. Herman S. Soegoto as dean of FTIK unikom who provided insight and expertise that greatly assisted the research, and guidance in giving me full strength to complete this research and presents sincere appreciation goes to Unikom. In arranging this research, a lot of people have provided motivation, advice, and support for the researcher, *intended to express* gratitude and appreciation to all off them.

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ANALYSIS OF THE APPROACH DESIGN E-BUSINESS APLLICATION GO-BABY as INFORMATION SYSTEMS CHILD CARE

by R Fenny Syafariani

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ANALYSIS OF THE APPROACH DESIGN E-BUSINESS APLLICATION GO-BABY as INFORMATION SYSTEMS CHILD CARE

Andri Sahata Sitanggang
Faculty of Engineering
Universitas Komputer Indonesia
line 4: Bandung, Indonesia
andri.sahata@email.unikom.ac.id

R.Fenny Syafariani
Faculty of Engineering
Universitas Komputer Indonesia
Bandung, Indonesia
r.fenny.syafariani@email.unikom.ac.id

***Abstract*—The purpose of this research is to come up with a solution with the approach through analysis about the problems faced by a woman who works or the problem faced by housewives that have children. Were the limited condition appears have time in child care are responsible for a woman and the limited putting daycare facilities in the city of bandung. But as for thi research was based on method action research, collect data needs support problems and provide sollutions in descriptive. So that the result of this produce an analysis the problems that can be used as the basic / blue print to help problems through the manufacture of application. The draft of which produced a solution of which is give this function career women/housewives do not have to worry because there are the services provided in baby sitter/child care with system accessible to view the protection that it will conduct supervision on nurses/baby sitter who keeps the child**

Keywords*— *GO-BABY,GO-JEK, Online, Application

I. INTRODUCTION

Information systems in child care was an assemblage of information formed through the creation of a system for the purpose of help in providing facilities in child care though service functions in a program in ease for mothers/woman to child care. Information systems are needed to provides solutions to the problems that occur. Some making especially for information systems that supporting information systems for inpatient child covers analysis and the design of in-patient information system to a hospital is the role of mother and children hospital is the saying this is the provision of the service the child health , mother , and the community at large , which can help the hospital in data processing administration for maternal and child health projects [1], however analysis who just made to the hospital in resolving administration hospital while the directly felt by mother/women in the city Bandung. Information system such as health services to patients through information system outpatient information system web-based for Public health center Winong where can help the performance of Public health center in data processing patients and preparing reports community health [2], These information systems except used for the health center , system that built only basing web and inaccessible directly by people using health. Two the article it is give prominence of services to the public but failed to give you direct application that can be accessed by the public.

Therefore this research built through problems that could support the creation of a system information for a son through application that can be applied in society, this study will have a major impact directly, ease application usage required based on the problem. Through the application of the technology is based on previously existing developed and is for the mothers / woman in a city of bandung by providing facilities for childcare and child care to be built so that the mother / women can increase productivity household welfare in his life.

II. THE MATERIAL AND METHOD

In to do this research , so the method applied as a step in making analysis design this application as shown in Fig. 1

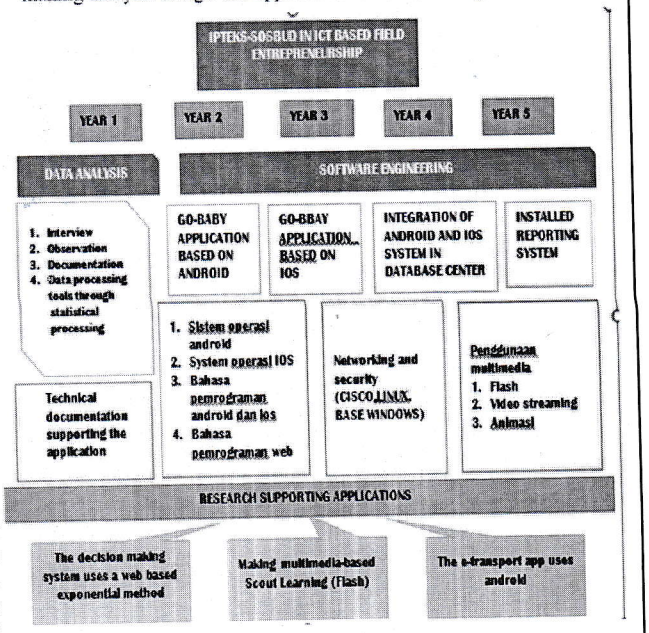

Fig. 1 Research Methods

A. *Year 1.*

Data analysis is research qualitative research was conducted through procedures the development of a

pattern , the theme of , and the characteristics of common [3]

This stage consists of activities:

1. *Interview:*
   Interview is the method data collectors or tools gatherer data showing researchers as interviewer had some questions at participants as the subject interviewed [3].
   Activities to residents approximately bandung in this is done interview to the mother / women in the sekeloa , bandung , questions most asked about the problems that obstacles experienced in being housewives and housewives who are working.
2. *Observation:*
   This activity is very important to do to know the location where the women / mothers who have problems, so it can be an example for the application that will be built.
3. *Documentation and statistical data:*
   Based on documentation and the statistics or on the number of women in bandung work can be seen in table 2 increase woman employed.

TABLE I
INCREASING WOMEN WORK

Year	Amount
2002	1.062.568
2003	1.041.366
2004	1.117.620
2005	1.098.624
2006	1.137.410

It can be ascertained the data of every year will continue to increase until 2017 this, so level needs the higher in the greater bandung

B. *Year 2 and Year 3.*

This activity is the technique where activities to make application on demand public especially the mothers / women using applications built melingkup 2 the form of.

1) *Android:*
   Android is an operating system to a mobile device based linux which includes operating system, middleware and application. The android application who developed using java and easily scaled them out to a new platform. Developed in various operating system, of them are: Windows XP / Vista / 7/8 / 8.1 / 10, Mac OS X (Mac OS X 10.48 or later) and Linux [4]
   Making application which will be made application basing android, devoted because the average mobile users in a Bandung city is based android so intended to ease application can be downloaded.
2) *Ios:*
   iOS is an operating system developed by the cellular phone company Apple iphone , but evolved to can be used to with tools apple the other like iPod Touch , Apple TV and iPad.sistem this operation is spatially closed and can only be utilized by a device apple [5]
   Some women career in a bandung city used the cell phone basing iOS.So this design covering iOS based program.

C. *Year 4*

1) *Web Service:*
   Web service is used for the management application in this matter is part of admin.Where admin will manage data and function that is in application, both in added, replace, remove, and reduce data [6]
2) *Microservices:*
   To adjust programming language and technology and function (facilities built) will use mircoservices so applications can play out quickly and accurate [7]
3) *Architecture Framework:*
   In making this application built architecture framework so that commonly known modules function application can be well integrated [8]. Following architecture framework to be built for application is presented in figure 2 architecture framework.

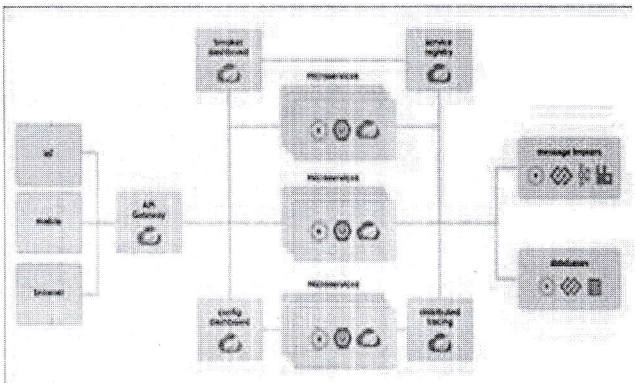

Figure 2 Architecture Framework

D. *Year 5.*

In this case the goal is made centralized reporting is any activity undertaken by all systems or recorded data on the system will be created reports automatically so that it is illustrated all the data surrounding each part.

The report to be made is divided into 3 parts ie

1) *Incoming report:*
   This report covers the number of data acting as child nurses, data on the number of women / housewives who entrust children, data on the number of children entrusted. data on child care services, child care data,
2) *Outbound report:*
   This report consists of data on the number of services used by housewives / women, child care data, customer complaints / complaints data.

ease of the community in accessing the application. So it can be used directly by the community

4) *Fourt Year;*
The year in which it will integrate GO-BABY android system appication and iOS system with centralized database. If previously the application separated its data storage. So for improvements are both applications are built through a centralized storage so that the data generated can be made data intact and accurate.

5) *Fifth Year:*
a. Report Creation
After the integration is successful, the last step is the creation of an application reporting system, the goal is that the resulting report can provide useful information for the community or as a community evaluation to the system that has been applied
b. Scientific Journal Report
Scientific Journal Report is conducted so that the system built into one solution that can be pursued by the community as a solution that made the answer to the problems that occur especially for child care issues.

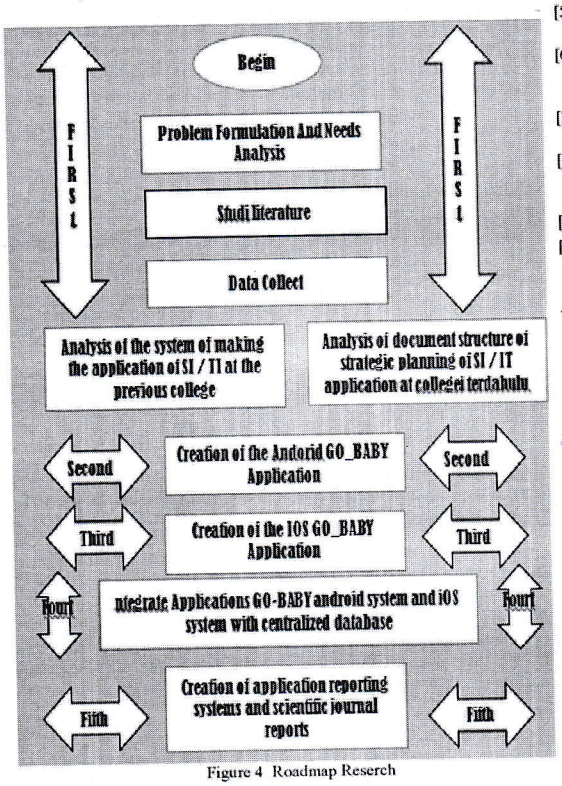

Figure 4 Roadmap Reserch

ACKNOWLEDGMENT *(Heading 5)*

To thank DPRM DIKTI Directorate of Research and devotion to the public education and culture ministry as it has been granted the funds for this research activity, and to UNIKOM who are willing to participate in providing support facilities for the research activities.

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III. USING THE TEMPLATE

So based on the research will aim to build the problem of this research can be explained through photographs 3

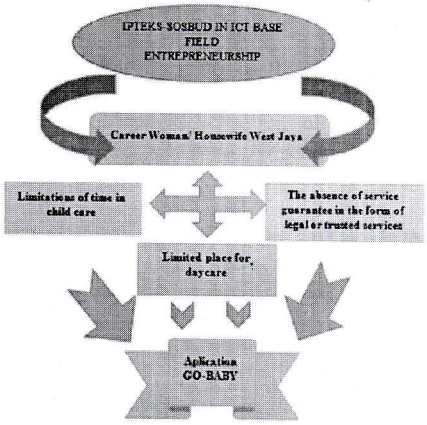

Figure 3 Proposed Troubleshooting Flow

A. *Troubleshooting Proposed*

Placement applications is intended because the problem in the greater bandung, among others:

1) The amount of increase in woman career in a city bandung:

Of the needs and price of basic needs which risen by the end of a matter of common concern the images of the woman / housewives correlation between how much time to working to help their families [9].

Year	Number of Households(Thousand)
2002	10207
2003	10545
2004	11324
2005	10185
2006	10364
2007	10556.2
2008	10708.1
2009	10860.7
2010	11540
2013	12104.3
2014	12244.2
2015	12415.4

2) To restrictions in child care:

Ascertained if a woman have to work, so many of the other problems what emerges is who and how to child care, if have a family, then the impact of this is that has been a problem prolonged in a family [10]

3) *The limited daycare and facilities for children:*

The solution which is in the community and submit his son in baby sitter is apparently causing new problem who makes women / mother of households do not believe or fear submit his son , because many cases that occurred in the town of bandung , about child abuse , kidnapping and other .This is excuses the absence of insurance legally about services for children [10].

B. *Aplication Proposed.*

From trouble above then the researcher plans to design application for the purpose of among others:

1. Providing some facilities in the form of go-baby application that provide services to the community especially of a woman career and housewives in the problem of between the division of responsibility for the children of working time and.
2. By the presence of application GO-BABY so it can improve the integrity of career woman and housewives in order to maximize its performance in the company or place in work:
3. By among other things providing job opportunities especially to the people living indonesian network of women who do not have job or provided additional income
4. Can increase regional income and reduce unemployment especially for the government west java

C. *Roadmap Research.*

At the time of building the system needed a roadmap research to build the basic concept of making the system.

1) First Years:

a. Problem formulation and needs analysis
In making problems based on the problems that occur in the community of West Java, especially for those in the city of Bandung so that researchers can describe what needs are needed in answering the problems that occur in society

b. Study of literature
The literature study conducted is to conduct comparative observations through direct visits to the community and search for supporting data through the source of books and libraries

c. Data collection.
The resulting output is as follows:

1. Analysis of the system of making the application of IS / IT at the previous college.
This process is required as a benchmark for measuring existing systems, and to what extent community needs are well realized.
2. Analysis of document structure of strategic planning of SI / IT application at college
Create lists of IT / Application technologies tailored to the existing problems so that the technology used is the most recent technology, which takes place in a real society.

2) Second Year:

This year, the Andorid GO_BABY Application Development phase. This is done because people are generally already using mobile applications, so this creation has an impact on the ease of the community in accessing the application. So it can be used directly by the community

3) Third Year:

In this year's Go-Baby Application Generation stage. This is done because people are generally already using mobile applications, so this creation has an impact on the

ANALYSIS OF THE APPROACH DESIGN E-BUSINESS APLLICATION GO-BABY as INFORMATION SYSTEMS CHILD CARE

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SISTEM INFORMASI AKADEMIK SMP ANGKASA LANUD HUSEIN SASTRANEGARA BANDUNG

Dody Destriady[1], R.Fenny Syafariani[2]
[1]
Program Studi Sistem Informasi,
Fakultas Teknik dan Ilmu Komputer
Universitas Komputer Indonesia
dodydestriady@gmail.com, r.fenny.syafariani@email.unikom.ac.id

ABSTRACT

The academic information system is a system that provide an information which obtained from processing academic data. It is important having information system in the school. In this case, Angkasa Junior High School became the place of research, because of the current system used in that school has not manage properly, so that, it often give the difficulties in completion of some academic procedures such as registration, student data management, class distribution, scheduling, scoring, attendance, and paying the tuition fees or entrance fees for new students. The aim of this research is to develop a new computerized procedure.

The approach methods used are structured and Waterfall development methods. The design research using descriptive and quantitative methods. The methods of data collection using the techniques of interview, observation, and literature studies. The research tools used to describe the system in this application are the flow map, context diagram, DFD, data dictionary, and database design. This application is created using the JAVA programming language and MySQL database.

The generated software is named SIAKSA. SIAKSA expected to provide the facilities for teachers in completing the academic procedures, as well as minimize the errors occurrence in data recording and making that data be integrated, safe and secure.

***Keywords**: procedures, academic, information system, Java*

ABSTRAK

Sistem Informasi Akademik merupakan sistem yang dapat memeberikan informasi yang didapat dari hasil pengolahan data akademik. Penting adanya sistem informasi bagi sekolah. Dalam hal ini, SMP Angkasa dijadikan tempat penelitian, karena sistem yang kini digunakan belum terkelola dengan baik sehingga seringkali mempersulit dalam penyelesaian prosedur – prosedur akademik yang ada seperti, pendaftaran, pengelolaan data siswa, pembagian kelas, penjadwalan, penilian, absensi, dan pembayaran SPP atau PPDB. Tujuan dari penelitian ini adalah untuk mengembangkan prosedur baru yang terkomputerisasi.

Metode pendekatan yang digunakan adalah terstruktur dan metode pengembangan *Waterfall*. Desain penelitian menggunakan metode deskriptif dan kuantitatif. Metode pengumpulan data menggunakan teknik wawancara, observasi, dan studi litelatur. Alat bantu penelitian yang digunakan untuk menggambarkan sistem pada aplikasi ini yaitu flow map, diagram konteks, dfd, kamus data, dan perancangan basis data. Aplikasi ini dibuat menggunakan bahasa pemrograman *JAVA* dan database *MySql*.

Perangkat lunak yang dihasilkan diberi nama SIAKSA. SIAKSA diharapkan dapat memberikan kemudahan bagi guru dalam menyelesaikan prosedur akademis, serta meminimalisir terjadinya kesalahan dalam pencatatan data dan membuat data tersebut menjadi terintregasi, aman dan terjamin.

Kata kunci : *prosedur, akademis, sistem informasi, Java*

I. PENDAHULUAN

1.1. Latar Belakang Penelitian

Sistem Informasi merupakan suatu teknologi yang fungsinya yaitu untuk mengolah suatu dan menjadikan sebuah Informasi untuk

diberikan kepada penggunanya. Data tersebut didapatkan baik dari penggunanya langsung atau dari pihak ketiga, data itu sendiri merupakan fakta fakta yang belum memiliki nilai atau arti. Dari penjelasan Sistem Informasi tersebut, maka banyak pekerjaan yang dapat menggunakan fungsi dari Sistem Informasi tersebut. Sistem Informasi yang saat ini ada, digunakan oleh organisasi yang mampu secara materil untuk membeli Sistem Informasi tersebut, seperti Hotel, Toko, Sekolah, dan organisasi lainya. Contoh sekolah menerapkan Sistem Informasi untuk mengolah data nilai siswa yang kemudian dijadikan Informasi berupa raport.

Sekolah setiap tahunya akan membuka pendaftaran dan meluluskan siswanya. Dimulai dengan pendaftaran, calon siswa tersebut akan menjalani serangkaian prosedur, untuk Negeri umumnya terdapat penyeleksian seperti nem atau pun tes, sedangkan swasta tidak terdapat penyeleksian. Kemudian setelah calon siswa diterima, pihak sekolah akan melakukan pembagian kelas dimana pembagian kelas tersebut memiliki beberapa indikator seperti asal sekolah, nama, dan lainya. Kemudian terbitlah absensi sesuai dengan pembagian kelas tersebut, kemudian dari absensi tersebut dapat ditentukan jadwal melakukan SPP. Sekolah kemudian membuat jadwal pembelajaran pertingkat yaitu 1, 2, 3, dan seterusnya. Dalam pembelajaran setiap guru diwajibkan memberikan nilai untuk mata pelajaran pada akhir semester, dari nilai tersebut akan menentukan keputusan bahwa siswa tersebut naik/lulus atau gagal/harus mengulang.

Dari penelitian yang dilakukan di Sekolah Swasta yaitu SMP Angkasa Lanud Husein Sastranegara, yang berlokasi di Jl. Pajajaran no.151. Kel. Husein sastranegara, Kec. Cicendo, Jawa Barat, Bandung, ini juga menggunakan prosedur yang serupa. Beberapa dari prosedur tersebut cukup menyita waktu guru dari kesibukan pekerjaan yang lainya. Siswa di SMP Angkasa di bagi menjadi beberapa kategori diantaranya :

1. Kategori 1 = UMUM
2. Kategori 2 = Putra/Putri TNI AU / Bintara
3. Kategori 3 = Putra/Putri TNI AU / Perwira
4. Kategori 4 = Putra/Putri YASARINI

Masing - masing kategori tersebut memiliki perbedaan dalam biaya sekolahnya tergantung ketentuan dari pihak sekolah. Siswa disortir sesuai kategori tersebut ketika melakukan pendaftaran penerimaan siswa baru.

Dimulai dari prosedur pendaftaran yang digunakan di SMP Angkasa, yaitu sekolah membuka pendaftaran di lingkungan sekolah, kemudian calon siswa mendaftar langsung ke loket pendaftaran yang terletak di lingkungan sekolah dengan menyertakan persyaratan yang di tentukan dan mengisi formulir yang diberikan oleh petugas pendaftaran. Kemudian pihak sekolah mencatat pendaftar dan menuliskan nomor pendaftaran secara manual, pendaftaran akan ditutup apabila kuota yang tersedia di SMP Angkasa telah mencukupi. Setelah menjalani pendaftaran siswa otomatis di terima di SMP Angkasa, pihak sekolah akan menghubungi para orang tua siswa bahwa siswa tersebut diterima. Data pendaftar tersebut kini berubah menjadi data siswa tingkat 1, data siswa tingkat 1 tersebut selanjutnya akan digunakan untuk melakukan pembagian kelas.

pembagian kelas di SMP Angkasa dilakukan setiap tahun ajaran baru dengan kata lain setiap kelas pada tingkat 1 setelah naik pada tingkat 2 kelasnya akan dibagi kembali sesuai dengan data siswa tingkat 2, begitu juga dengan tingkat 2 ke tingkat 3 dan pendaftar yang telah diterima di SMP Angkasa. Pemabgian kelas di SMP Angkasa sendiri melalui beberapa proses dengan indikator - indikator yang telah ditentukan, indikator tersebut antara lain Nem, asal sekolah untuk siswa yang baru diterima menjadi kelas 1, Nama, jenis kelamin, peringkat, dll. Setiap indikator yang telah ditentukan tidak boleh ada kesamaan pada setiap kelas yang dibagi, contoh siswa bernama Mohammad pada kelas 1A diusahakan tidak boleh ada siswa dengan nama yang sama, apabila terpaksa harus sama maka nama akhirnya menjadi patokan dalam pembagian kelas. Proses tersebut dilakukan oleh pihak sekolah dengan menyortir secara satu per satu oleh satu orang guru yang diperintahkan kepala sekolah baik itu kelas 1,2, dan 3.

Setelah pembagian kelas selesai maka lanjut kepada prosedur selanjutnya yaitu menentukan jadwal pembayaran SPP perbulan serta penjadwalan mata pelajaran. Hasil dari pembagian kelas adalah absensi siswa perkelas, dari absensi ini lah pihak sekolah dapat memantau pembayaran siswa SPP, absensi ini juga dijadikan indikator untuk melakukan proses penjadwalan mata pelajaran.

Prosedur penjadwalan ini memiliki beberapa indikator antara lain, Jam pelajaran, Kelas, dan pengajuan Jam guru. Maksud dari pengajuan jam guru adalah setiap guru diberikan jatah oleh pihak sekolah berupa jam - jam yang tidak bisa mengajar. Dari indikator - indikator tersebut guru yang diperintahkan untuk membuat jadwal mata pelajaran, mengawali prosesnya dengan melihat pengajuam jam guru, kemudian menentukan jam guru tersebut mengajar, setiap

mata pelajaran tidak boleh ada guru dan jam yang sama pada kelas yang berbeda. Di SMP Angkasa ini terdapat 2 bagian jam masuk jam pagi yaitu untuk kelas tingkat 3 dan 2, kemudian jam siang untuk kelas tingkat 2 dan 1, untuk kelas 2 mendapatkan jadwal masuk sekolah pagi dan siang, dimana kelas 2 yang masuk pagi setelah akhir semester ganjil akan dipindahkan ke jam siang, begitupun sebaliknya. Dari jadwal yang telah berhasil terbentuk, maka setiap guru yang mengajar mata pelajaran dengan kelas yang di ajar, dapat memasukan nilai ketika proses pembelajaran selama berlakunya jadwal tersebut. Nilai ini dicatat oleh guru sesuai kelas yang diajarnya, ketika akhir semester guru tersebut memberikan hasil rekapan nilai kepada wali kelas yang kemudian akan dibuat dalam raport setiap siswa. Raport ini berisikan nilai - nilai yang didapat siswa permata pelajaran serta deskripsi dari kelakuan siswa tersebut dilingkungan sekolah, serta keputusan naik tidaknya siswa.

Kepala sekolah membutuhkan laporan untuk dapat membuat keputusan untuk keberlangsungan sekolah, laporan tersebut didapat dari beberapa prosedur yang telah dijelaskan diatas. Laporan ini dapat berupa laporan keuangan, laporan kesiswaan, dan laporan pendaftar. Kepala sekolah untuk mendapatkan laporan harus meminta terlebih dahulu kepada guru yang bersangkutan yang diberikan kewenangan untuk memegang setiap prosedur akademik tersebut.

Sesuai dengan hasil dari penelitian di SMP Angkasa Lanud Husein Sastranegara, peneliti menemukan beberapa prosedur yang dinilai kurang efektif dalam pelaksanaanya. Oleh karena itu peneliti mengusulkan membuat sebuah Sistem Informasi berbasis komputer yang saling terintregasi guna untuk meningkatkan efektifitas, dan memaksimalkan prosedur yang telah ada. Usulan tersebut akan di sajikan dalam penelitian dengan judul "**SISTEM INFORMASI AKADEMIK SMP ANGKASA LANUD HUSEIN SASTRANEGARA BANDUNG**".

1.2. Identifikasi Dan Rumusan Masalah

1.2.1. Identifikasi Masalah

Berdasarkan latar belakang penelitian yang telah diuraikan diatas, maka peneliti dapat mengidentifikasi masalah yang sedang dihadapi, sebagai berikut:

1. Prosedur - prosedur yang diterapkan di SMP Angkasa, seperti prosedur pendaftaran peserta didik baru, pembagian kelas, penjadwalan mata pelajaran, perhitungan nilai, perhitungan pembayaran SPP dan cicilan PPDB, serta pembuatan laporan dilakukan secara manual, dan dikerjakan oleh orang yang berbeda.
2. Data yang didapat dari hasil prosedur yang dilakukan belum disediakan media penyimpanan yang saling berintregasi antar prosedur tersebut. Hal ini dinilai kurang efektif dan efisien, karena data tersebut disimpan dalam dokumen biasa tanpa adanya *Database*.
3. Karena prosedur yang dilakukan tanpa menggunakan aplikasi khusus serta tanpa disediakanya *Database*, maka data tidak konsisten serta kesamaan data atau redundancy data dapat terjadi, karena setiap prosedur yang ada dikerjakan oleh orang yang berbeda.

1.2.2. Rumusan Masalah

Dari permasalahan yang telah teridentifikasi, selanjutnya akan ditentukan rumusan masalahnya, sebagai berikut:

1. Bagaimana pelaksanaan proses dari setiap prosedur yang diterapkan di SMP Angkasa?
2. Bagaimana pelaksanaan proses pengolahan data untuk setiap prosedur yang dilakukan di SMP Angkasa?
3. Bagimana merancang sebuah aplikasi yang saling terintregasi, untuk dapat digunakan dalam pengolahan data di SMP Angkasa?

1.3. Maksud Dan Tujuan Penelitian

1.3.1. Maksud Penelitian

Maksud dilakukan penelitian ini adalah untuk memaksimalkan prosedur di SMP Angkasa yang saat ini masih dilakukan secara manual, dengan membuat sistem informasi secara tekomputerisasi dan teringtregasi untuk mempermudah mendapatkan informasi, mempermudah pekerjaan, dan meminimalisir kesalahan.

1.3.2. Tujuan Penelitian

Tujuan yang ingin dicapai dalam penelitian ini adalah untuk memaksimalkan prosedur di SMP Angkasa yang masih dilakukan dengan manual, dengan membuat suatu sistem informasi berbasis desktop untuk mengerjakan prosedur tersebut lebih efektif dan efisien. Berikut akan dijelaskan lebih mendetail dari tujuan tersebut :

1. Untuk mengetahui bagaimana proses dari setiap prosedur yang sedang di SMP Angkasa Lanud Husein Sastranegara. Dengan melakukan observasi secara langsung serta wawancara dengan pihak sekolah.

2. Untuk dapat membuat sistem informasi yang mengintregasikan antar prosedur yang ada. Sistem informasi tersebut berbentuk aplikasi yang dapat dioperasikan dengan mudah dan cepat oleh guru, yang mampu menyelesaikan tugas dengan lebih effektif dan efisien. Setiap tugas tersebut memiliki beberapa indikator yang telah disepakati. Sistem ini juga mampu membuat laporan untuk kepala sekolah menentukan keputusan yang akan di ambil demi keberlangsungan sekolah.
3. Untuk melakukan pengujian sistem informasi akademik di SMP Angkasa.
4. Untuk mengimplementasikan sistem informasi akademik di SMP Angkasa.

1.4. Kegunaan Penelitian

Terdapat 2 kegunaan penelitian antara lain kegunaan praktis serta kegunaan akademis, berikut adalah kegunaanya :

1.4.1. Kegunaan Praktis

Bagi SMP Angkasa Lanud Husein Sastranegara, hasil dari penelitian ini semoga dapat berguna untuk meningkatkan effektifitas tugas guru serta akademis.

Bagi peneliti, seluruh rangkaian kegiatan dan hasil penelitian diharapkan dapat lebih memantapkan penguasaan ilmu sistem informasi yang telah dipelajari di UNIKOM bandung.

1.4.2. Kegunaan Akademis

Bagi perguruan tinggi, hasil penelitian ini diharapkan dapat menjadi dokumen akademik yang berguna untuk mahasiswa lain yang menjalani mata kuliah skripsi atau sebagai acuan bagi yang membutuhkan.

1.5. Batasan Masalah

Untuk dapat mencapai sasaran dalam melakukan penelitian ini, maka permasalahan akan dibatasi sebagai berikut :

1. Penelitian ini membahas mengenai pengolahan data yang meliputi, PPDB (Pendaftaran Peserta Didik Baru), pembagian kelas, penjadwalan mata pelajaran, perhitungan pembayaran SPP, perhitungan Nilai, serta laporan keuangan dari prosedur - prosedur tersebut.
2. Perangkat lunak yang dihasilkan berupa perangkat lunak offline,
3. Penelitian ini dirancang dengan metode pendekatan terstruktur dengan metode pengembangan *Waterfall*,
4. Aplikasi dari hasil penelitian ini berbasis desktop dengan bahasa pemrograman *JAVA* dan Database *MySql*.

II. KAJIAN PUSTAKA

2.1. Pengertian Sistem

Sistem adalah hubungan satu unit dengan unit-unit lainnya yang saling berhubungan satu sama lainnya dan yang tidak dapat dipisahkan serta menuju satu kesatuan dalam rangka mencapai tujuan yang telah ditetapkan. [2]

2.2. Pengertian Informasi

Informasi adalah data yang telah diproses atau diolah kedalam bentuk yang berarti untuk penerimanya dan merupakan nilai yang sesungguhnya atau dipahami dalam tindakan atau keputusan yang sekarang atau nantinya. [2]

2.3. Pengertian Sistem Informasi

Sistem informasi yang dikutip dari buku yakub pengantar sistem informasi adalah sistem informasi merupakan kombinasi teratur dari orang-orang, perangkat keras (*hardware*), perangkat lunak (*software*), jaringan komunikasi, dan sumber daya data yang mengumpulkan, mengubah,dan menyebarkan informasi dalam sebuah organisasi. [6]

2.4. Komponen Sistem Informasi

Komponen system informasi sebagai berikut:

a. Input
   Semua data yang dimasukan ke dalam system informasi, dalam hal ini yang dimaksud adalah dokumen, formulir-formulir,dan file-file
b. Proses
   Proses merupakan kumpulan prosedur yang akan memanipulasi input yang kemudian akan disimpan dalam basisdata dan seterusnya
c. Output
   Merupakan semua keluaran atau hasil dari model yang sudah diolah menjadi suatu informasi yang berguna dan dapat dipakai penerima. [4]

2.5. Pengertian Akademik

Kata akademik berasal dari bahasa Yunani yakni *academos* yang berarti sebuah taman umum (plasa) di sebelah barat laut kota Athena. Nama *Academos* adalah nama seorang pahlawan yang terbunuh pada saat perang legendaris Troya. Pada plasa inilah *filosof Socrates* berpidato dan membuka arena perdebatan tentang berbagai hal. Tempat ini juga menjadi tempat *Plato* melakukan dialog dan mengajarkan pikiran-pikiran filosofisnya kepada orang-orang yang datang. Sesudah itu, kata *academos* berubah menjadi akademik, yaitu semacam tempat perguruan. Para pengikut perguruan tersebut disebut *academist*, sedangkan perguruan semacam itu disebut *academia*.

Berdasarkan hal ini, inti dari pengertian akademik adalah keadaan orang-orang bisa menyampaikan dan menerima gagasan, pemikiran, ilmu pengetahuan, dan sekaligus dapat mengujinya secara jujur, terbuka, dan leluasa. [1]

2.6. Pengertian Sistem Informasi Akademik

Dikutip dari buku Sistem informasi akademik dapat diartikan aplikasi untuk membantu memudahkan pengelolaan data-data dan informasi yang berkaitan dengan instansi pendidikan. [3]

III. OBJEK DAN METODE PENELITIAN

3.1. Objek Penelitian

Objek penelitian adalah suatu atribut atau sifat nilai dari orang, objek atau kegiatan yang mempunyai variasi tertentu yang ditetapkan oleh peneliti untuk dielajari dan kemudian ditarik kesipulan. Objek dari penelitian "Sistem Informasi Akademik SMP Angkasa Lanud Husein Sastranegara Bandung", ini adalah SMP Angkasa Lanud Husein Sastranegara Bandung. Untuk melengkapi objek penelitian ini akan diuraikan sejarah, visi dan misi, profil sekolah, Struktru organisasi dan deskripsi tugas. [5]

3.2. Metode Penelitian

3.2.1. Desain penelitian

Metode penelitian yang digunakan adalah metode deskriptif dan kuantitatif. Deskriptif merupakan penelitian yang dilakukan untuk mengetahui nilai variable mandiri, baik satu atau lebih variable (independen) tanpa membuat perbandingan, atau menghubungkan dengan variable lain. Sedangkan kuantitatif adalah penelitian dengan memperoleh data yang berbentuk angka atau data kualitatif yang diangkakan.

3.2.2. Jenis dan Metode Pengumpulan Data

3.2.2.1. Sumber Data Primer

Metode pertama yang digunakan dalam penelitian ini adalah observasi. Observasi adalah sebuah metode atau teknik yang dilakukan untuk mengumpulkan data dengan cara melakukan pengamatan secara langsung. pengamatan yang dilakukan oleh peneliti di SMP Angkasa adalah untuk mengetahui permasalahan – permasalahan yang sebenarnya atau sedang terjadi yang berhubungan dengan pembahasan yang akan diteliti.

Metode penelitian yang digunakan kedua adalah Wawancara. Peneliti melakukan pengumpulan data dengan mengajukan beberapa pertanyaan kepada pihak yang telah ditentukan oleh SMP Angkasa, pertanayaan tersebut berhubungan dengan pembahasan yang sedang diteliti.

3.2.2.2. Sumber Data Sekunder

Kemudian data lain yang digunakan adalah sumber data sekunder. Sumber data sekunder, merupakan data yang diperoleh dari sumber lain seperti dokumen perusahaan atau dengan melakukan study litelatur lewat media internet atau dari buku bacaan, karya ilmiah dengan disertakan sumber tersebut dalam penelitian ini. Adapun dokumen yang telah diberikan oleh pihak sekolah untuk dilakukan penelitian antara lain Data siswa tahun ajaran 2015 / 2016, data guru, profil sekolah, dan dokumen lainya.

3.2.3. Metode Pendekatan Dan Pengembangan Sistem

3.2.3.1. Metode Pendekatan Sistem

Metode yang digunakan dalam penelitian ini yaitu metode pendekatan terstruktur, metode ini menggunakan alat-alat serta teknik dalam melakukan pendekatan untuk melakukan pengembangan sistem yang terstruktur. Tujuan dari metode ini adalah untuk membuat sebuah sistem yang dikembangkan dapat lebih mudah dipahami dan sesuai dengan komponen – komponen yang telah ditentukan.

3.2.3.2. Metode Pengembangan Sistem

Metode pengembangan sistem informasi akademik ini menggunakan metode sekuensial linier (*waterfall*). Metode *Waterfall* merupakan metode pengembangan sistem yang sistematik dan sekuensial yang mulai pada tingkat dan kemajuan sistem sampai pada analisis, desain, kode, test, dan pemeliharaan. Berikut adalah gambaran dari model *Waterfall*.

3.2.3.3. Alat Bantu Analisis Perancangan

Alat tersebut berupa *Data Flow Diagram* (DFD), *Flow Map*, Kamus Data, Tabel relasi, dan diagram konteks.

3.2.4. Evaluasi Sistem Yang Berjalan

Dari analisis tersebut dilakukan evaluasi sebagai yaitu.

*Table **Error! No text of specified style in document.**-2: Evaluasi Sistem Yang Berjalan*

No.	Masalah	Usulan Permasalahan
1	Prosedur - prosedur yang diterapkan di SMP Angkasa, seperti prosedur pendaftaran peserta didik baru, pembagian kelas, penjadwalan mata pelajaran, perhitungan nilai, perhitungan pembayaran SPP, serta pembuatan laporan dilakukan secara manual, dan dikerjakan oleh orang yang berbeda.	Perlunya suatu aplikasi pengolahan data yang akurat, terintegrasi dalam satu penyimpanan data, dan dapat mempercepat dalam proses mengelola data pendaftaran peserta didik baru, pembagian kelas, penjadwalan mata pelajaran, perhitungan pembayaran SPP, serta pembuatan laporan

2	Data yang didapat dari hasil prosedur yang dilakukan belum disediakan media penyimpanan yang saling berintregasi antar prosedur tersebut. Hal ini dinilai kurang efektif dan efisien, karena data tersebut disimpan dalam dokumen biasa tanpa adanya *Database*.	Dibuatkannya suatu aplikasi yang dapat menyelasarkan antara prosedur satu dengan prosedur lainnya serta terintegrasi dalam satu penyimpanan data (*Database*) agar ketika data diperlukan mudah untuk diakases
3	Karena prosedur yang dilakukan tanpa menggunakan aplikasi khusus serta tanpa disediakanya *Database*, maka data tidak konsisten serta kesamaan data atau redundancy data dapat terjadi, karena setiap prosedur yang ada dikerjakan oleh orang yang berbeda.	Perlunya suatu aplikasi pengolahan data yang akurat serta terintegrasi dalam satu penyimpanan data agar tidak adanya redudancy data atau kesamaan data yang tersimpan.

IV. HASIL DAN PEMBAHASAN

4.1. Perancangan Sistem

Perancangan sistem dimulai setelah melakukan tahap analisis dari suatu sistem yang telah berjalan di SMP Angkasa Lanud Husein Sastranegara Bandung. Perancangan sistem dapat didefinisikan sebagai penggambaran atau tahap membuat sketsa dan atau pengaturan dari beberapa sistem atau elemen terpisah kedalam satu kesatuan sistem yang utuh dan dapat berfungsi sesuai dengan harapan.

4.1.1. Tujuan Perancangan Sistem

Perancangan sistem yang dibuat memiliki suatu tujuan yaitu untuk melakukan pengembangan sistem yang telah di analisis sebelumnya. Dalam perancangan sistem ini akan digambarkan suatu rancangan dari prosedur, basis data, antar muka, dan arsitektur jaringan yang akan menjadi panduan dalam tahap pembangunan perangkat lunak, serta rancangan untuk tahapan pengujian perangkat lunak dan implementasi dari sistem atau perangkat lunak yang diusulkan peneliti.

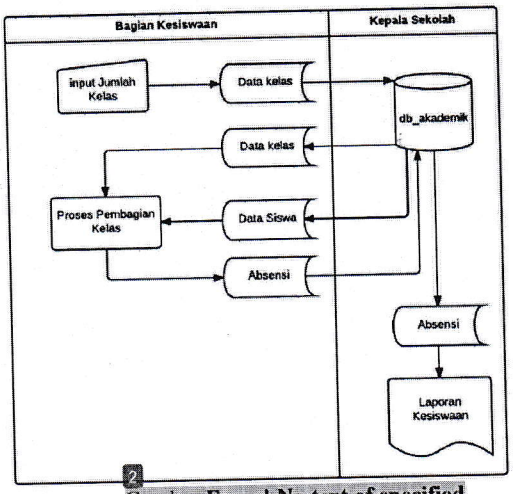
4.1.2. Gambaran Umum Sistem Yang Diusulkan

Perangkat Lunak SIAKSA (Sistem Informasi Akadameik SMP Angkasa) Lanud Husein Sastranegara Bandung, merupakan perangkat lunak berbasis desktop yang menyediakan fitur untuk membantu para guru dalam menyelesaikan aktifitas atau prosedur akademik si SMP Angkasa. Fitur tersebut antara lain, fitur pendaftaran, fitur penerimaan siswa dengan penentuan NIS secara otomatis, Fitur pembagian kalas dan penentuan wali kelas, fitur penjadwalan mata pelajaran, fitur pembayaran SPP dan Cicilan PPDB, dan fitur penilaian.

4.1.3. Perancangan Prosedur Yang Diusulkan

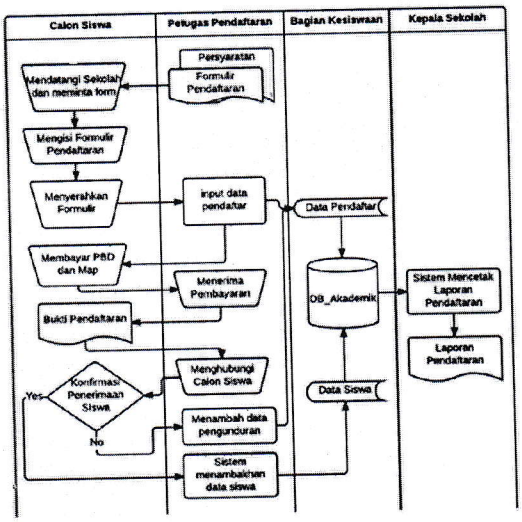
Rancangan sistem yang diusulkan yang mengacu pada analisis yang sedang berjalan. Tujuan dari perancangan sistem adalah untuk mengembangkan sistem lama. Perancangan sistem menggambarkan suatu rancangangan baru dari prosedur, basis data, antar muka, dan arsitektru jaringan. Berikut adalah hasil perancangan sistem informasi akademik SMP Angkasa :

1. Flow Map pembagian kelas



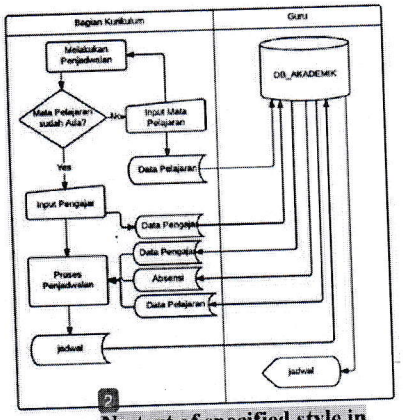
Gambar **Error! No text of specified style in document.** 1. Flow map usulan prosedur pembagian kelas

2. Flow Map pendaftaran



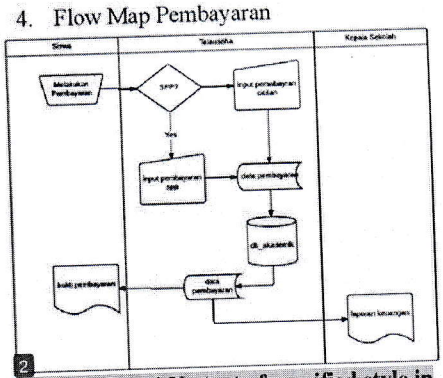
Gambar **Error! No text of specified style in document.**.2. Flow map usulan prosedur pendaftaran

3. Flow Map penjadwalan



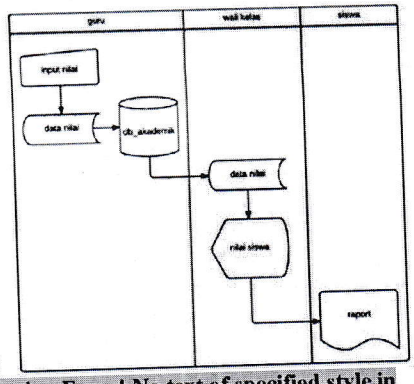
No text of specified style in document..3. Flow map usulan prosedur penjadwalan

4. Flow Map Pembayaran



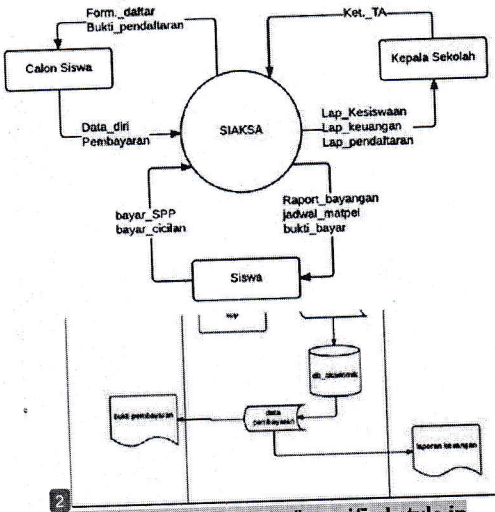
Gambar **Error! No text of specified style in document.**.4. Flow map usulan prosedur pembayaran

5. Flow Map penilaian



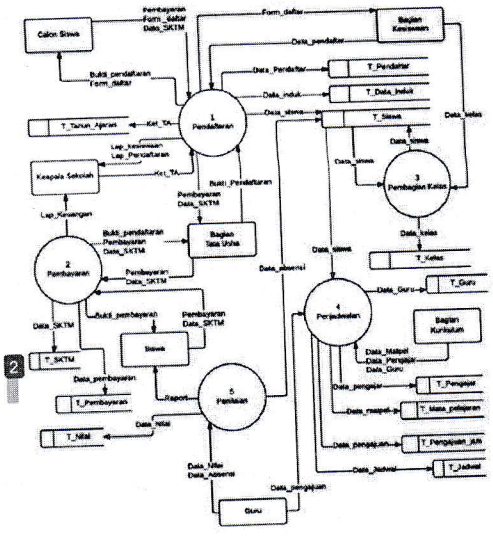
Gambar **Error! No text of specified style in document.** 5. Flow map usulan prosedur penilaian

6. Diagram Konteks



Gambar **Error! No text of specified style in document.** 6. Usulan diagram konteks

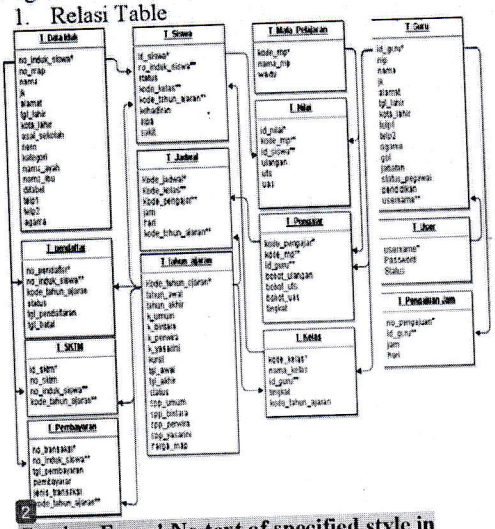
7.



Gambar **Error! No text of specified style in document.**.7. DFD lv 1 yang diusulkan

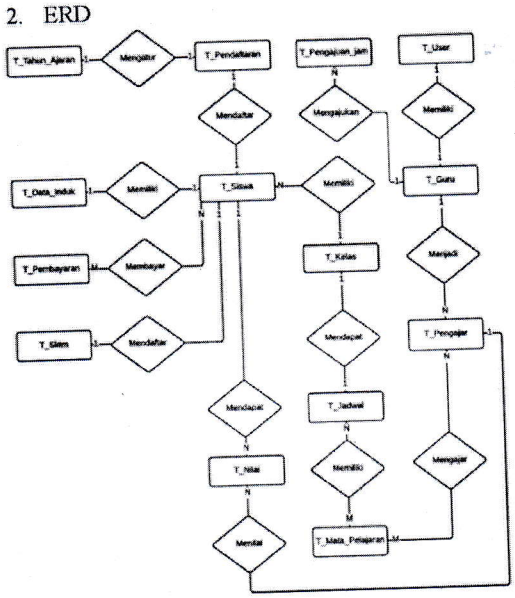
Setelah merancang prosedur kemudain melakukan perancangan basis data, rancangan basis data tersebut dilakukan dengan normalisasi data yang didapatkan dari Diagram Konteks dan DFD, rancagan tersebut sebegai berikut :

1. Relasi Table



Gambar **Error! No text of specified style in document.**.8. Relasi tabel

2. ERD



Gambar **Error! No text of specified style in document.**.9. ERD

V. PENUTUP

Berdasarkan hasil penelitian yang dilakukan di SMP Angkasa Lanud Husein Sastranegara Bandung, mengenai prosedur – prosedur dari sistem akademis yang sedang berjalan, dan teridentifikasi kekurangan yang dapat dianalisis dan dikembangkan lebih lanjut. Oleh karena itu peneliti menyimpulkan penelitian ini sebagai berikut :

1. Prosedur yang dilakukan dapat dikembangkan dengan bantuan perangkat lunak sehingga pekerjaan dapat diselekasikan dengan mudah dan cepat, juga dapat dikerjakan oleh satu orang pengguna.
2. Perangkat lunak tersebut menyediakan database untuk penyimpanan data yang sudah terkomputerisasi
3. Dengan disediakannya database, maka data dari sistem akademis sudah terintregasi antar prosedur, juga data tersebut lebih terjamin.

Dari point – point tersebut maka peneliti mengusulkan sebuah perangkat lunak berbasis desktop yang diberinama SIAKSA (Sistem Informasi Akademik SMP Angkasa) yang diharapkan mampu menutupi kekurangan - kekurangan pada prosedur dari sistem akademis sebelumnya.

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