

International Journal of Computer Science and Mobile Computing

A Monthly Journal of Computer Science and Information Technology



ISSN 2320-088X
IMPACT FACTOR: 6.017

IJCSMC, Vol. 7, Issue. 12, December 2018, pg.167 – 178

PTSP ONLINE LOG BOOK INFORMATION SYSTEM (CASE STUDY: KECAMATAN CIPAYUNG)

Ahmadi¹, Ibnu Hartianto², Ahmad Syaiful Ampri³, Afwan Budi Setiawan⁴

Fakultas Ilmu Komputer, Universitas Mercu Buana

Jl. Raya Meruya Selatan, Kembangan, Jakarta, 11650, Indonesia

Email : ¹ 41817310007@student.mercubuana.ac.id, ² 41817310016@student.mercubuana.ac.id,
³ 41817310044@student.mercubuana.ac.id, ⁴ afwan.budi@mercubuana.ac.id

Abstract: *To facilitate licensing on PTSP, an application is needed that can help and facilitate activities in the licensing process. To create a licensing application, a method is needed to analyze the application. The waterfall method is one of the software development models. In this model, the software design or system is divided into a number of linear steps, systematic and sequential where the evolution of the software or system looks like water flowing down through a series of stages. The next step is to design applications using UML as a modeling language specifically for OOP systems. After completing the design process, then the results of the design are translated in the PHP (Web) programming language. To ensure that the application is running properly, it is necessary to test using a black-box at a later stage. The result is a web application. This application can make it easier for users to do the licensing and monitoring process so that it will be more computerized and streamline user time in terms of licensing*

Keywords: *Research, PHP, Waterfall, Web, Licensing, PTSP*

I. PRELIMINARY

A Background

The condition of Indonesian bureaucracy in the reform era have not shown a good direction of development, because there are still many arrogant bureaucrats who consider the people who need it, practices that still occur a lot, and bureaucrat mentality that is still far from expectations. To carry out bureaucratic functions appropriately, quickly and consistently in order to create an accountable and good bureaucracy, the government has formulated a regulation to become the base for implementing bureaucratic reform in Indonesia, that is Kepres number 80, 2011 concerning Grand Design of Indonesian Bureaucratic Reform 2010 - 2025. One of the bureaucracy in Indonesia is PTSP (One Stop Integrated Services) which is currently being highlighted

PTSP (One-Stop Integrated Service) starting from the 2012-2014, DKI Jakarta Governor, Joko Widodo has the idea of creating government services that are easily accessible to public. Joko Widodo hoped that there would be a capability of serving permits and non-permits that were fast and uncomplicated.

One of the permit application files served by PTSP (One-Stop Integrated Service) is the City Plan Assessment (KRK), or what is often called "Advice planning" is a city plan map that is given to people. KRK is used to find out the plan for spatial planning and utilization in a region and show rules of the area that can be used to build, KRK is one of the requirements to apply for a building permit (IMB).

Public needs transparent process on government services. The development of information technology produces a bright spot for public in obtaining information, while also helping the government in obtaining input from them. Obviously, Information technology is building a system between the public and the government.

To simplify KRK permit application process, people that submitted an application did not know when the process was completed, and there was no arrangement of file queues that made PTSP officers problem to do their jobs, so an application was needed that would be online and have user friendly interface, so everyone in Indonesia especially Jakarta can take the part on government bureaucracy monitoring.

Based on the problem, this study intends to create a "PTSP Online Log Book Information System". Using PHP programming and MySQL as RDBMS, and Apache which are used as a server to run the application.

B. Problem Solve

The problems to be solved on this research are:

- 1) How can PTSP Online Log Book Information System provide a solution for the public in accelerating the management of permit documents?
- 2) How to design an information system can make it easier for the public to manage the online permit application?
- 3) How to improve the performance of PTSP officers in managing the permit files were submitted by people?
- 4) How can it be easier for people to monitor the process and time for completing the permit application files that they submit to PTSP?

C. Problems Limitation

Completing the development of this Website-Based Library System so that it is not too far from the actual destination, so the authors limit the problem described as follows:

- 1) The authors do not discuss system security in depth.
- 2) PTSP Online Log Book Information System was built only for the city planning assessment process.
- 3) Access to users outside the government in this application is only for monitoring bureaucratic performance.

II. THEORETICAL BASIC

A. Basic Concepts of Information Systems

Information systems according to Valacich and Schneider (2015: 46), information systems use information technology to collect, create and distribute data. Information technology includes hardware, software and telecommunications networks.

According to Reynolds and Ralph (2015: 8), "Information systems are a set of interrelated elements or components that collect, process, store, output data and information and provide feedback mechanisms to meet objectives".

According to Shelly and Rosenblatt (2014: 6), said that an information system has five main key components, namely:

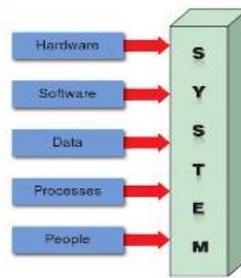


Fig. 1 Information System Component

- 1) Hardware is everything in the physical layer of an information system.
- 2) Software is programs that control hardware to produce goals or information needed.
- 3) Data is the basic material of information systems that are transformed into an information form that is useful for users.
- 4) Process is a business task and function carried out by users, managers, information technology staff to produce goals more specifically.
- 5) People are users, both from inside and outside a company that interacts directly with information systems.
- 6) Information system has 3 important things that are interconnected (Valacich and Schneider, 2015: 47), including the following:
 - a) Data is the raw material information that has not been formatted such as words and numbers. Data has no meaning and no little value until processed.
 - b) Information, data that has been formatted and organized in various ways so that become useful (information) for someone who use it.
 - c) Knowledge, for using information, knowledge is needed. Knowledge is the ability to understand information like the opinions and make decisions or predict based on information obtained.

B. Unified Modelling Language (UML)

On Object Oriented Programming techniques development, a standardized modelling language emerged for the development of software that was built using object oriented programming, called Unified Modeling Language (UML).

Unified Modeling Language (UML) is a general vocabulary based on objects and technical diagrams that are relatively for modelling each system development project from analysis stage to design stage and implementation stages (Dennis, et al., 2015: 34).

There are Unified Modeling Language (UML) used in the final assignment:

1) Use Case Diagram

Use case diagrams are used by analysts to know the better system functionality from a very high level. Use case diagrams provide an easy way to communicate with users about what the system actually does (Dennis, et al., 2015: 121).

2) Sequence Diagram

Sequence diagrams describe objects that participate in use case and messages are passed by objects from terms in use case diagram. Sequence diagrams are dynamic models that show explicit sequences of messages passed between objects on defined interaction. Because, sequence diagrams emphasize the sequence of time-based activities, it can be helpfully on understanding specifications in real-time and used to help understand the use of complex cases (Dennis, et al., 2015: 204)

3) *Activity Diagram*

Activity diagrams describe business workflows independent of class, use case flow or detailed design of a method (Dennis, et al., 2015: 130)

4) *Class Diagram*

UML has a class diagram. This diagram is used to describe the basic differences between classes, inter-class relations and where the subsystem class is. Dennis, et al (2015: 176) states "Class diagrams are static models that display classes and class relations in a system constantly from time".

C. *Related Research*

The Research related to Log Book Information Systems has been carried out by several researchers from various perspectives, among others research by [1], provides insight how the decision making system using Elimination et Choix Traduisant la Realite (ELECTRE) method provides a solution in ranking the best workers

Research by [2], proposes a reporting system that can help people obtain information about Bunga Bangsa KB / TK, and a reporting system that can help teachers record and report on daily activities - students' days to parents. Using XAMPP version 3.21 Apache which is used as a Mysql web server.

Subsequent research [3], providing input on an application must be able to provide services to manage application data (software), manage data solves, manage list requests, manage partner agency data, input requests, approve requesting results and see the list of requests

III. RESEARCH METHODOLOGY

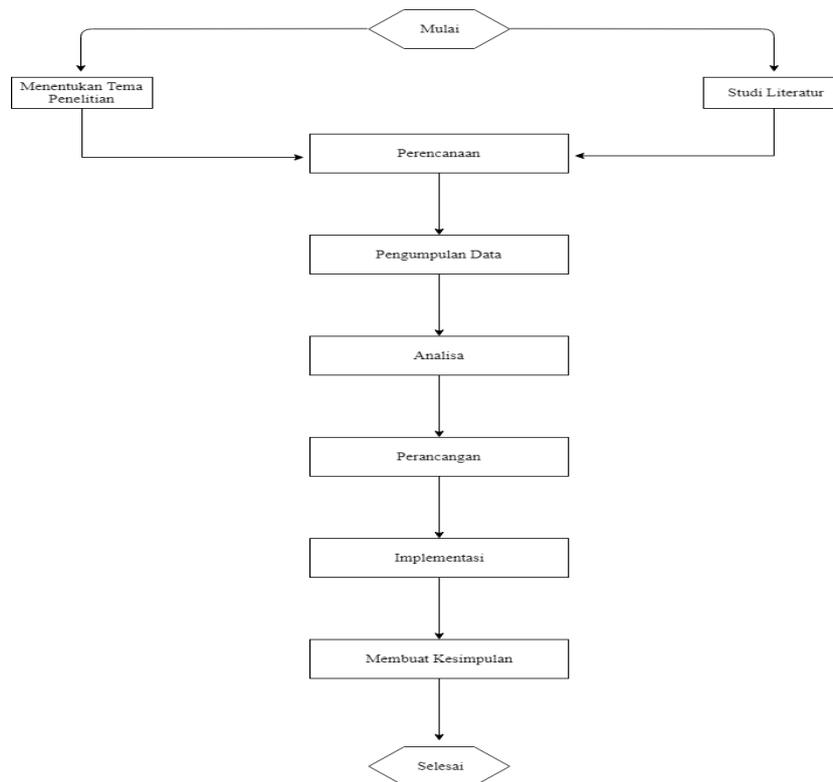


Fig. 2 Research Methodology Flow Diagram of PTSP Online Logbook System Design

As illustrated in the flow diagram on Figure 2, the following sentences will be explained about the stages of the research referring to the research method flow chart.

A. Determining Research Themes

The research theme was obtained after observing the KRK process carried out by PTSP Cipayung which was carried out still using manual method. From these observations theme, it was obtained to make improvements the quality of PTSP staff work processes by designing a system.

B. Study of literature

Running together with the determination of theme, literature studies or library research methods were also conducted. This method is carried out by collecting data and information from various library sources such as books, articles, journals, references to final assignments and other reading sources for analyzing data and seeking information about thesis title to be made.

C. Planning

There are 2 important agendas, identifying problems and determining work schedule. Problem identification is the initial stage in this research, where the author will make background problems, formulate problems, determine scope, and look for the objectives and benefits of this research.

D. Data Collection

Data collection technique in this final project was conducted in two ways, conducting interviews with AVP government companies and seeking information through books or journals about IT service management.

E. Analysis

The author will analyze process that runs at this time, then analyze functional requirements of process to be developed using use case diagrams, class diagrams, activity diagrams, and sequence diagrams. And analyze the hardware and software requirements needed by the system.

F. Design

The author will start to design database that will be developed. Then, the author will begin to design a user interface that produces mock up of the application.

G. Implementation

The author create a database using SQL language, begin to design application interface using HTML and CSS. Then, develop the program using the PHP programming.

H. Make Conclusions

Making this conclusion aims to find out whether the system design created can answer the problems that have been described in the formulation of problem and able to solve the problems that exist in the organization being researched

IV. RESULTS AND DISCUSSION

The results of PTSP Online Log Book Information System development are described in the form of Unified Modeling Language (UML) and User Interface (UI) design

A. Use Case Diagram

Use case diagram describes the activities that can be carried out by system users in the application, among others, registration, verification of registration, log in user, entering the applicant data, AJIB assignment letter, rejection letter, file

verification, surveying location, reviewing location, inputing survey data, process data, entering data from processing results, verifying results of data processing, KRK issue, print maps & KRK, verifying KRK, validating map and KRK, and taking result form customer satisfaction surveys as shown in Figure 3.

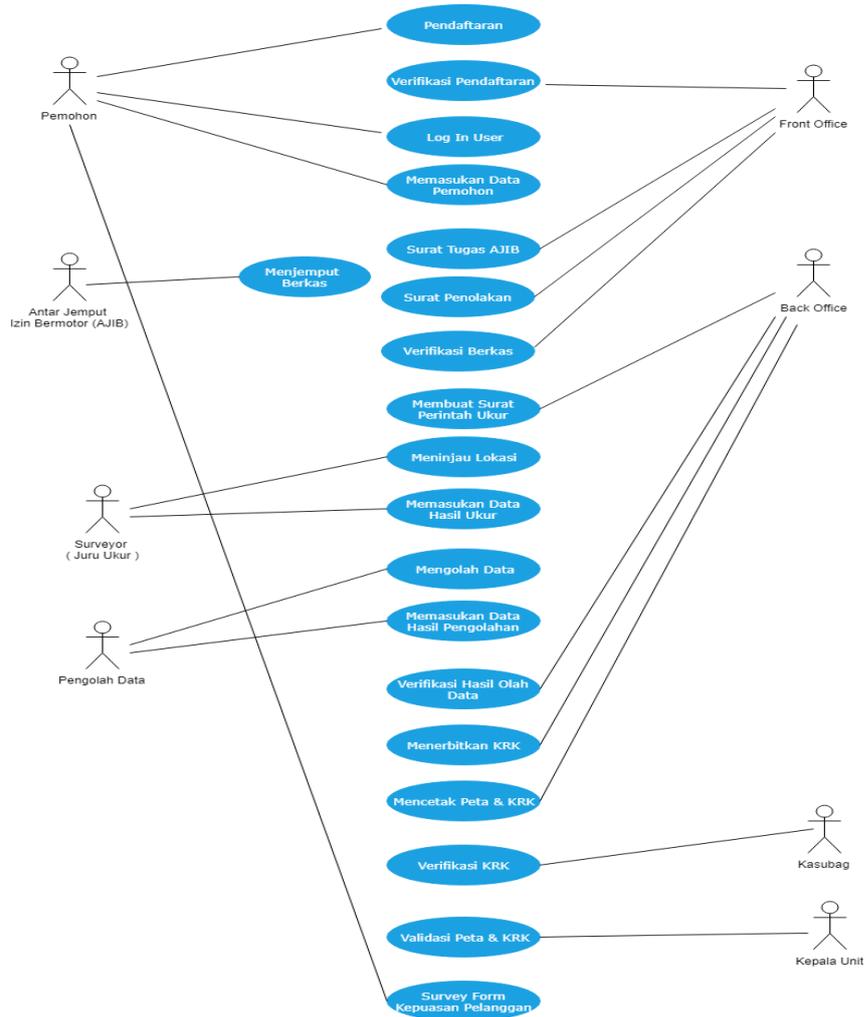


Fig. 3 Use Case Diagram Running System

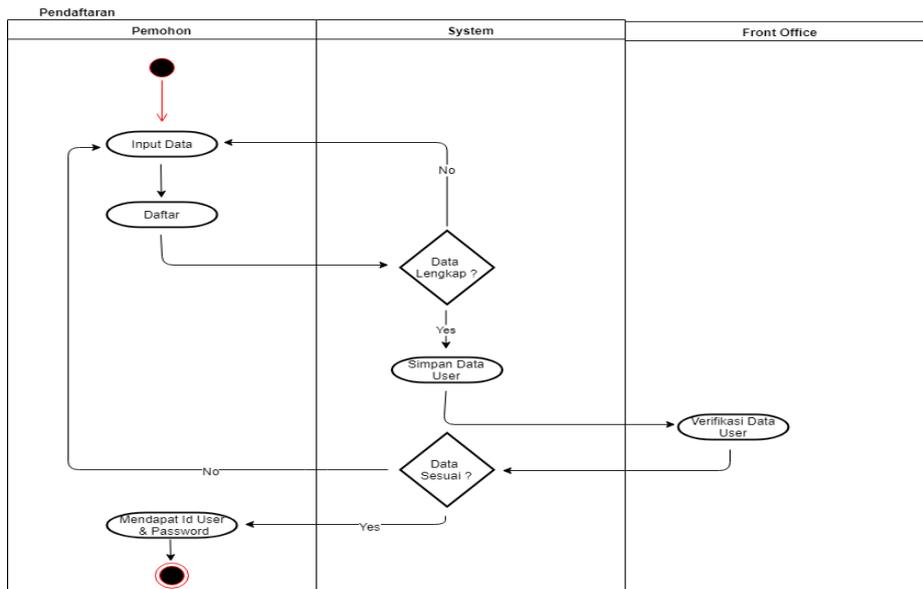
On Registration activity, the applicant registers an account then front office staff verifies the applicant's account, then the applicant logs in and inputs the data. Front office verifies the applicant's file. The activities of AJIB assignment letter, back office staff makes a letter of assignment for AJIB and fetches the file, creates a survey assignment letter and also a letter of rejection if the applicant's file is incomplete.

Activity of reviewing the location, surveyor checks the destination location, then inserts data to be processed by data processor. Data processors input data form and then re-enter processing data to be verified by back office staff.

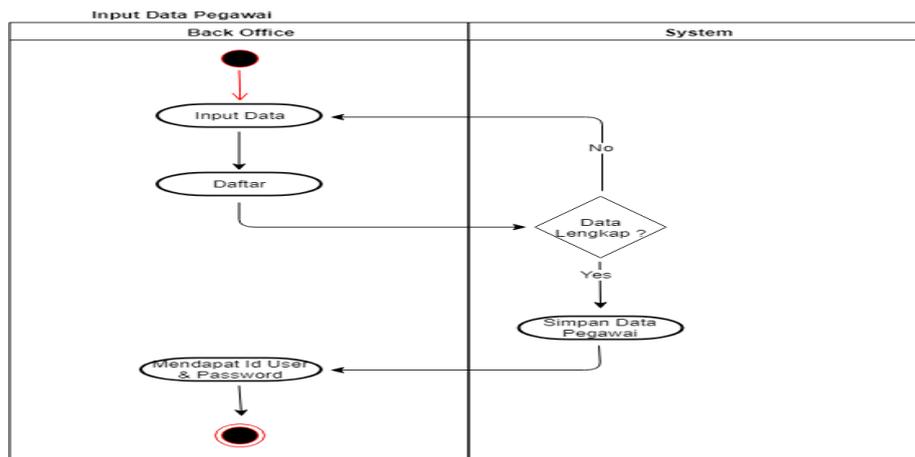
Verification activities resulting data that verified by back office staff then numbering the assessment, back office staff prints map and KRK. On validation activities, The leader validating maps and KRK that have been numbering and printed. Public satisfaction survey activity, Public fills out the public satisfaction survey after all processes have been completed.

B. Activity Diagram

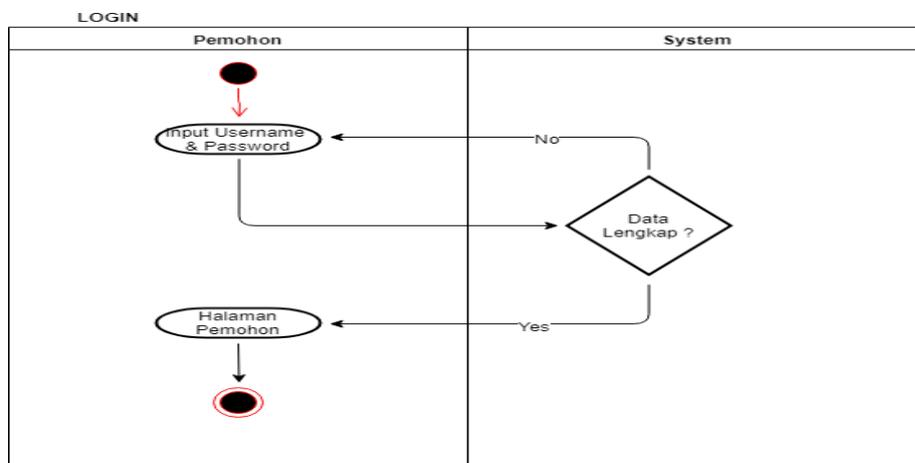
1) Registration Activity Diagram



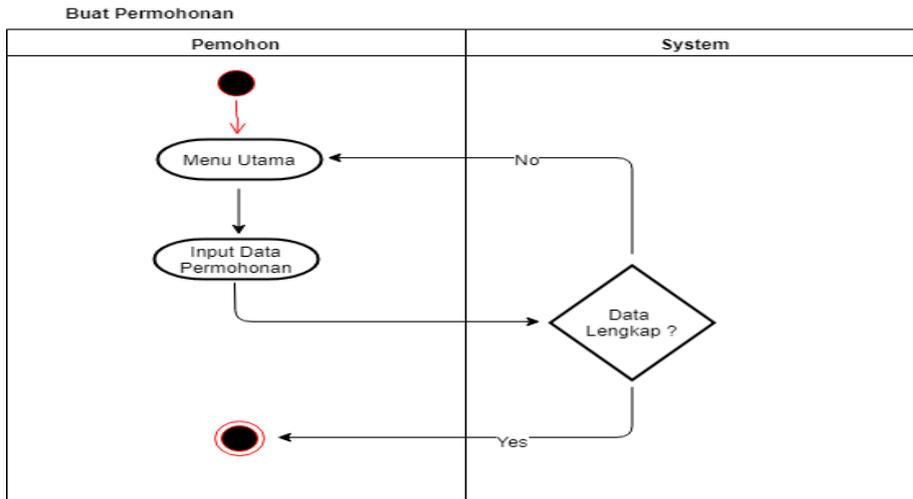
2) Employee Data Input Activity Diagram



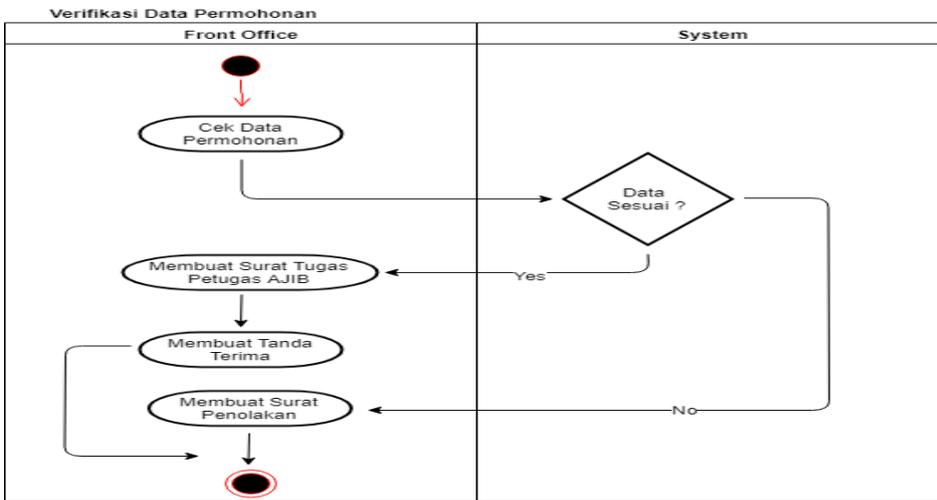
3) Login Activity Diagram



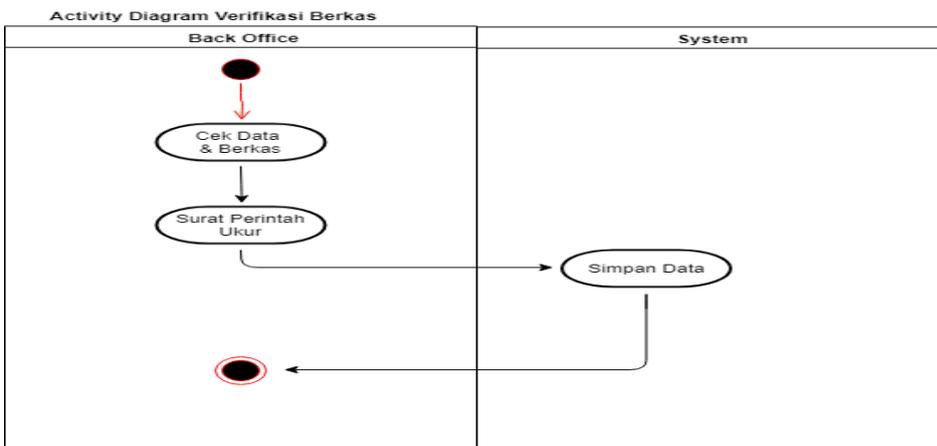
4) *Make an Application Activity Diagram*



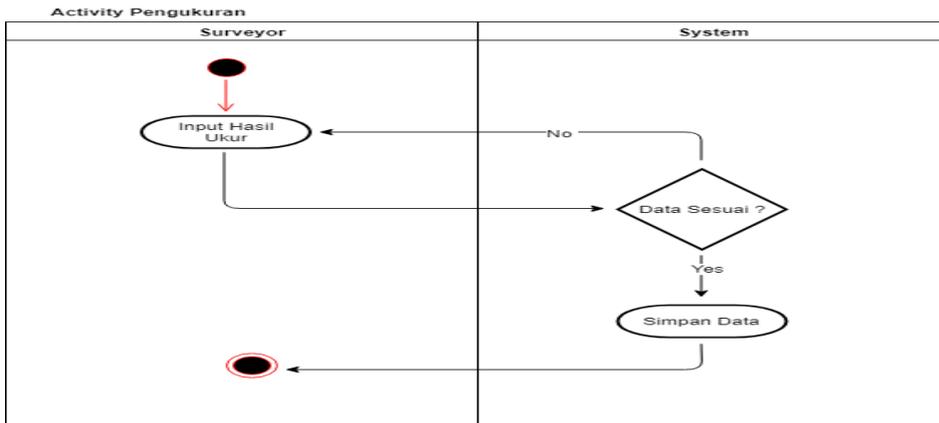
5) *Verification of Application Data Activity Diagram*



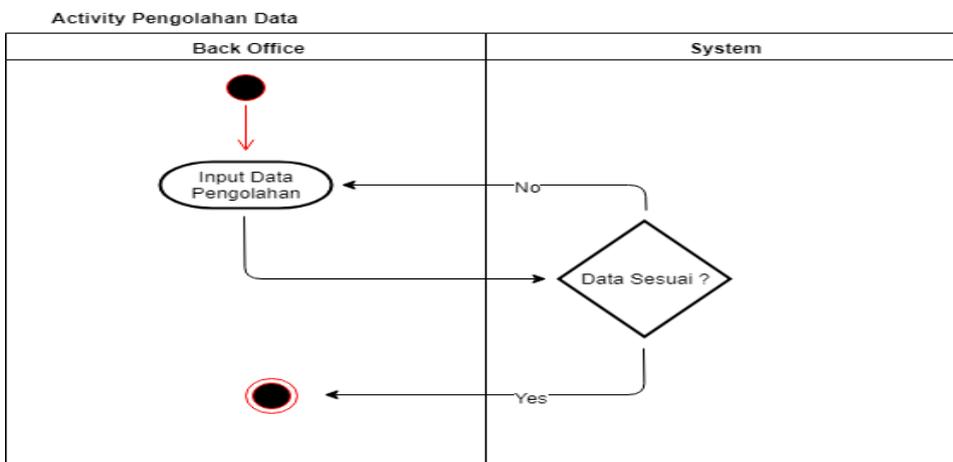
6) *Activity Diagram File Verification*



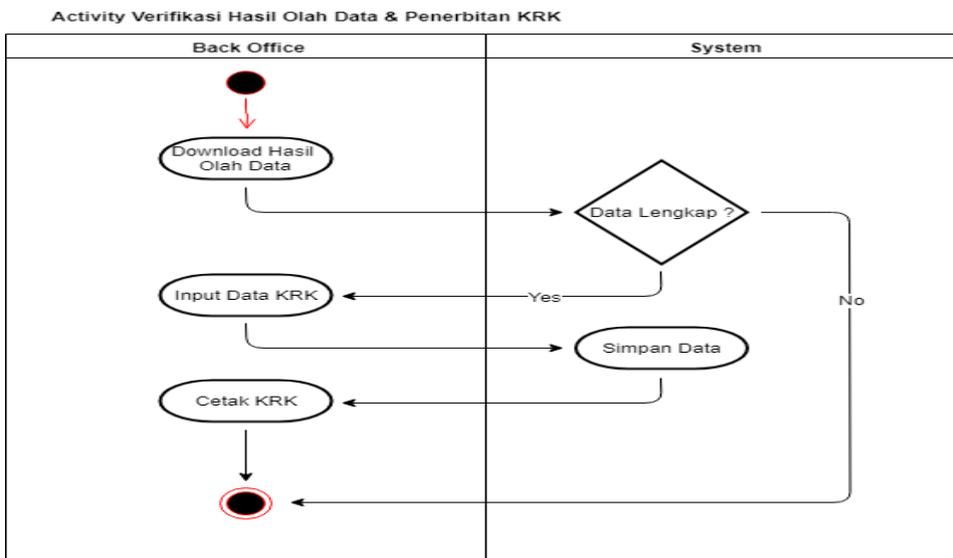
7) *Location Surveying Activity Diagram*



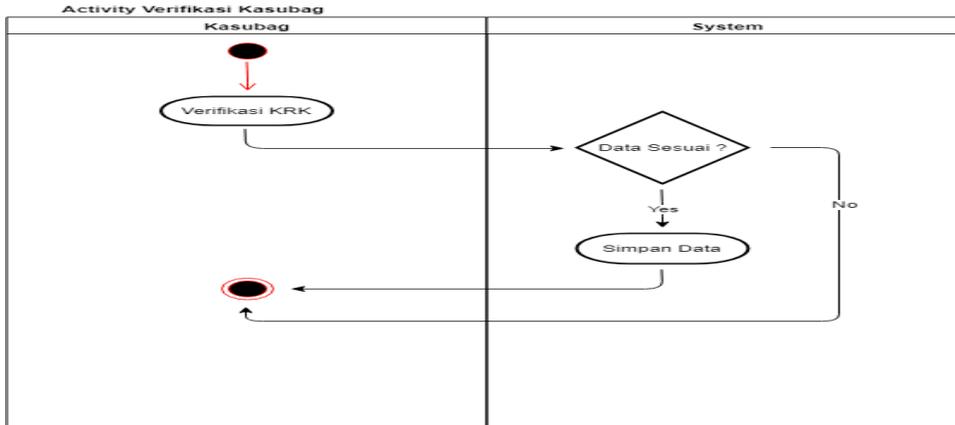
8) *Data Processing Activity Diagram*



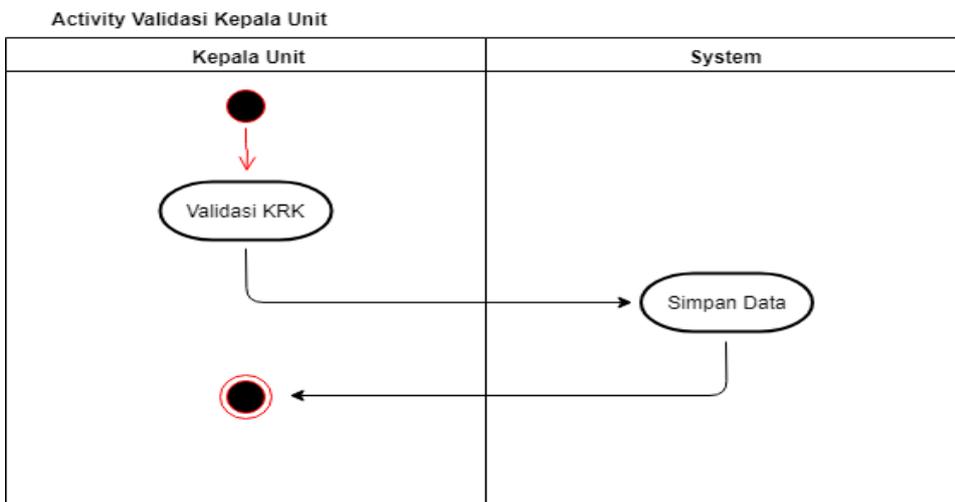
9) *KRK Data Outcomes and Issuance Verification Activity Diagram*



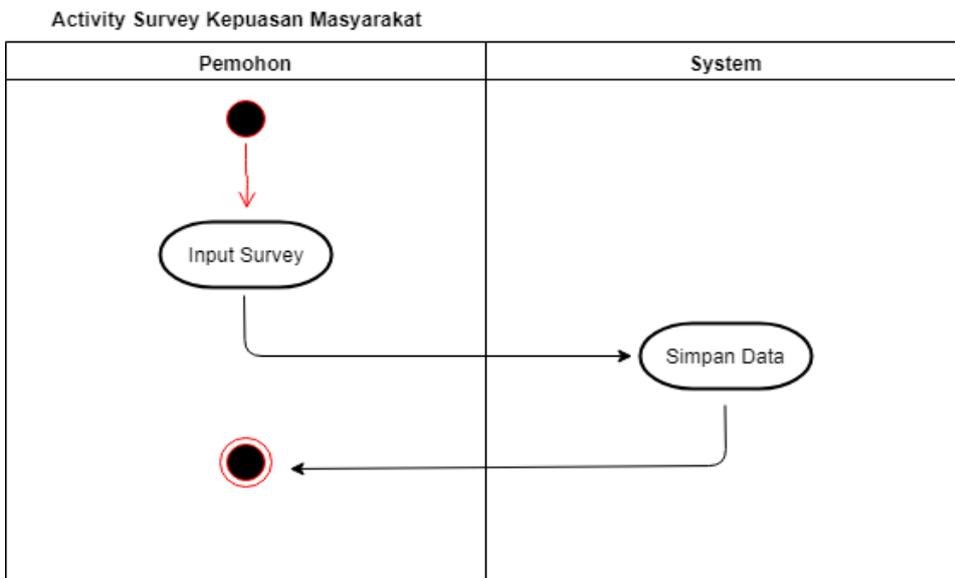
10) Verify the Head of Section Activity Diagram



11) Verification of the Unit Head Activity Diagram



12) PublicSatisfaction Survey Activity Diagram



C. Class Diagram

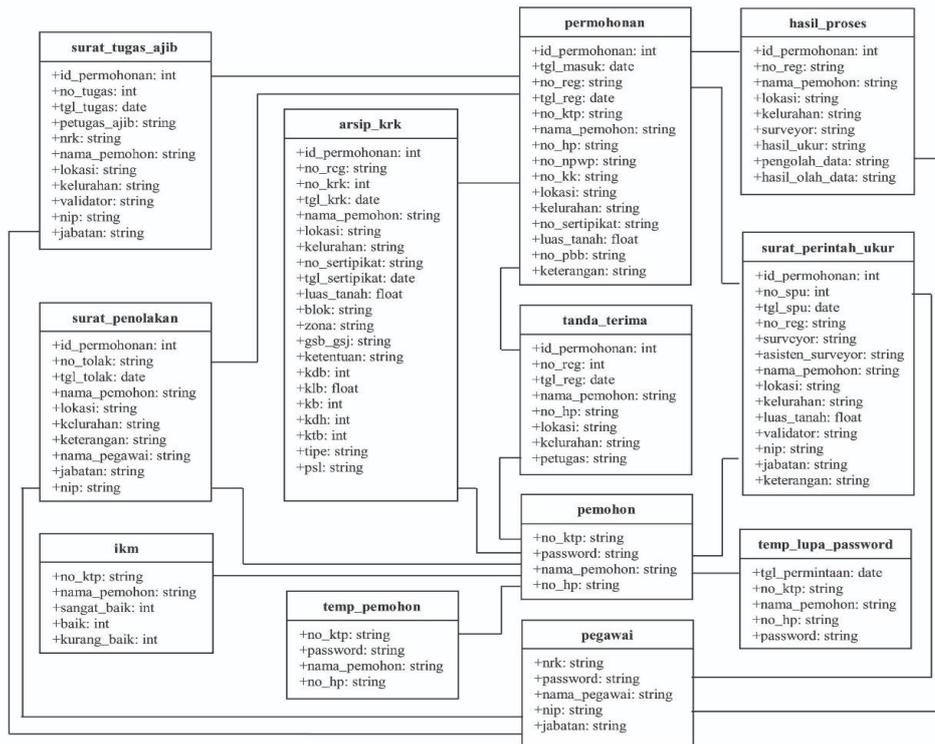


Fig. 4 Class Diagram

D. User Interface

This is the sample of application interface design

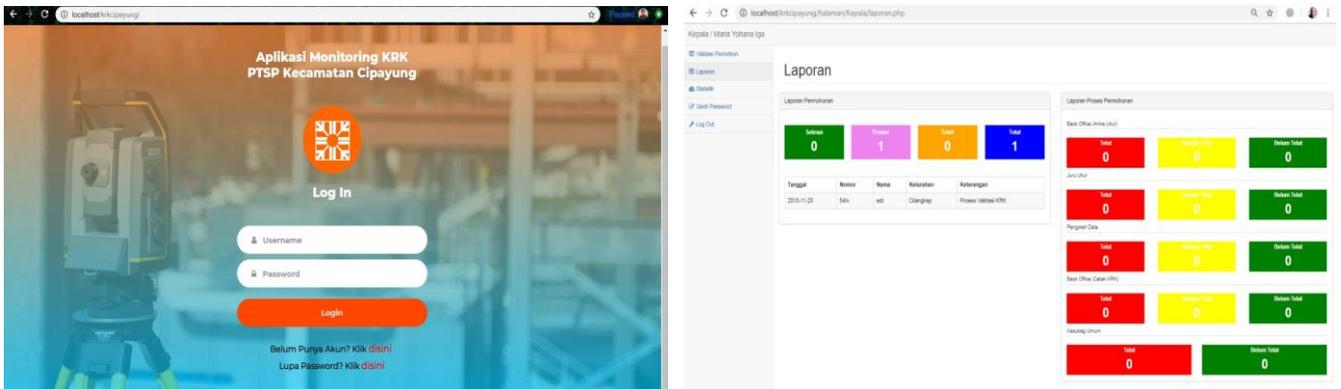


Fig. 5 User Interface

E. Analysis of Test Results

After thorough testing, it can be concluded that the test has displayed the outputs and processes in accordance with application design. The good results are function properly of system because it has been proven from the results of the test scenario. The test results obtained can be analyzed as follows:

- 1) The user login page in the system has been running well.
- 2) The main page of the employee contained in the system runs well.

- 3) The applicant's main page in the system runs well and as expected.
- 4) All sub menus contained in the master data menu, reports and settings function properly according to what has been planned

V. CONCLUSIONS AND RECOMMENDATIONS

Based on the discussion described in the previous chapter, it can be concluded as follows:

1. PTSP Online Log Book Information System Design is expected to be used to improve the performance of PTSP employees especially Cipayung district, because it can improve the performance of PTSP officers in completing the management of permit application documents relating to the planning provisions (KRK) submitted by the public.
2. The system can facilitate the public in managing files and monitoring licensing process

There are suggestions that can be conveyed by the authors of this final project:

1. PTSP Online Log Book Information System design can be important information in the present and future.
2. The display system design is expected to be developed better for future researchers.

REFERENCES

- [1] Fajar Masya, Hendra Prastiawan, Destriyani Putri "Design and Implementation of Lecturer Evaluation System Using ELECTRE Method in Web-based Application" International Research Journal of Computer Science (IRJCS) Issue 05, Volume 4 (May 2017)
- [2] Jumaryadi, Herdi & Sahara. "ANALYSIS AND DESIGN OF KB/TK BUNGA BANGSA ISLAMIC SCHOOL INFORMATION SYSTEM." *IRJCS: International Research Journal of Computer Science*, Volume V, 179-185.2018
- [3] Handrie Noprisson, Budiyarti "APLIKASI MANAJEMEN PEMELIHARAN PRODUK PERANGKAT LUNAK", *Journal Scientific and Applied Informatics*, Volume I, 40-45 (2018).
- [4] Connolly, Thomas dan Carolyn Begg. 2014. *Database Systems: A Practical Approach to Design, Implementation, and Management*, 6th edition. New Jersey: Pearson.
- [5] Dennis, Alan dkk. 2015. *System Analysis & Design An Object Oriented Approach with UML*, 5th edition. New York: John Wiley.
- [6] Eniyati, Sri dan Rina Candra N. S. 2010. *Perancangan Sistem Pendukung Keputusan Penilaian Prestasi Dosen Berdasarkan Penelitian dan Pengabdian Masyarakat*. *Jurnal Teknologi Informasi DINAMIK*. Vol. XV, No. 2. (ISSN: 0854-9524)
- [7] Gilmore, W. Jason. 2010. *Beginning PHP and MySQL: From Novice to Professional*, 4th edition. New York: Apress.
- [8] Gupta, Hitesh. 2011. *Management Information System (An Insight)*. New Delhi: International Book House PVT. LTD.
- [9] McLaughlin, Brett. 2013. *PHP & MYSQL: The Missing Manual*, 2nd edition. California: O'Reilly Media, Inc.
- [10] Rosenblatt, Harry J. 2014. *Systems Analysis and Design*, 10th edition. USA: Cengage Learning.