

# APPLICATION OF SPECIAL WORK EXCHANGE (BKK) INFORMATION SYSTEM BASED ON WEBSITE

(Case Study: At SMK 1 CIKAMPEK)

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**Abstract**---Vocational High School 1 Cikampek is one of the vocational schools in Karawang Regency and the school has 7 engineering majors namely Mechanical Engineering, Automotive Mechanical Engineering, Electronic Engineering, Industrial Automation Engineering, Chemical Analysis Engineering, Electrical Engineering and Agribusiness. Vocational High School 1 Cikampek Already has a Special Work Exchange (BKK), which is a body that handles the problem of the distribution of graduates and job vacancies. But the delivery of BKK Vocational High School 1 Cikampek information is still by sticking to the announcement on the BKK announcement board when there are job vacancies information or test schedules and information from the company. This is a problem for alumni who are home away from school, or are already outside the area, and therefore very much needed a website BKK 1 Vocational High School Cikampek which can be accessed anywhere by alumni. The purpose of this study was to produce a website BKK Cikampek 1 Vocational High School that can be accessed anywhere by alumni. The benefits of this web-based information system is that it makes it easy to deliver work schedule information and test info from the company. Making this information system using the Php programming language with a MySQL database and display using Adobe Dreamweaver to make it more interesting. Making this BKK profile website is useful for BKK Cikampek Vocational High School 1 and alumni.

**Keywords**---design, information systems, special job fairs, website.

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## I. INTRODUCTION

Information technology science is currently experiencing very rapid progress, especially in the field of computer technology. The growing development of information technology in all fields of life, is no exception in the field of education, both primary and tertiary education.

The development of information technology also had an impact on one of the vocational schools in Karawang Regency, namely the Cikampek 1 Vocational High School. One of them is in the field of information technology in the Special Occupation in Cikampek 1 Vocational Middle School. BKK is an institution established in State and Private Vocational Schools as an implementing unit that provides services and job vacancy information and is a partner of the Office of Manpower and Transmigration. Seeing the increasing number of companies in Indonesia. Especially in this Karawang district. SMK as a national education subsystem that is responsible for the preparation of reliable, middle-level human resources oriented to market needs, must be able to develop innovations to influence changing market needs so as to

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realize job satisfaction. BKK SMK is an important component in measuring the success of SMK education because BKK is an institution whose role is to optimize the distribution of SMK graduates and sources of information for job seekers.

Vocational High School 1 Cikampek has not used computer technology, one of which is the Information System in the Special Vocational High School 1 Cikampek (BKK) job market that still uses the old-fashioned way by sticking information on the BKK announcement board when there are job openings, info and test schedules at a company. So that information cannot be conveyed quickly. This is a problem for Alumni who are home away from school, or who are already outside the area. Alumni find it very difficult to get information about job openings that enter through the school BKK. Based on the background of the problem, the authors take the title of the research "Website-Based Special Work Exchange (BKK) Information System Design in the Cikampek 1 Vocational High School".

## II. LITERATURE REVIEW

### Definition of Application

Applications can be interpreted as a software program that runs on a particular system that is useful for helping various activities carried out by humans. In addition to the above understanding, there are many meanings of the word 'Application' expressed by experts. Here are some application definitions according to some quite popular experts:

1. Ali Zaki and Smitdev Community According to Ali Zaki and Smitdev Community, the Application is a useful component as a medium for carrying out data processing or various other activities such as making or processing documents and files.
2. Sri Widiarti According to Sri Widiarti, the Application is a software (software) that served as a front end on a system that is used to manage various kinds of data so that it becomes a useful information for its users and also related systems.

### Understanding the System

According to Edhy Sutanta (2011: 4) System is a group of things or activities or elements or subsystems that work together or are connected in certain ways so as to form a single unit to carry out a function in order to achieve a goal.

Meanwhile, According to Hartono (2011: 35) The system is a group of elements that are integrated with the same intention to achieve a goal.

From the above understanding it can be understood that the system is a collection of components that are interconnected with each other and work together to do a sequence of activities that are interconnected to achieve a certain goal.

### Definition of Information

According to Bambang Hartono (2011: 66) Information is data that has been processed so that it becomes an important form that is useful for the recipient and has uses as a basis for making decisions that can be felt directly or indirectly in the future ".

Meanwhile, according to Ahmad Aidi (2010: 49) Information is data that is processed into a form that is more useful and more meaningful for those who receive it.

### Understanding Information Systems

According to Dr. Azhar Susanto (2010: 22) Information Systems is a collection of sub-systems both physical and non-physical that are interconnected with each other and work together harmoniously to achieve one goal that is processing data into useful information.

Meanwhile, According to Jacob (2012: 17) Information System is a regular combination of people, hardware (hardware), software (software), communication networks and data resources that collect, change and disseminate information within an organization.

So an Information System is a set of people, data and procedures that work together coordinatively to achieve the same goal.

### **Definition of the Internet**

According to Ahmadi and Hermawan (2013: 68) illustrate that the Internet is a global communication network that connects all computers in the world despite different operating systems and machines.

Meanwhile According to Yuhefizar (2008: 1) explains that the Internet is a series of computer network relationships that can be accessed in general around the world, which sends data in the form of data packets based on IP standards. vembria rose handayani, r. w. (2018). web-based job selection registration information system at bkk (special job market) buds of human works in public schools 2 bayumas. evolution journal volume 6 no1.

### **Definition of Website**

Web or site can be interpreted as a collection of pages used to display text information, still or motion pictures, animations, sounds, and / or a combination of all, both static and dynamic that form a series of interrelated buildings, each of which is each connected with a network of pages (Rahmat Hidayat, 2010: 6).

The web can be interpreted as a tool for creating an easy global information system based on hypertext (Simarmata, 2010: 51).

From the above understanding the authors can conclude that the web is a place on the Internet, which presents information in a variety of data formats such as text, images, and even video and can be accessed using a variety of client applications to enable the presentation of more interesting and dynamic information with organized management .

### **PHP (Hypertext Preprocessor)**

PHP is a server-side-scripting language that integrates with HTML to create dynamic web pages. Because PHP is a server-side-scripting the syntax and PHP commands will be executed in the server then the results will be sent to the browser in HTML format. Thus the program code written in PHP will not be seen by the user so that web page security is more guaranteed. PHP is designed to create dynamic web pages, i.e. web pages that can form a view based on the latest requests, such as displaying database contents to web pages. (Arief Rudianto, 2011:43).

PHP is a programming language based on codes (scripts) that are used to process a data and send it back to a web browser into HTML code. (Diar Puji, 2010: 31). From the above understanding the authors can conclude that PHP is the most widely used programming script language at this time. PHP is widely used to program dynamic websites, although it is likely to be used for other uses.

### **MySQL**

MySQL is one type of database server that is very well known and is widely used to build web applications that use databases as sources and data processing. MySQL was developed by a Swedish company called MySQL AB which is currently named Tcx Datakonsult AB around 1994-1995, but the embryo of the code has been around since 1979. Initially Tcx was a software developer and database consultant company, and currently MySQL has been taken over by Oracle Corp. (Arief Rudianto, 2011: 152).

### **FlowChart**

According to Bambang Hartono (2011: 144) Flowchart is a depiction of a graph of steps or sections that show the sequence of procedures of a program and the relationship between processes and their forms.

According to Krismiaji (2010: 105) Flowchart is an analytical technique used to explain aspects of information systems clearly, precisely and logically.

So Flowchart is a picture in the form of a flow chart of the algorithms in a program to express the direction of the program flow.

### **Unified Modeling Language (UML)**

According to Widodo (2011: 6), Unified Modeling Language (UML) is a standard modeling language that has syntax and semantics. While according to Nugroho (2010: 6), UML is a modeling language for systems or software that is object-oriented paradigm.

So Unified Modeling Language UML is a visual language for modeling and communication about a system using diagrams and supporting texts to create a model.

### **Special Employment Exchange**

The Special Occupation Exchange (BKK) is an institution established in the State and Private Vocational High Schools, as an implementing unit that provides services and information on vacancies, implementing marketing, channeling and placement of workers, is a partner of the Department of Manpower and Transmigration.

### **Definition of Special Job Fairs**

Before discussing the notion of a special labor market (BKK), it will be explained in advance about the notion of the labor market. The job market is an institution that carries out its function of bringing together job seekers and labor users for placement (Hermansyah, et al., 2009: 11).

According to the decision of the Director General of Development and Placement of Domestic Workers (Binapendagri), the labor market is an institution that carries out the placement function to bring together job seekers and labor users (2010: 4).

Based on the description above it can be concluded that the labor market is an institution that brings together job seekers and labor users, of course this meeting is related to a job, after conducting the meeting process the job seeker will get a job, otherwise the labor user will get labor new.

The establishment of the job market is also pursued by involving educational institutions in inter-work services. One of the efforts in involving educational institutions in the inter-work service is the existence of a Special Occupation Exchange (BKK).

According to Hermansyah, et al (2009: 11), BKK is a job fair at the Secondary Education Unit, at the Higher Education Unit and at the Training Institute which conducts activities to provide labor market information, register job seekers, provide counseling and counseling for positions as well as the distribution and placement of job seekers .

## **III. RESEARCH METHOD**

## Research Design

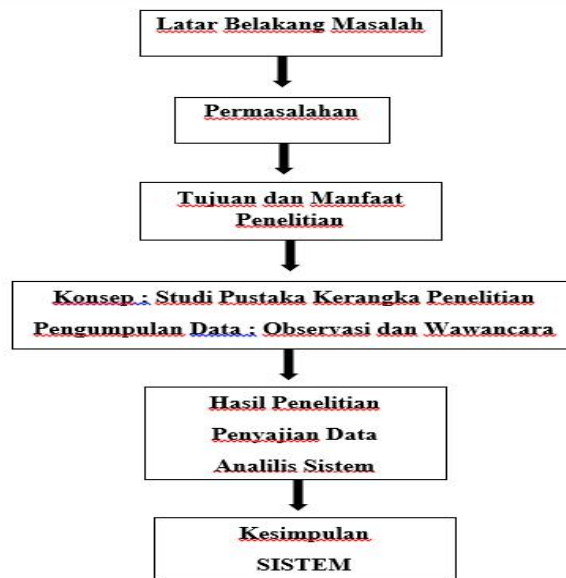


Figure 1. Research Design

### Primary Data

Primary data is a source of data obtained directly from the original source (not through prantara media). Primary data can be in the form of the opinion of the subject (person) individually or in groups, the results of observations of an object (physical), events or activities, and the results of testing

### Research Tools

The tools used to complete this thesis are software and hardware. Here are the software and hardware used

#### A. Software

Software (software) is one of the most important elements in making an application, the following is a list of software needed to create a guidance and counseling system:

Table 1. Software Requirements

No	Kebutuhan	Software
1	Sistem Operasi	Microsoft Windows 7
2	Perambahan/Browser	Google Chrome Mozilla
3	Aplikasi Pendukung	PHP MySQL XAMPP Microsoft Office 2013

## B. Hardware

In the system implementation phase a physical system is needed which is a technological component that can support the author in completing the final project regarding the application of guidance and counseling systems. The hardware required in this paper include the following:

- 1) Personal computer with a Core i.3 processor
- 2) 14 "LCD monitor
- 3) 500 GB hard drive
- 4) Keyboard and mouse
- 5) Epson L210 Printer

## Research Methods

The research method used is the type of qualitative research. Qualitative research is research about research that is descriptive and tends to use analysis. The process and meaning (subject perspective) is more highlighted in qualitative research. qualitative research aims to explain the phenomenon profusely through deep data collection. In general, qualitative research is conducted by interview and observation methods.

## Type of Research

This type of research is a qualitative research field (Field Research). Qualitative research is research that produces descriptive data in the form of words written or spoken from people who can be observed and directed at the natural setting and the individual as a whole.

Qualitative research is research that is used to examine the condition of the object, where the researcher is a key instrument, and research does not produce the treatment of views from data sources.

This research is used to describe everything related to the planning, implementation, evaluation and follow-up of the Special Job Market services at SMK 1 Cikampek.

## Data Collection Methods

The research method used is:

1. Literature Study, which is a technique carried out by studying theories related to knowledge in building an application.
2. Field Study, which is a technique carried out by visiting the research site directly and collecting data. The method used in the field study is

### A. Observation (Observation)

Observation (Observation) is an activity to observe the research object so that it can understand about the research object. Observations were made directly to the special job market at SMK 1 Cikampek by observing the existing work methods and collecting the required data.

### B. Interviews

Interview is a step in research in the form of using verbal communication processes, to gather information from a person or group of people. Interviews were conducted to Mrs. Enok kusmiati as a staff of the special job market and also to alumni, to gather information and find out the problems that exist so as to determine the right solution to the problems that exist.

## System Design Methods

The research method used is the waterfall model. Waterfall consists of several stages of activity flow that goes one direction from the beginning to the end of the system development project.

The waterfall SDLC model provides a sequential or sequential software life-cycle approach starting from the analysis, design, coding, testing, and support stages. Here is a picture of the waterfall model:

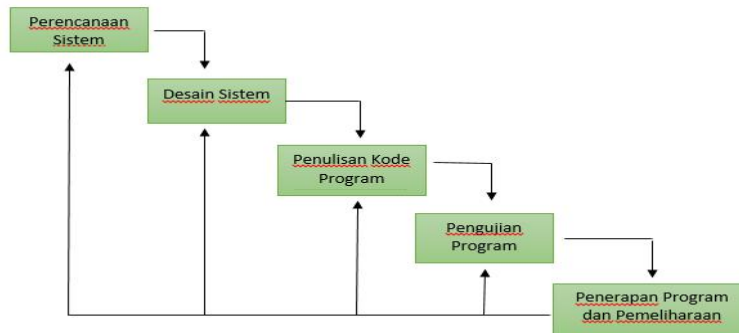


Figure 2. Waterfall Method

#### 1) System Planning

This stage the author requires communication that aims to understand the software expected by the user and the limitations of the software. This information was obtained through interviews, discussions or direct surveys. Information is analyzed to get the data needed by the user.

#### 2) System Design

Stages where the system design is carried out on the solution of existing problems using system modeling tools such as making UML diagrams of specialized labor market information systems and creating databases using MySQL, after that designing a special labor market system design namely master files, inputs, processes, and outputs .

#### 3) Writing the Program Code

In making the program code the author uses the programming languages PHP, CSS, and HTML which are implemented using the Macromedia Dreamweaver application. After the coding is complete it will be tested on the system that has been made.

#### 4) Testing the Program Code

This stage is where the new system is tested for capabilities and effectiveness so that deficiencies and weaknesses in the system are obtained which are then reviewed and improved for better applications. When testing the author's program code with black box testing by conducting simulations and training to users consisting of BKK staff. After the program is tested and there are no more errors in the program code, the user has been able to use it properly

#### 5) Program Implementation and Maintenance

In applications that have been applied the author suggests that there is regular maintenance by way of data backup so that data is stored properly on the system.

## IV. RESULTS AND DISCUSSION

### Analysis of the current system

To find out the current system procedures in the recruitment of prospective workers performed at the BKK SMKN 1 Cikampek. The following is a flowchart of the recruitment process for prospective workers conducted at BKK 1 Cikampek SMKN.

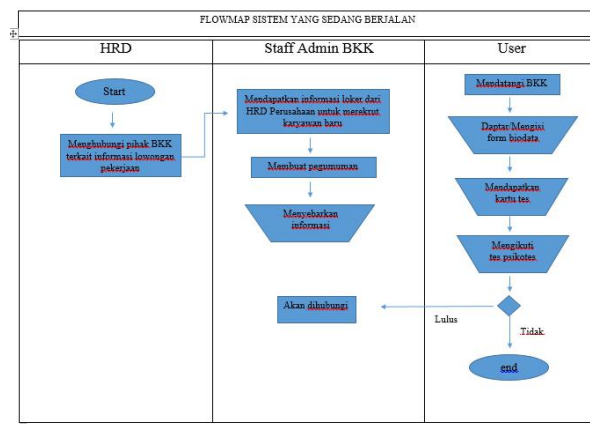


Figure 3. Flowmap flow system that is running

**Information :**

From the picture above, in the current system procedure there are 9 processes as follows:

1. HRD informs BKK Smkn 1 cikampek admin about job vacancies.
2. Admin receives job vacancy information from Hrd company to recruit new employees.
3. Admin will create an announcement information document for the temple on the BKK announcement board.
4. Admin will disseminate information through BKK's WhatsApp or Facebook account.
5. Alumni and job seekers who know the information will usually come directly to BKK Smkn 1 Cikampek.
6. Users register and fill out the registration form to take the test.
7. Users will be given a test card to take the psychological test according to the schedule stated on the test card.
8. Users take the test on the day that has been set.
9. If the user passes it will be contacted by admin bkk to take the interview test and medical check-up.

**Problem Analysis**

The process of informing about job vacancies to alumni is a process normally carried out by BKK SMKN 1 Cikampek in collaboration with several companies to get prospective new employees needed by the company. However, BKK SMKN 1 Cikampek does not yet have a special website so a number of problems emerge as follows:

1. Information cannot be conveyed quickly
2. Alumni find it difficult to get information must come to school to get job information.
3. Staff have difficulty informing information about the alumni who have graduated because they often change their cellphone numbers so that the information does not reach the alumni.

**User Needs**

- a. Admin bkk can spread information precisely and quickly
- b. Admin can make a report without having to do it by copying it back to Ms. Excel.
- c. Alumni can get information quickly without having to come to school to get information
- d. Alumni Can get to companies that open jobs without having to come to BKK



## Application Requirements

In planning based on data collection that has been done, it can be understood that there are website requirements as follows:

1. A website is needed that can help the BKK to disseminate information on existing job openings.
2. To facilitate alumni in obtaining information in the form of job vacancies, obtaining vacancies, and then getting a test schedule.

## Design of Special Keraja Exchange Information Systems

After analyzing the system that is running on Smkn 1 Cikampek. The author will make a website application to help the BKK to be able to formalize information about job vacancies to alumni, and alumni can more easily obtain information about job vacancies without having to come to the Bkk school.

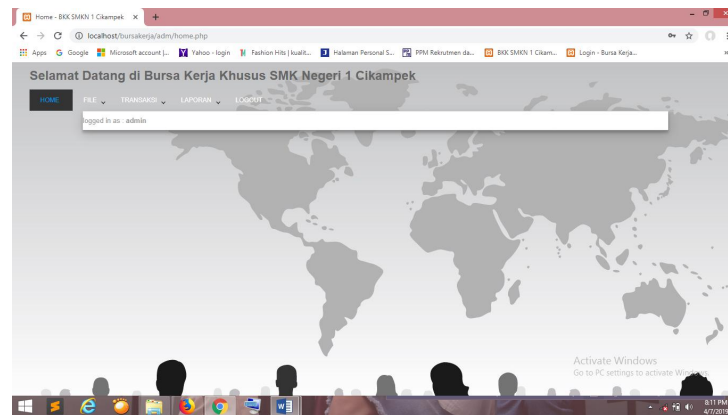


Figure 4. Admin display design

From the picture above it can be understood that the author will create a web application with five menus and consists of sub menus, each of which has a function for data management, the menu menus are:

1. Login
2. Home
3. The file consists of seven sub menus, namely the user sub menu, majors, company, data member, province, city, and city province.
4. Transaction consists of four sub menus, namely the member activation sub menu, vacancies, file selection, and written test selection.
5. Reports consist of a member and Applicants Data sub menu.

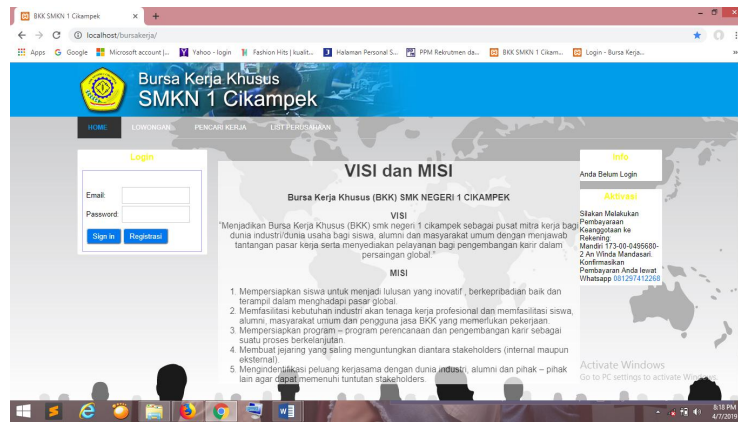


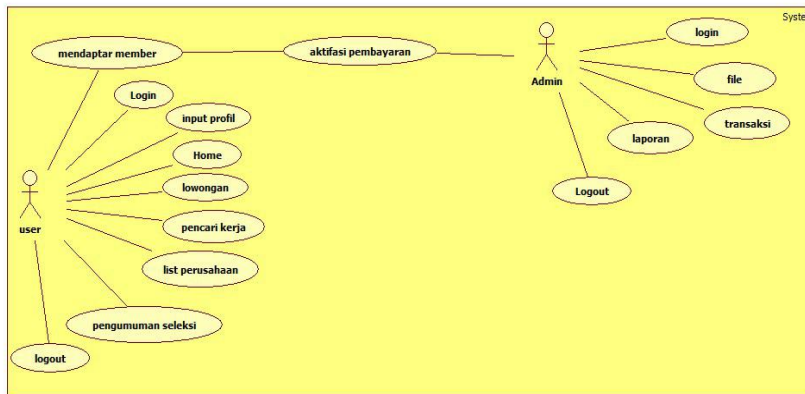
Figure 5. User Display Design

From the picture above it can be understood that the writer will create a web application with four menus that have functions for data management, the menu menus are:

1. Home On the home screen there are several views, namely the login menu, registration, BKK vision and mission, and payment activation information.
2. This display vacancy will bring up various information on job openings that are being opened at Bkk Smkn 1 Cikampek.
3. Job seekers display information on member benefits.
4. The Company List displays information on the names of companies cooperating with BKK Smkn 1 Cikampek.

**Use case diagrams**

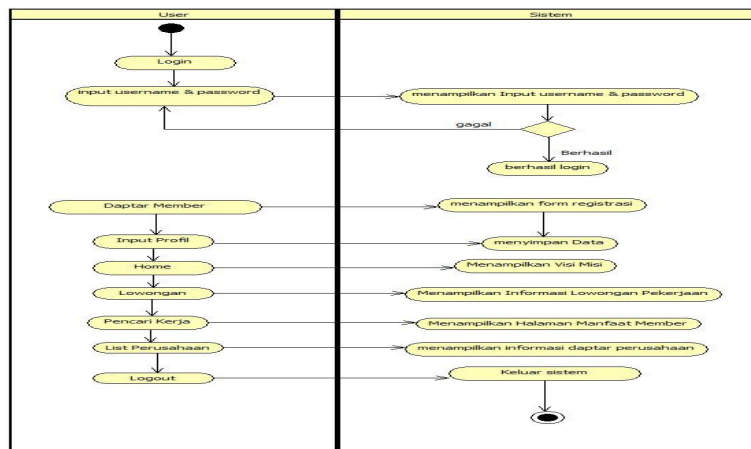
Use case diagrams describe an interaction between one or more actors with the software to be made. There are two main things in the use case diagram, namely defining what is called an actor and use case. The following is an illustration of the use case diagram as follows:



**Activity Diagram**

Activity diagram is a diagram that explains the processes or functions that have been implemented by program code into an image. The following diagram will illustrate the activities that occur in the application.

1. Activity user



From the picture above it can be understood that in order to carry out activities in the system the user must first log in to the website then if not yet registered with the user the user must fill in the form first. Then, it can be continued with other activities according to the flow that has been described.

## 2. Activity Admin

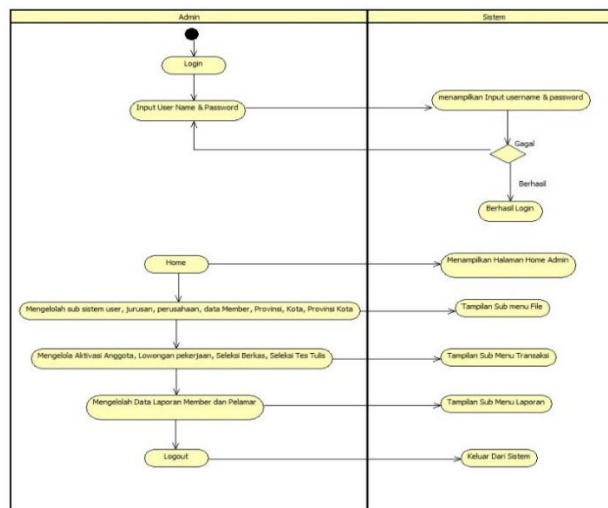


Figure 4.6 Admin Activity Diagram

From the picture above it can be understood that to do activities in the Admin system must first enter the login, then enter your Username and Password. then the system will check the truth of admin data and the system will validate before entering the main page of the system application. Then, it can be continued with other activities according to the flow that has been described.

### 4.5.3 Sequence Diagrams

Sequence Diagrams are diagrams that illustrate interactions between objects in and around the system (including users, displays or forms) in the form of messages that are drawn against time. Following is the Sequence Diagram designed by the author:

#### 1. Sequence Diagram login

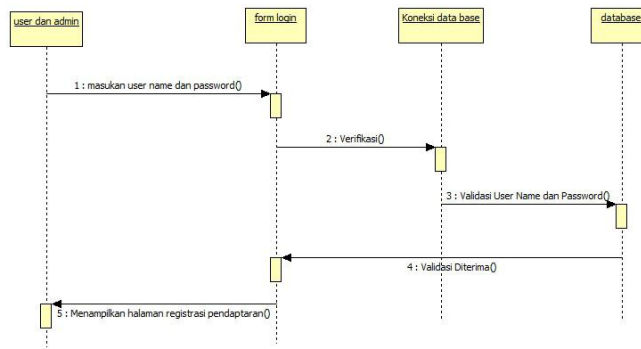


Figure 6. login sequence diagram

In the login sequence diagram above illustrates how the process from the first step admin and user connect to the login menu to check whether the data entered is correct or wrong. Then the query results are valid or invalid on the form, then enter the data page.

## 2. Sequence Diagram registration Member

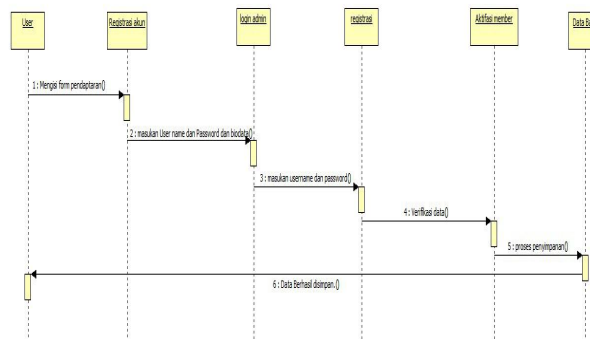
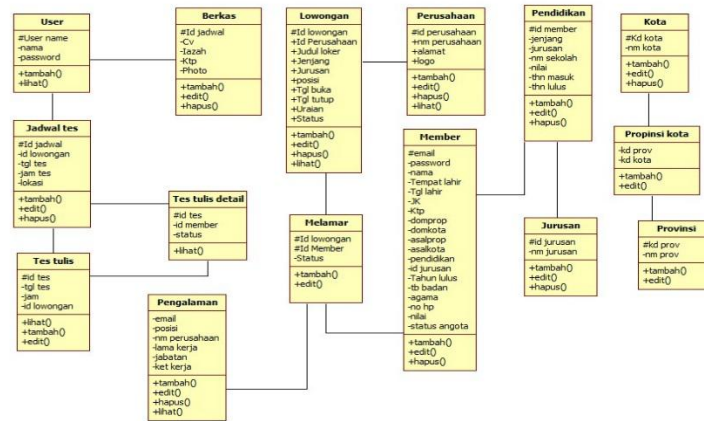


Figure 7. Sequence diagram of registration

In the sequence drawing diagram the member list above explains the stage where the user will get a member then the data will be entered and verified by the admin. After the data is entered and verified, the new user will be able to do other activities.

## Class Diagrams

The author makes a class diagram aimed at a container that describes the structure of objects in the system that is formed from the relationships between classes. The class diagram is as follows:



Gambar 8. Class Diagram

## V. CLOSING

### Conclusions

Based on the description of the results of research and discussions that have been carried out about the design of a special labor market information system (BKK) website based on Smkn 1 cikampek using qualitative research methods conducted in the BKK Smkn 1 Cikampek environment:

- 1) Website-based special job market information system (BKK) design on Smkn 1 cikampek that can be used for processing and controlling job information information, making applicant reports and member reports.
- 2) Website-based special labor market information system (BKK) design on Smkn 1 cikampek was built using the Waterfall system development method.
- 3) The design of a website-based special labor market information system (BKK) on Smkn 1 cikampek is based on an analysis of existing problems using a qualitative research method to analyze the system that is running at BKK Smkn 1 Cikampek
- 4) The design of a website-based special labor market information system (BKK) on Smkn 1 cikampek can make it easier for admins to disseminate job information, and users will find it easier to get information without having to come to BKK.

### 5.2 Suggestions

After implementing and testing the website-based special labor market information system design (BKK) on Smkn 1 cikampek, suggestions that may be useful for future system developers include:

- 1) It is recommended to be able to create a more attractive system display design such as color and responsive appearance.
- 2) Develop and add other features needed by special job fairs.
- 3) Add chat feature between admin and user.

## REFERENCES

- [1] Aidi, Ahmad. 2010. Management Information System. Yogyakarta: Andi Publisher
- [2] A, A. D. (2012). job market management information system for Jakarta state polytechnic students. elite electro scientific journal vol.3, no.2.
- [3] Aslam Fatkhudin, I. R. (2015). Job fair information system in the web-based labor and transmigration social services city of Pekalongan. science and technology journal vol 8 no 1.
- [4] Dennis et al. 2012. Systems Analysis & Design With UML Version 2.0 An Object Oriented Approach 4Th Edition. McGraw-Hill Book: John Wiley & Sons.

- [5] Farid Hamzah Habibie, B. E. (2014). development of an online web-based recruitment information system for prospective workers at the special labor market in Ganeshaama Boyolali. information and communication technology journal Vol 5 no 2.
- [6] Habibie, F. H. (2012). Development of a web-based recruitment information system for web-based employees online at the special labor market in Ganeshaama Boyolali. speed journal 13 FTI UNSA Vol 9 No 2.
- [7] Hartono, Bambang. 2011. Computer Based Management Information System. Jakarta: Rinerka Cipta
- [8] Hermansyah, et al. 2009. Vocational Special Occasion Management (BKK) of Yogyakarta Vocational School: Paramitra Publishing.
- [9] Hidayat, Rahmat. 2010. Practical Ways to Build a Free Website. Jakarta: PT Elex Media Komputindo
- [10] J. W. Satzinger, R. B. Jackson & S. D. Burd. 2011. Systems Analysis and Design in a Changing World, Sixth ed.
- [11] Nugraha, Antonius. 2010. WEB programming with PHP and MYSQL databases. Yogyakarta: CV. Andi Offset
- [12] Pressman, 2010. Software Engineering. Andi Publisher. Jakarta: Erlangga
- [13] Rudianto, Arief. 2010. Dynamic Web Programming Using PHP and MySQL. Yogyakarta: C.V ANDI OFFSET
- [14] Shelly, Gary B & Harry J, Rosenblatt. 2012. Systems Analysis and Design Nineth Edition. United States of America: Course Technology
- [15] Sibero. 2011. Scripture Web Programming. Yogyakarta: MediaKom
- [16] Simarmata. 2010. WEB Engineering. Bandung Informatics
- [17] Sommerville, Ian. 2011. Software Engineering. Jakarta: Erlangga
- [18] Subhan, Mohamad. 2012. Systems Design Analysis. Yogyakarta: Andi
- [19] Sukamto, Rosa A & M Salahuddin. 2014. Structured and Object-Oriented Device Engineering. Bandung: Informatics
- [20] Sutanta, Edhy. 2011. Management Information System. Yogyakarta: Andi
- [21] Susanto, Azhar. 2011. Management Information System. Bandung: Lingga Jaya
- [22] Vembria Rose Handayani, R. W. (2018). web-based job selection registration information system at bkk (special job market) buds of human works in public schools 2 bayumas. Evolution Journal Volume 6 No. 1.
- [23] Widodo, Prabowo.P, et al. 2016. Modeling Object-Oriented Systems With UML. Yogyakarta: Graha Science.
- [24] Jacob 2012. Introduction to Information Systems. Yogyakarta: Graha Science