

## **Context Mobile Application (CMA) for Increasing the Service of Koperasi in Indonesia**

**Rijois Iboy Erwin Saragih<sup>1</sup>, Rahmadani<sup>2</sup>**

<sup>1</sup>Department of Accountant Computerization, Universitas Methodist Indonesia

<sup>2</sup>Department of Information System, Universitas Pembangunan Panca Budi

<sup>1</sup>Jl. Hang Tuah No 8 Medan, Indonesia

<sup>2</sup>Jl. Jend. Gatot Subroto Km. 4,5 Medan, Indonesia

E-Mail: [rijoissaragih@gmail.com](mailto:rijoissaragih@gmail.com)<sup>1</sup>, [rahm4dani@gmail.com](mailto:rahm4dani@gmail.com)<sup>2</sup>

### **Abstract**

Koperasi has an important role for economic growing in Indonesia. Especially in this time of pandemic, all countries in this world are face the same problem because of Covid-19 which is economic collapse beside the health issues. It is already a year that this virus affects the economic system of the countries. The government tries to grow the economic by supporting the small businesses through koperasi perhaps they may help the growing of the economics of the country. Unfortunately, most of conventional koperasi are still use the manual system to operate their serving to the member. In this research, it proposes mobile application of koperasi based on context needed in order to give better services to the member. The result of this research shows more than 80% user satisfy using this application.

**Keywords:** Application, Context, Koperasi, Service

### **I. INTRODUCTION**

Koperasi is also called cooperative has become a familiar thing in Indonesian society. In every region and organization could be found this koperasi. It is available in villages in the form of Koperasi Unit Desa (KUD) also called villages unit cooperative, school cooperative that provide school supplies and snacks, then it is also available in government institution. The history of the development of koperasi in Indonesia has been progressed rapidly since its establishment in the 20th century until today, and in the future it will be stronger to support the economics of Indonesia.

In reality, this koperasi give a solution to society to fund their activities either as a former, an employee, and small business. As a member of koperasi there is two thing the member can do which is saving and loaning money to koperasi. The fund of the koperasi is collected from the member so that fund may help the member for their activities. Beside saving and loaning, the member also gets Sisa Hasil Usaha (SHU) which mean the remaining and several other benefits that can be obtained from cooperative membership.

However, the koperasi has to upgrade the services to the member because nowadays mostly the koperasi in the region are still using manual system in its operation daily such as information access, loan application, etc. This age, every organization is

connected to the internet so that people can get information easily and quickly at anywhere and at anytime. Therefore the koperasi in Indonesia has to move from manual system to mobile system in order to give the best service to the member. Mobile phone has become a primary need of people for communicating [4]. In this research, it proposes an application of koperasi KITA based on mobile to give a better service [5] to the member of koperasi. The application is built on android operating system by waterfall model based on context needed and diagram context for building the application.

Research article in [1] it said that with a mobile-based system, members can apply for loans from anywhere and at any time, and data management for web-based administrators is expected to facilitate management of the financial system at the cooperative. The other research by [2] it said that the result is This application can manage data properly, starting from member data, deposit data, retrieval data, data borrowing, installment payment data and can display business report summaries so that the data is be useful information. In this research focus on developing a system which give a better service to the member in the way of getting information easily and fast in term of saving and loaning.

## II. METHODOLOGY

In this research, the model is applied to build the application which is waterfall model. This model is the Sequential development model. There are several phases in this model such as analysis, design, development, testing, implementation, and maintenance. The concept of the system is described by context diagram to explain generally of the propose system [3].

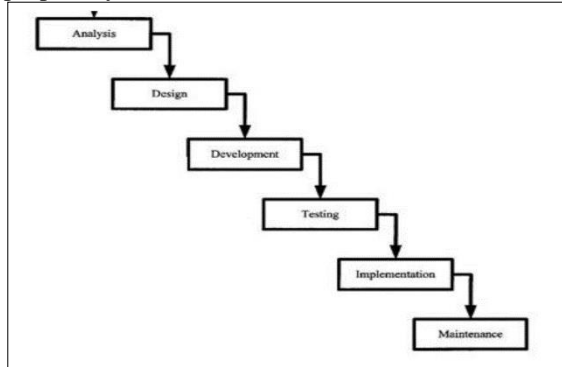


Fig 1. Waterfall

The stages of waterfall:

- Analysis: looking for the research problem
- Design: Based on the research problem then making a design to solve the problem according to the need.
- Development: It happened when the designs completed the need
- Testing: To see how the system respond to the problem
- Implementation: The system can be launched
- Maintenance: To keep the performance of the system running well.

Context diagram is a general description of the system which is built. Here, it shows that there are three entities that interacts one another in the system. Member is the one who is registered, and the admin is the one who control the data operation. The last is the chairman is the one who receive the annual report.

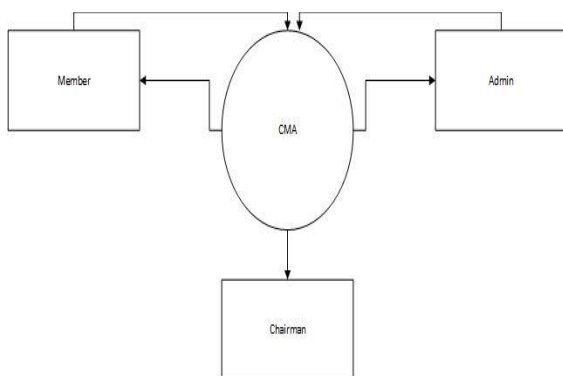


Fig 2. Context Diagram

## III. RESULT AND DISCUSSION

### A. Implementation

The Homepage is the initial display appears when the application is run. On this display there are several menu options accordingly for visitor to get

information o. Following the menu display in homepage which is in Figure 3.

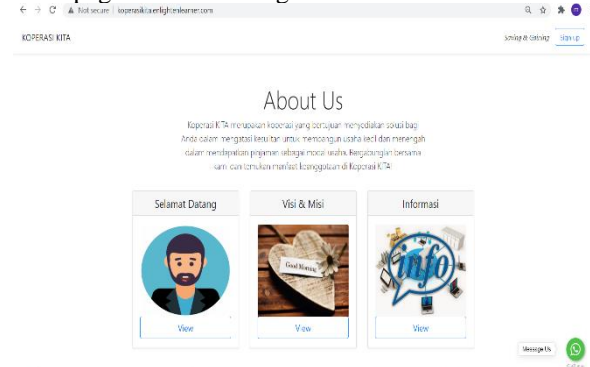


Fig 3. Homepage

Member of koperasi can do login into the system to get specific information regarding the saving and loaning as well as online submission loaning. This application provides a management system for administrator.

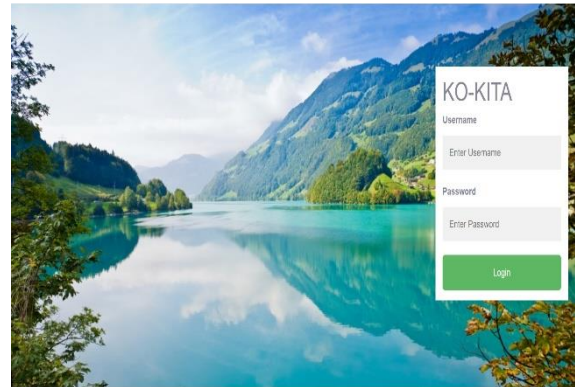


Fig 4. Login

Member, admin and can login in the same page of this application. This responsive page can be run any platform of user. The system can distinguish the user according the user access role within one page login.

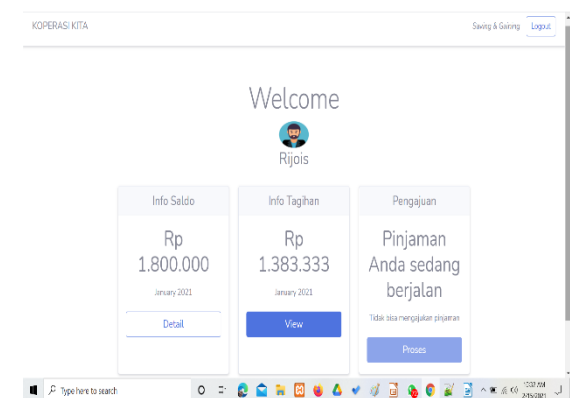


Fig 5. Member

After user login it shows the view of user page above. There are some information that user can see such as credit, installment and submission. This is the main information that user needed to know so that they may aware about their right and obligation at any time.

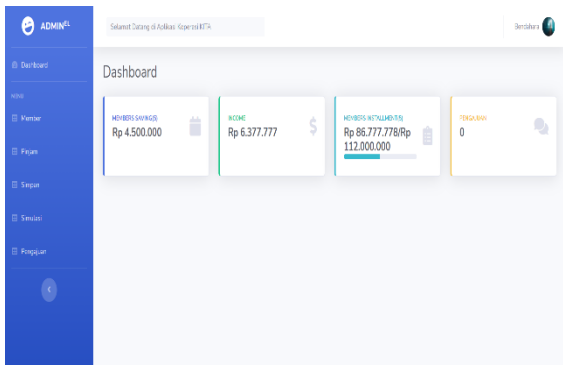


Fig 6. Administrator

This page is for an administrator to control the data so that the data can be update frequently. There are some main control data such as member, installment, saving, simulation and submission.

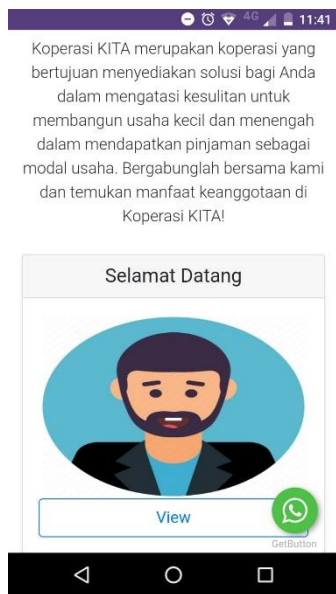


Fig 7. Mobile Application

This application based on mobile which means user can access the application by mobile phone. Nowadays, people are looking for a system to help them in getting information at any time wherever they are by their hand phone.

**B. Verification**

This stage can be said to be the final in the process of creating a system. Namely the stage verification by the member. The member will test whether the application is made in accordance with which are expected. The test is carried out by member by filling out a questionnaire. Here are the questions must be answered by the member.

Table 1. Questioner

No	Questions
1	Aplikasi ini membantu anda menjadi lebih efektif?
2	Aplikasi ini membantu anda menjadi lebih produktif?
3	Aplikasi ini berguna?

- 4 Aplikasi ini dapat menghemat waktu saat anda menggunakannya?
- 5 Aplikasi ini mudah digunakan?
- 6 Aplikasi ini sederhana untuk digunakan?
- 7 Aplikasi ini user friendly?
- 8 Anda menggunakannya tanpa instruksi tertulis?
- 9 Anda dapat melakukan recovery dengan cepat dan mudah ketika membuat kesalahan?
- 10 Anda mempelajari penggunaannya dengan cepat?
- 11 Anda mudah mengingat bagaimana cara menggunakannya?
- 12 Anda puas dengan aplikasi ini?
- 13 Aplikasi ini menyenangkan untuk digunakan?
- 14 Cara kerja aplikasi ini sudah seperti yang anda inginkan?
- 15 Aplikasi ini nyaman untuk digunakan?

Then the results of the questionnaire are calculated by using a Likert Scale. The Likert Scale formula used, which is:

Formula:  $T \times P_n$  (1)  
 $T$  = Total number of respondents who voted  
 $P_n$  = Choice of Likert score numbers

The following is a display of the results of the questionnaire which is filled in by the member in Figure 8 below this.

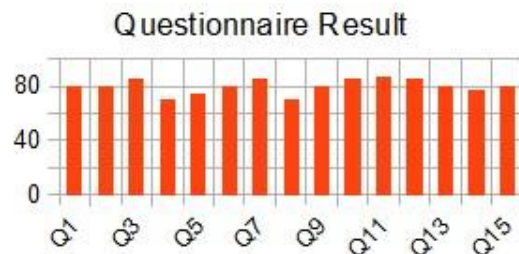


Fig 8. Questionnaire Result

**C. Discussion**

The last thing in this research is done, but not the least is that the feedback of the user. It is the most important thing for every researcher because it shows that how the application can benefit people as its purpose. The questionnaires are distributed to member that use this application and the result shows more than 80% participants satisfy using this application of koparasi based on Mobile.

**IV. CONCLUSION**

Nowadays, information system helps people to get information and do their works easily. To present good information is needed study the context of the problem so that the system can serve the user according to their need. koperasi is an institution which need to serve its member the information fast, accurate and appropriate. Context mobile application

(CMA) is one of the best approaches in developing a system. It requires the developer to study the context of the problem with detail by analysis and then based on that begin to design, develop, test, implement and maintenance. These stages keep the system running well. In the same way, this approach done on this research and it shown the difference with conventional way in developing system. In this research the conclusion has to do with a solution of the research problem. The problem is solved by building a mobile application for koperasi so that the member can get a better service to get information easily as well as to save and loan. The result shows that more than 80% user satisfy using this application.

#### **Acknowledgment**

Appreciation goes to the team who have been so nice to help us completed this research. Thanks to our leader as well as institution. The last but not the least is our family.

#### **References**

- [1] O. S. Maranti, et al. Rancang Bangun Aplikasi Pengelolaan Pinjaman Koperasi Berbasis Mobile Pada Koperasi PKK Sejahtera Sukabumi. *Jurnal Swabumi*, Vol.6 No.1 Maret 2018, pp. 72-77
- [2] M.S. Rumetna, at al. Rancang Bangun Aplikasi Koperasi Simpan Pinjam Menggunakan Metode Research and development. *Jurnal SIMETRIS*, Vol. 11 No. 1 2020
- [3] S.Balaji, M.S. Murugaiyan. Waterfall Vs V-Model Vs Agile: A Comparative Study on SDLC. *International Journal of Information Technology and Business Management*. Vol.2 No. 1 2021
- [4] Hati, Gunita M, at al. Aplikasi Penanda Lokasi Peta Digital Berbasis Mobile Gispada Smartphone Android.ISSN: 2337-845X. *Jurnal Geodesi Undip*. Volume 2, Nomor 4. 2013
- [5] Atikah, Sukardi. Sistem Informasi Simpan Pinjam Pada Koperasi Pegawai Republik Indonesia (KPRI) Dwiza Karya Kecamatan Tulakan. (Jurnal Speed-Sentra Penelitian Engineering dan Edukasi-Vol 6 No. 1 2014).
- [6] R.I.E. Saragih, O. Simatupang. Regression Genetic Algorithm (RGA) Based Approach for Optimizing Bank Deposit. *2nd International Conference on Computer Applications & Information Security (ICCAIS)*. 2019
- [7] Cooper, D. R dan Pamela S. S. Metode Riset Jurnal Informatika dan Bisnis 20 Bisnis. Jakarta. PT.Media Global Edukasi. 2006
- [8] Coronel, Carlos, Steven M, dan Peter R, Database Systems: Design, Implementation, and Management, 10th edition, Boston: Cengage Learning. 2013
- [9] Dennis, Alan, Barbara H. W, dan Roberta M. R, System Analysis and Design, 5th edition, Danvers: John Wiley & Sons, Inc. 2012
- [10] Collins, C., Galpin, M.D. & Kappler, M. Android in Practice. Manning: Shelter Island New York. 2012
- [11] Hashimi, Sayed Y., Komatineni, Satya. Pro Android. Apress: New York. 2009
- [12] Gargenta, M. Learning Android. O'Reilly Media: California. 2011
- [13] Subandi, M.M. Ekonomi Koperasi. Bandung: Alfabeta. 2017
- [14] Mulyanto, Agus. Sistem Informasi Konsep & Aplikasi. Yogyakarta: Pustaka Pelajar. 2009
- [15] Subagyo, Ahmad. Manajemen Koperasi Simpan Pinjam. Jakarta: Mitra Wacana Media. 2014