Design and Development of Information System for Administration and Monitoring of Authentic Deed Services for Notary and Conveyancing Using the Prototyping Method

1st Rekyahim
Information Technology Department
Politeknik Caltex Riau
Pekanbaru, Indonesia
rekyahim17si@mahasiswa.pcr.ac.id

2nd Indah Lestari
Information Technology Department
Politeknik Caltex Riau
Pekanbaru, Indonesia
Indah@pcr.ac.id

Abstract—**Notary Asep Sudrajat, SH., M.Kn. is a company that provides legal services in making authentic deeds and other legally regulated authorities. Currently, Notary Asep Sudrajat, SH., M.Kn has many requests for authentic deed processing, which is currently the filing process and also for submitting information, clients must come to the office or call the notary to find out the stages of transactions that the client has submitted at this time. The notary must look for files to provide information on the progress of deed processing to clients. Sometimes the delivery of information still occurs problems because the deed completion process takes about 1 to 3 months, this can make it difficult for the notary to find the file. From these problems, an Authentic Deed Service Administration and Monitoring Information System will be built. This information system will be developed based on the website in the notary section with the PHP and MYSQL programming language as the database and the android application will be used by the client. As well as the development method using the prototyping method with 2 iterations. Based on the test results, the system built was in accordance with the requests and needs of the Notary Asep Sudrajat, SH., M.kn. The application also runs well with usability testing with the SUS method resulting in a total value of 84, these results indicate that the application has been accepted by the notary client.**

Keywords—Notary Asep Sudrajat, SH., M.Kn, Authentic Deed, PHP, MYSQL, Android, Prototyping.

I. INTRODUCTION

Notary Asep Sudrajat, SH., M.Kn. is a company that provides legal services in making authentic deeds and other authorities that have been legally regulated.

The obstacle during the company's existence was during the authentic deed service process, in which the submission of requirements and knowing the status of the deed were still manual and not yet systematic. The submission of the requirements is carried out by coming directly to the office, of course there are still many clients who do not know the requirements for managing an authentic deed. To find out the status of the deed, the client must call a notary to confirm where the deed is. There are still problems in submitting information because the processing time for the completion of the deed takes about 1 to 3 months. This can make it difficult for the notary to find the file.

From these problems, an Administration Information System and Monitoring Services for Notary was built. This system is designed to make it easier for the notary to view client file submissions, manage file layout, and also provide information on the status of the deed submitted by the client. In addition, this system can make it easier for clients to see the status of the management of the proposed deed. This system is built on a website platform on the part of a notary using the Codeigniter framework and MYSQL as the database. The android application will be used by the client to view the deed transactions developed with the Java programming language, the Android Studio IDE. The method used in this system is to use the prototyping method because it is very well used to resolve misunderstandings between users and analysts due to users not being able to clearly define their needs. The android application will be used by the client to view deed transactions developed with java programming, the Android Studio IDE [3].

II. LITERATUR REVIEW

A. Notary and Conveyancer

According to Article 15 of the Law on Notary Positions number 30 of 2004, what is meant by a notary is a public official who is only authorized to make an authentic deed regarding all acts, agreements, and stipulations required by a general regulation or by interested parties who are required to be stated in a authentic deed, guaranteeing the certainty of the date, keeping the deed and providing Grosse, copies and

tations, all of which are made by a general regulation and are not assigned or excluded to officials or other people.

The definition of Conveyancer is based on the sound of article 1 paragraph 1 of Government Regulation No. 37 of 1998 concerning the Position Regulation of Land Deed Making Officials that what is meant by Conveyancer or Land Deed Making Officials are public officials who are given the authority to make authentic deeds regarding certain legal actions regarding rights. on land or Ownership of Flat Units. Certain legal actions as evidenced by the deed of the Land Deed Official, namely buying and selling, grants, and granting mortgage rights [9].

The management of the name transfer of land certificates consists of a deed of sale and purchase, a deed of grant and a deed of granting mortgage rights. The management of the Notary Deed consists of a power of attorney to sell, a fiduciary guarantee deed and a Limited Liability Company / Limited Liability Company deed [6].

B. Prototyping

Prototyping is a software development method that is suitable for use in software. With this prototyping method, developers and customers can interact with each other during the system creation process [8].

The prototyping stages are as follows:

- Identifying Users: At this stage of gathering needs, the author interviewed the parties concerned to find out about the problems and existing business processes, then got an idea to create the system needed.

- Developing Prototype: Build a prototype by making a temporary design that focuses on presenting input and output.

- Determining whether the Prototype is Acceptable: Evaluate the system prototype that has been made, whether it is in accordance with what is desired. If yes, then the next step is coding the system. If not, a revision will be made to the system prototype that has been made

C. Usability Testing

Usability testing is carried out if the user interface of the application is important and must be specific to a particular type of user. Usability testing is the process of working with end-users directly or indirectly to assess how users perceive a software package and how they interact with it. This process will dismantle the user's trouble areas. The main purpose of usability testing is to improve the usability of a product. For each test, it must have a specific and stated purpose when planning to test [4].

Usability testing is done by using a questionnaire technique for clients who try android applications. In testing this system, the method used is the system usability scale (SUS). SUS can be used to perform independent technology testing on hardware, software, websites, and even mobile devices [10].

In conducting the test, SUS has 10 instruments as shown in Table I The calculation of the application test results is carried out by following the following rules:

- For each statement with an odd number, the respondent's answer scale is reduced by 1.
- Each statement with an even number is 5 minus the respondent's answer scale.
- Summing up the scale of respondents' answers and multiplying by 2.5.
- Then to find the average SUS score, it can be done by dividing the number of SUS scores by the number of respondents.

TABLE I. SUS TESTING INSTRUMENTS

No	Statement	Scale
1	I think that I would like to use this system frequently	1 to 5
2	I found the system unnecessarily complex	1 to 5
3	I thought the system was easy to use	1 to 5
4	I think that I would need the support of a technical person to be able to use this system.	1 to 5
5	I found the various functions in this system were well integrated	1 to 5
6	I thought there was too much inconsistency in this system	1 to 5
7	I would imagine that most people would learn to use this system very quickly	1 to 5
8	I found the system very cumbersome to use	1 to 5
9	I felt very confident using the system	1 to 5
10	I needed to learn a lot of things before I could get going with this system	1 to 5

Determination of the grade on the assessment results seen from Acceptability, grade scale, an adjective rating, which consists of the level of user acceptance there are three categories, namely not acceptable, marginal and acceptable. The grade level has six scales, namely A, B, C, D, E and F. And from the adjective rating it consists of worst imaginable, poor, ok, good, excellent and best imaginable as shown in Figure 1.
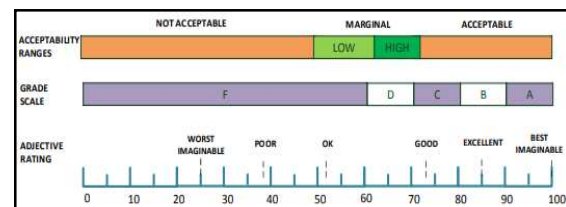

Fig. 1. SUS Rating Scale

III. RESULT AND DISCUSSION

A. Business process of Notary Asep Sudrajat S.H., M.kn

A business process is a set of activities that are interconnected with each other to produce an output that can support the goals of an organization. A business process is a sequence of activities that occur from start to finish and provide the required results for the user.

The land title deed business process starts from the client submits an application for a land deed. After that the notary will check the land certificate, if the certificate is approved the notary will make a land deed and notify the client to come to the notary to sign the deed approval. After that, the notary will provide the signed land deed document along with the client's

personal data to the National Land Agency for the processing of the land title transfer documents which has an estimated time wait about 1 month or 2 months. After land title transfer documents finished the notary returned to contact the client to take a certificate of land it as shown in Figure 2.
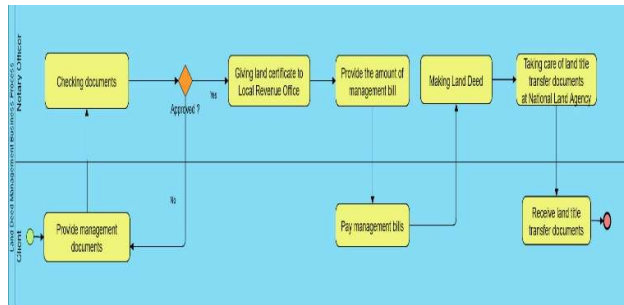

Fig. 2. Business Process Diagram for Land Deed Management

The notarial deed business process starts when the client submits the documents for the deed man agement requirements to the notary. If the requirements submitted are complete, then the notary will give a fee for handling the deed. Then the notary will make a notarial deed according to the type of deed and the client comes to sign the deed. After the signature process is complete, the notary will give the deed to the client as shown in Figure 3.
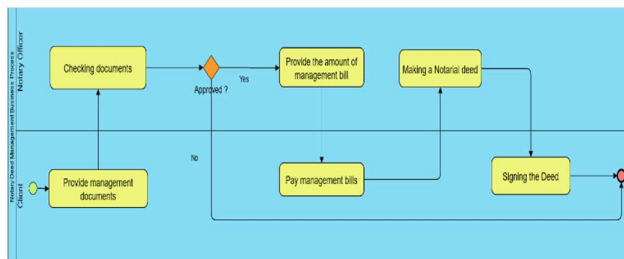

Fig. 3. Business Process Diagram of Notarial deed Management

B. Usecase Diagram

Figure 4 it shows the use case diagrams on the website have 3 actors on the, namely Owner, Employee, and user. Employees have access to confirm files, manage management history, manage work schedules, manage deed storage, add invoices and verify payments. The owner has access to add employees, view management history, and view deed storage. Users have access to view management requirements and download applications. In Figure 5 Use case diagrams on android have actors, namely clients who have access rights to add management requests, view management history, and upload proof of payment.
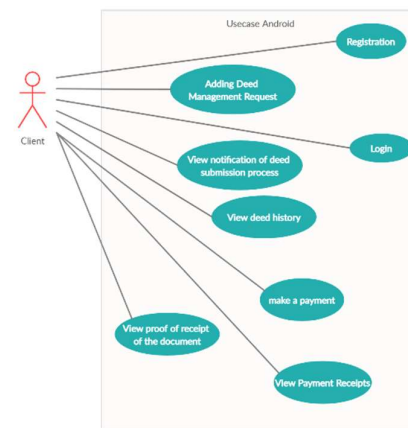

Fig. 4. Use case Diagrams on Website

Fig. 5. Use case Diagrams on Implementation

This app enabled the client to can add requests, view the progress of the deed history, and pay bills for management. Figure 6 shows the interface for an authentic deed application by uploading a picture of the required documents. Authentic Deed History Page is a page to display the progress of the submitted deed as shown in Figure 7. Figure 8 shows a list of bills added by a notary, clients can also pay by uploading proof of payment.
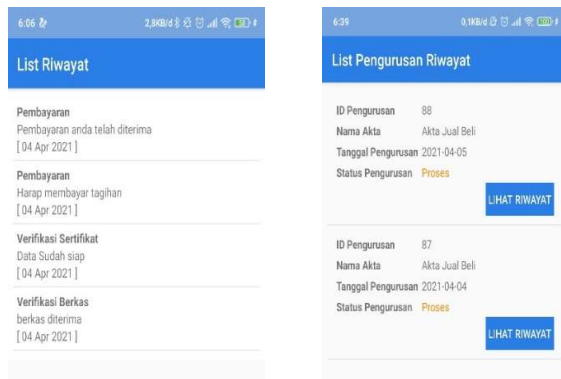

Fig. 6. Authentic Deed Request Page

Fig. 7.   Authentic Deed History Page

Fig. 10. Billing and Payment Page

Fig. 11. Billing and Payment Page

Fig. 8.   Billing and Payment Page

This website allows employees to verify deed submission documents, add deed progress and payment verification. Figure 9 shows the deed history list page, on this page employees can add a deed history as shown in Figure 10. Employees can add authentic deed management invoices and client payment verification by clients which can be seen in Figure 11 – 12. In Figure 13 contains the schedule of client management. On the schedule page, notary employees can view and confirm schedules and search features. Notary employees can add data and edit work schedules. On the deed storage page, notary employees can view and delete deed storage and the search feature. Notary employees can add to the deed storage. Notary employees can change the deed storage data as shown Figure 14. Users can download the application and see the requirements for submitting a deed on the home page as shown in Figure 15.
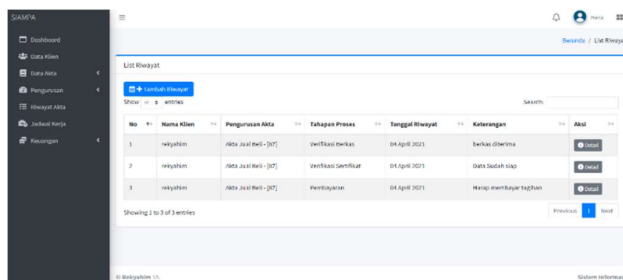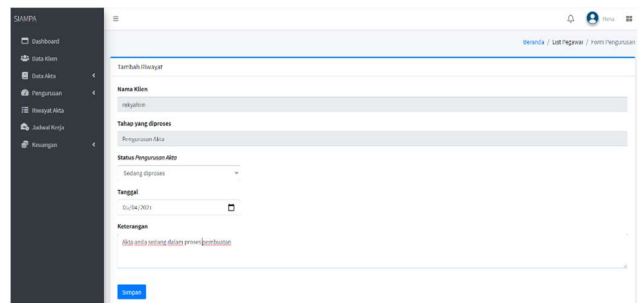

Fig. 12. Billing and Payment Page

Fig. 13. Work Schedule Page
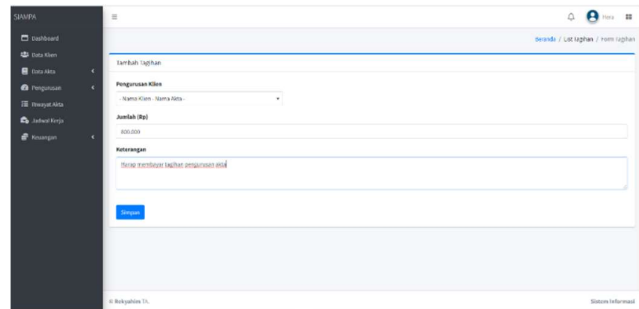

Fig. 9.   Billing and Payment Page
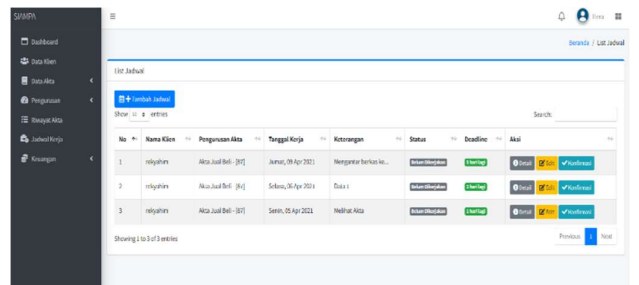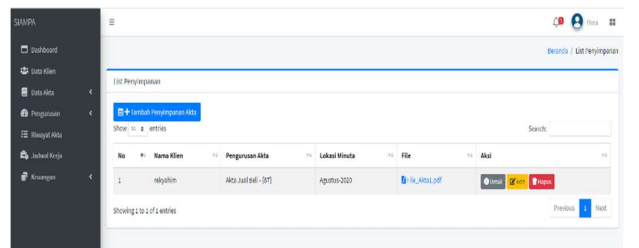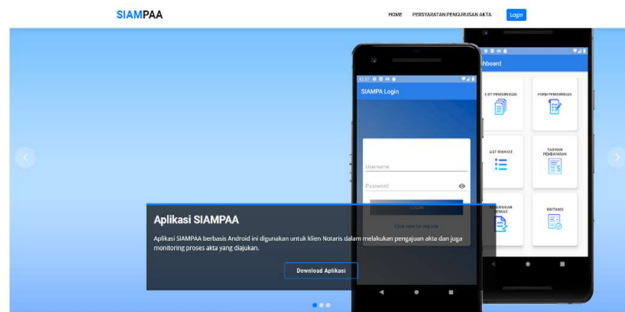

Fig. 14. Deed Storage Page

Fig. 15. Homepage

IV. ANALYSIS OF EVALUATION RESULTS

A. Prototype testing

Based on the testing of prototyping is carried to the notary on 27 July 2020 and 7 September 2020. The prototyping test of the web and android application parts was completed in 2 iterations and the prototype was tested according to the needs of the notary Asep Sudrajat S.H., M.Kn. Prototype build test results in the 1st iteration stage. There is an addition to the Android application, namely the addition of features so that clients can register and submit directly through the Android application and manage work schedules by employees via the web. The test results of the 2nd iteration prototype build show that the application and web have been accepted by the user.

Based on the results of the testing , the system can provide efficiencies to clients when doing filing and monitoring the maintenance of the deed of authentic that previous clients have to come to the notary converted into submission through application android. This web system also provides efficiency in the performance of notary employees in managing the client's deed which includes every progress of the deed management. The previous progress submission was manually converted into a website so that there would be no inconsistency when sending the progress of the deed management to the client.

B. User Acceptence Testing

User Acceptance Testing is only done once after the system is built because each iteration of the prototyping stages of the customer test drives has been carried out and has been approved.

C. Usability Testing

Testing usability testing on the application is done by giving the task and try the application to the 10 respondents. In Table I it can be seen that the Average overall score is 84. The results of the Application Assessment for Adjective Rating get good results. Grade Scale gets Grade B results, and Acceptability Range gets Acceptable results.

The SUS score can indicate the level of user acceptance SUS scores should be worth more than 70 (Brook, 2013) to be included into the category Acceptable. Based on the results of calculations SUS show that the application entered into in the inappropriate or can be received by the respondent who has been testing the application.

TABLE II.   SUS VALUE CALCULATION ON ANDROID

Name	Statement										Score
	1	2	3	4	5	6	7	8	9	10	
Resp't A	4	3	4	3	2	4	4	3	3	2	80
Resp't B	3	4	4	2	4	4	3	4	4	4	90
Resp't C	4	4	3	2	4	3	4	3	3	3	83
Resp't D	4	3	3	4	3	3	3	4	3	3	83
Resp't E	4	3	4	3	4	3	2	4	4	3	85
Resp't F	3	3	3	4	3	4	4	3	4	3	85
Resp't G	4	3	4	3	2	4	4	3	3	2	83
Resp't H	3	4	4	2	4	4	3	4	4	4	88
Resp't I	4	4	3	2	4	3	4	3	3	3	80
Resp't J	3	3	4	3	3	3	3	4	4	3	83
Average overall score of SUS											84

Testing usability testing on a website is done by giving the task and try the application to the three respondents who are party notary.

Based on Table II, the results of testing the usability of the system website which carried on the notary obtained result average overall score is 99 which indicates that the assessment website to Adjective Rating got results Excellent, Grade Scale got the results of Grade A, and acceptability Range gets results Acceptable.

TABLE III.   SUS VALUE CALCULATION ON WEBSITE

Name	Statement										Score
	1	2	3	4	5	6	7	8	9	10	
Resp't A	4	4	4	4	4	4	4	4	4	4	100
Resp't B	4	4	4	4	4	4	4	4	4	4	100
Resp't C	4	4	4	4	4	4	4	4	4	3	98
Average overall score of SUS											99

V. CONCLUSION

The conclusions obtained from the analysis of the system built are as follows:

- Prototype testing on the web and android applications is completed in 2 iterations and prototypes are tested according to user requirements. So that the system can provide efficiency to clients when submitting and monitoring the management of authentic deeds through the android application. The web system also provides efficiency in the performance of notary employees in processing the client's deed management into the website which will avoid inconsistencies when submitting the progress of the deed management to the client.

- Based on User Acceptance Testing (UAT), the system that was built was in accordance with the needs of the notary Asep Sudrajat S.H., M.Kn. and the system is running well.

- Based on the results of usability testing with SUS calculations, the system can be operated properly by the notary on the website and the client on the application.

REFERENCES

[1] Anhar, PHP & MySql Secara Otodidak, Jakarta : MediaKita, 2010.

[2] Bangor, A., Kortum, P., and Miller, J., Determining what individual SUS scores mean Adding an adjective rating scale, 2009

[3] Crystian, C., Sistem Informasi Manajemen Bridal Pada Clara Sky Power Dengan Metode Prototyping, Tugas Akhir, Jurusan Teknologi Industri , Sistem Informasi: Politeknik Caltex Riau, 2018.

[4] Dumas, J. S., & Redish, J., A Practical Guide to Usability Testing,"Maryland: Intellect Books, 1999.

[5] Herlinah, & Musliadi, Pemrograman Aplikasi Android dengan Android Studio, Photoshop, dan Audition, Jakarta Pusat : Elex Media Komputindo, 2019

[6] Moechthar, O, Dasar-dasar Teknik Pembuatan Akta, Surabaya: Airlangga University Press, 2017

[7] Perry, W. E, Effective Methods for Software Testing, Third Edition. indianapolis: Wiley, 2006

[8] Pressman, S. Roger. 2005. E-book Software Engineering: a Practitioner's Approach. Seventh Edition.

[9] Santoso, U. 2017. Pejabat Pembuat Akta Tanah: Perspektif Regulasi, Wewenang, dan Sifat Akta. Jakarta Timur: Prenada Media. 2017

[10] Sauro, J. 2011. A Practical Guide to the System Usability Scale: Background, Benchmarks & Best Practices. North Charleston SC: CreateSpace Independent Publishing Platform.