

Development of Information System TEPRA in Administrations Development Gianyar Regency Using Rapid Application Development Model

I.M. Oka Semara Putra¹, M.Sudarma²

Udayana University, Bali, Indonesia
 okasemara Putra7.osp@gmail.com
 Udayana University, Bali, Indonesia
 imasudarma@gmail.com

Abstract - The development of information technology that has developed in government is very helpful in the process of managing government infrastructure. Included in the Gianyar Regency Development Section which has implemented or applied a system, namely the TEPRA System. The TEPRA system is a system used to carry out the process of monitoring the realization of the budget given to each OPD (Regional Apparatus Organization) in Gianyar Regency to find out any problems or obstacles that might occur when realizing the work program of each related OPD. The frequent mistakes made by Tepra Operators in completing data information about the work program of the relevant OPDs are the reason that it is necessary to carry out the process of developing a tepra information system application. In the development process, the Rapid Application Development model is used to get the design that is expected based on the results of the audit which are used for reference in the tepra information system development process.

Keywords- RAD (Rapid Application Development), Information System, Governmen Infrastructure, TEPRA, Gianyar Regency.

I. INTRODUCTION

Administration Development in Gianyar regency is a under of Assistant Economic Administration and Development in Regional Secretariat Organizational Structure. Administration Development have three sub. Part, namely Sub. Arrangement of work program section, sub. Regional Facilities Improvement Section, Sub. Controlling and Development Section. One of the work programs of the Controlling and Development Division is to carry out the monitoring process on the realization of the budget given to each OPD (Organisasi Perangkat Daerah) in Gianyar regency. Sub. The Controlling and Development Section of Gianyar Regency in the process of supervising any realization of the budget given to work programs at the relevant OPD has run an application program, namely the TEPRA system. The TEPRA system (Tim Evaluasi dan Pengawasan Realisasi Anggaran) is a system designed to be able to supervise the process of budget realization that has been realized in each OPD. Sub. Controlling and Development Division carries out a supervisory process for 98 OPDs in Gianyar Regency. Supervision is carried out regarding the suitability of the work program of each OPD that has been given a budget whether it has been realized or not and when the monitoring process is found an OPD does

not include problems and efforts to resolve the work program where problems are found during the supervision process, it will be given notification to OPD related to complement it.

It takes a development process for the tepra information system so that the application can be operated as intended. The development process is carried out using the Rapid Application Development method. This method is a method used in additional software development where the development cycle is relatively short and this method is a linear sequential development method that emphasizes a short development cycle in software development. There are various studies that choose the Rapid Application Development method as a method of developing a system being carried out. The first example of research is in the research of Ariyanti in 2018 which carried out the development of a web-based library information system using the rapid application development method. In this study, researchers used this method as a method for carrying out the process of building a library information system with the aim that library staff can easily manage library data, the system can be accessed anytime and anywhere. In addition, the web-based library information system can also facilitate / assist library members when making borrowing transactions when lending books. And the result of the development of this system is a system that has been able to assist library staff in the process of managing data or borrowing books. And the second example of research is the research conducted by

Trimahardika in 2017 which developed a hotel room reservation and rental system using the rapid application development method. In this study, researchers used this method as a method for developing a hotel room reservation and rental system.

Based on the results of the supervision carried out by the Sub. Many of the related OPDs in the Control and Development Division still have some errors such as the absence of causes of problems and no means of solving problems arising from unrealized work programs. Therefore, it is necessary to develop an information system in the TEPR system so that the Development Department can plan for improvement and improvement and development of the information system that has been built.

II. BASIC THEORY

A. TEPR

Tim Evaluasi dan Pengawasan Realisasi Anggaran (TEPR) was created to help carry out the supervision process of budget realization in order to improve the budget absorption process and to help narrow the target gap from budget realization. In addition, the TEPR system is also used to optimize the process of budget realization performance and can assist in the consistency process between the realization of work programs and work program plans.

TEPR system has several functions, namely the system must be able to provide information to assist in the development supervision process so that the budget from the government can be optimally realized, then the system must be able to provide information related to problems from the budget realization process and the efforts that each OPD has tried to solve the problem such that Sub. The Control and Development Division can provide solutions to problems that occur. In addition, for the process of the TEPR report, the system must also be able to display information from the realization of the OPD related budget every month.

B. Rapid Application Development

Rapid Application Development is an object-oriented approach to systems development that includes a development method as well as software. The design of the tepra informai system development uses the Rapid Application Development (RAD) method, there are four phases, namely the requirements planning phase, the RAD design workshop phase, the construction phase, the implementation phase.

The first phase is the planning phase, this phase is the meeting point between the analyzer and the user to identify the objectives of the system to be built and identify the information requirements that will arise to achieve these goals and analyze all the systems needed by the user. The second phase is the design workshop phase, which is a phase in the form of a RAD design workshop between the

analyzer and the programmer to design a system to be built. Analysts and programmers work together in building the system and show its representation in the form of visual designs and work patterns to system users. In this phase the user also responds to the prototype that has been designed. Analysts and programmers can repair and analyze modules that are designed based on the response of the system user. The third phase is the construction phase, which is the execution phase in the form of making a program script and is a continuation of the second phase. This phase also shows the platform, hardware and software used. Every design made in the previous phase will be enhanced using RAD tools. After the new function is available, the new function is shown to the user to get interaction and revision, then the analyzer will make changes in each application design based on instructions from the user. The fourth phase is the implementation phase, which is the phase where the analyzer works intensively with users during the workshop, and designs several aspects and non-technical requirements. As soon as these aspects are approved and systems built and screened, new systems or parts of the system are tested and then introduced to the organization.

III. METHODOLOGY AND DATA COLLECTION TECHNIQUES

The research conducted to develop the TEPR information system. Development process carried out using several data collection processes used, data collection support obtaining the information needed in order to achieve research objectives. The correct data collection technique will produce comparative results from what was previously researched. To obtain complete and accurate data, at the analysis stage the data collection method is carried out consisting of several processes, the first process is the observation method which is a data collection technique by carefully examining the problems being studied. The second process is the literature study method which is a method of collecting data that the author does, namely by studying and collecting library sources obtained from various books related to research titles, research results, theses, and other media as references for authors in conducting research. The third process is the interview method or interview which is the process of collecting data by asking questions or interviews with sources or actors in the system. The fourth process is the documentation method which is the process of collecting data by collecting data obtained from existing documents or stored records.

IV. RESULTS AND DISCUSSION

A. Business Modeling

Business modeling is related to an activity that exists in a system to find out the admin's needs for the application to be developed, the development of the system related to the needs of the admin, among others, the admin can log in using the username, password, year. The admin can find out the number of failures in the login process, the admin can find out which opd has not completed the data in the

information system. In addition, there are also developments related to the needs of tepra operator users, including tepra operators who can log in using their username, password and year. Tepra operators can find out the number of failures during the login process. Tepra operators can find out which parts of the report are not complete.

B. Process Modeling

Process modeling is related to an activity that exists in a system to find out the process of the development flow of the tepra system. Then the results of the process modeling will be shown in Figure 1.

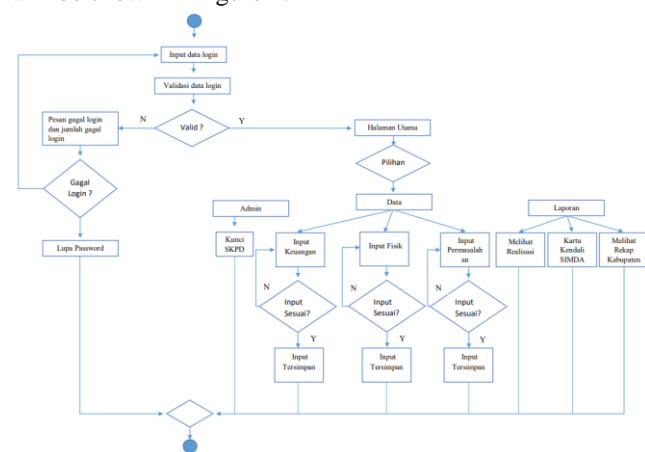


Figure 1. Usecase Diagram User

Usecase diagram describes the flow of the information system process. From this picture the user will log into the system from the login process, the user will enter the login data when the login data entered is correct, the user will be directed to the main page. However, when the login data entered by the user does not match, the user will be given a notification that the login data entered is not appropriate, and will be directed to the login option menu again or select the forgot password option menu. And on the main page the user will be given three menu options, in the development carried out focusing on data options, on the data selection menu the user will enter the process of entering data in the form of financial, physical and problem data, on the menu options the system will check the data entered by the user, when the data entered is not suitable, the system will direct the user to the data input page to carry out the process of entering data again and when the data entered by the user is appropriate, the system will save the data.

C. Information System Development

In the application development process carried out will focus on the login activity of the user by checking the login data entered by the user. In developments carried out when the user incorrectly enters the login data for five times, the user cannot log back in. And to overcome this, the user can take advantage of the forgot password option menu, so that he can update the login data of the user. In addition, the system development that is being carried out will also focus

on the process of inputting financial, physical data and problems carried out by the user when the user is incomplete in entering data regarding financial progress, physical progress or problems in each activity, the system will give a warning regarding the missing data.

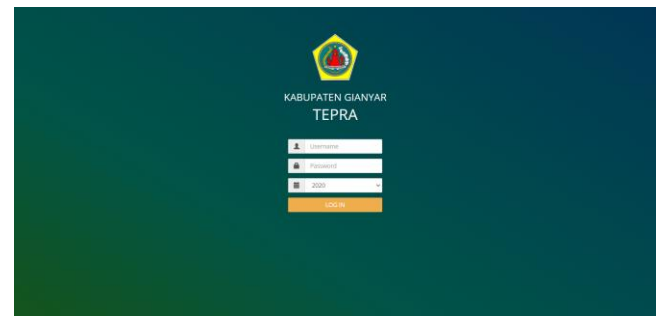


Figure 2. Login Page

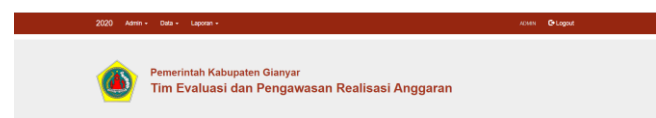


Figure 3. Main Page

V. CONCLUSION

By using the RAD method, work in developing the tepra information system is faster and of course has quality in meeting the needs of these users. The RAD method creates limitations in making the system so that the system created does not go out of its needs. Completion on the development of tepra information system which refers to all stages of the RAD method and everything can work smoothly. The system can reduce the risk of errors in the process of entering data in the tepra information system.

REFERENCES

- [1] I. Ariyati, "Pengembangan Sistem Informasi Perpustakaan Sekolah Dengan Rapid Application Development", Jurnal PILAR Nusa Mandiri Vol. 14, No. 1 Maret 2018.
- [2] I.K.DG.Supartha, M.Sudarma., & D.M.Wiharta., "Sistem Informasi Geografis Pemetaan Persebaran Alumni dengan Analisa Clustering" Majalah Ilmiah Teknologi Elektro, Vol. 17, No. 3, September - Desember 2018.
- [3] Kadir., Abdul. 2003., "Pengenalan Sitem Informasi", Andi Offset, Yogyakarta.
- [4] Lampiran Peraturan Daerah Kabupaten Gianyar No. 9 Tahun 2011 Tentang Perubahan Atas Peraturan Daerah Kabupaten Gianyar No. 6 tahun 2008 Tentang Organisasi dan Tata Kerja Perangkat Daerah Gianyar.
- [5] N. Aini., S.A. Wicaksono. & I.Arwni "Pembangunan Sistem Informasi Perpustakaan Berbasis Web menggunakan Metode Rapid Application Development (RAD) (Studi pada : SMK Negeri 11 Malang)", Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer, Vol. 3, No. 9, September 2019.

- [6] N. Zhang, “*Development and Application of an English Network Teaching System Based on MOOC*”, IJET. Vol 13, No.7, 2018.
- [7] Peraturan Menteri Komunikasi dan Informatika No. 41/PER/MEN.KOMINFO/11/2007 tentang Panduan Umum Tata Kelola Teknologi Informasi dan Komunikasi Nasional.
- [8] R. Trimahardhika, E. Sutinah. “*Penggunaan Metode Rapid Application Development Dalam Perancangan Sistem Informasi Perpustakaan*”, JURNAL INFORMATIKA, Vol.4 No.2 September 2017.
- [9] S. Fadli, “*Model Rapid Application Development Dalam Pengembangan Sistem Reservasi Dan Penyewaan Kamar Hotel*”, JIRE Volume 1, No 1, April 2018.