Jurnal Mantik, 6 (2) (2022) 1903-1910

Published by:Institute of Computer Science (IOCS)

Jurnal Mantik

Journal homepage: www.iocscience.org/ejournal/index.php/mantik/index

Android-Based Dictionary Application Of Indonesian-Fakfak (Iha) Language

Andi Roy[1] , Riyadh Arridha[2] , Tri Bata Biru Saputri[3] , Rusliadi[4]

[1,2,3,4] Politeknik Negeri Fakfak, Jalan TPA Imam Bonjol Atas, Air Merah, Kelurahan Wagom, Fakfak

E-mail: andiroy@polinef.id[1], riyadh.arridha@polinef.ac.id[2] , albiruprincess@gmail.com[3], rusliadi@polinef.id[4]

A R T I C L E I N F O

Article history:
Received: Jun 30, 2022
Revised: Jul 17, 2022
Accepted: Jul 25, 2022

Keywords:
Dictionary,
Iha Language,
Android,
Fakfak

ABSTRACT

Indonesia is a country that has a variety of regional languages. One of the regional languages owned by Indonesia is Iha language, which is one of the native languages of Fakfak Regency, West Papua Province. Based on the current phenomenon, the younger generations in the Fakfak Regency area, do not know and do not understand the Iha language. In practice, slang and borrowed languages from outside Fakfak are used more often than local languages. This has reduced the number of users of the Iha language, which has an impact on the erosion of local cultural wisdom in terms of language. One solution that can be done to increase interaction with regional languages is to present technological solutions that are familiar to the community. There is a fact that there is a high level of public interaction with the use of smartphones, so that it can be used as a medium to recognize or learn Iha language. In this research, Iha language dictionary application was built, which was translated into Indonesian and vice versa. By using this application, the people who want to learn the Iha language or to enrich their vocabulary, can find it easier to get the translation of the desired word. Prototype is a method used by researchers to build this application and use Black Box method for testing. This research resulted in an application of the Iha – Indonesian and Indonesian – Iha language dictionary which in the test concluded that the application that was built is functioning properly.

1. Introduction

Indonesia, one of the countries that has a variety of languages. Language is defined as a way of human life to communicate from generation to generation. Language is a special capacity found in humans to be able to obtain complex communication systems[1]. The habits of today's generation prefer to communicate with slang rather than using local languages so that the use of regional languages in daily communication will experience a decline.[2]. Preservation of regional languages in the midst of rapid technological advances is very much needed. Technology is now very capable to be able to help speed up the completion of a job can also be used to create an application / information system that can be used by users to facilitate learning, activities, or work. [3].

One of the uses of technology that can be used by users to learn is an electronic dictionary. Electronic dictionaries can serve to introduce various regional languages in Indonesia[4]. Electronic dictionaries are very popular especially among the current generation. This is because it is easier to find the meaning/translation of words using an electronic dictionary rather than using a dictionary in book form. Electronic dictionaries in this case refer to electronic dictionaries in the form of offline and online applications. The main difference between printed and electronic dictionaries is that e-dictionaries can store

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

and handle a larger number of words and display their translations[5]. Research on electronic dictionaries has been carried out by several researchers, such as the Android-Based Prototype of the Lubuk Linggau Regional Language Electronic Dictionary using the prototype method as a system development method[6].

In this research, an electronic dictionary application for Iha - Indonesian, Indonesian - Iha is made. The authors hope that this dictionary application can be used as a reference source for the wider community, to improve the ability to use the Fakfak regional language (Iha language) both orally and in writing. Furthermore, we hope that this dictionary application can be used by all education personnel, both teachers, students, and can even be used by journalists and culturalists. In addition, the application of the Fakfak regional language dictionary (Iha language) is expected to be able to overcome the gap in regional language skills, for anyone who wants to learn the Fakfak regional language (Iha language).

2. Methods

In this research, the prototype method is used as shown in Figure 1. This method is a system development technique that describes the system so that the client or system user has a clear picture of the system to be made [7].

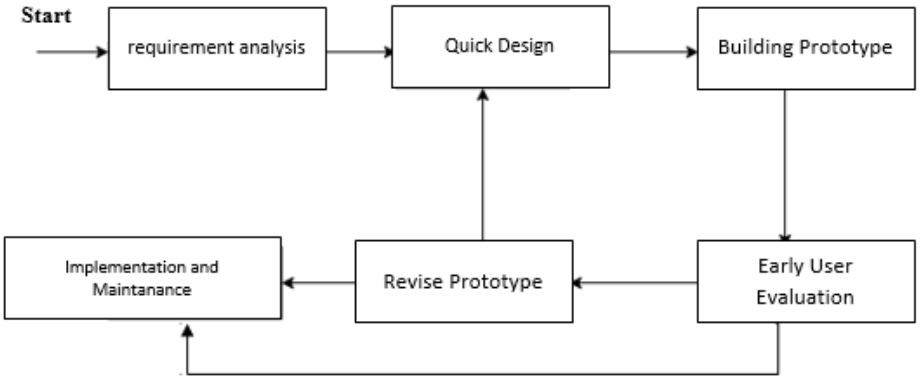

Figure 1. Prototype Method

Each stage in the prototype model used is described as follows:

a. Requirements Analysis
   In the first stage the system requirements are analyzed in detail. An example of its implementation is the client with the developer team meeting to discuss the details of the system desired by the user[8].
b. Quick Design
   In the second stage, namely making a simple design that will provide a brief explanation of the system to be made referring to the discussion from stage 1. Figure 2 shows the schema of the dictionary application that was built[9].

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

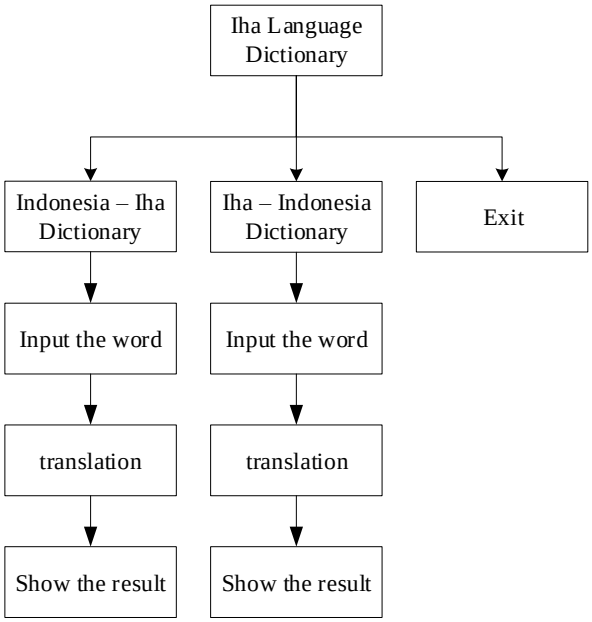

Figure 2. Application Schema

c. Build Prototype
In stage 3, namely making an actual prototype that will be used as a reference by researchers for making applications according to the fast design that has been approved in stage 2[10].

d. Early User Evaluation
At this stage, the prototype that has been made is presented to the client for evaluation[11].

e. Revise Prototype
At this stage is a system improvement in accordance with the notes or evaluation by the client at stage 4, but if there is no then the researcher can continue at stage 6 [12].

f. Implementation and Maintenance
In the final stage, the application is made by the programmers based on the final prototype, then the system is tested and handed over to the user or client. System testing is done using Blackbox method. Blackbox is one type of test that is implemented to find out whether the system made can function properly by looking at the results of input and output on the application without looking at the code structure [13][14]. Then the maintenance stage so that the system runs without problems. Maintenance is carried out after the application is used by the client but this research only reaches the testing process.

2.1. System Design

Flowchart is a chart that describes a sequence of instructions for displaying processes in a system and the relationship between one process and another [15][16]. To understand the working pattern of this designed system, the following is a application flowchart used in this research.

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

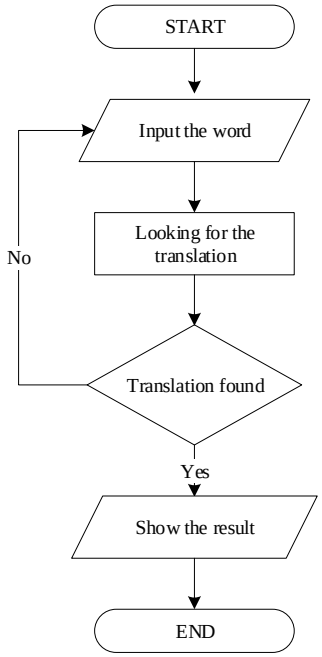

Figure 3. Flowchart

As shown in Figure 3, the user must input the word he wants to translate first, after that the system will search in the dictionary database. If the translation is found, the result will be displayed to the user, while if the translation is not found, it will return to the word input process.

2.1 Use Case Diagram

Use Case Diagram is a type of Unified Modeling Language (UML) diagram that describes the interaction relationship between the system and actors [17][18]. Figure 4 shows that the Android-based Fakfak Regional Language Indonesian Dictionary Application (Iha) describes the interaction between the user and the system.

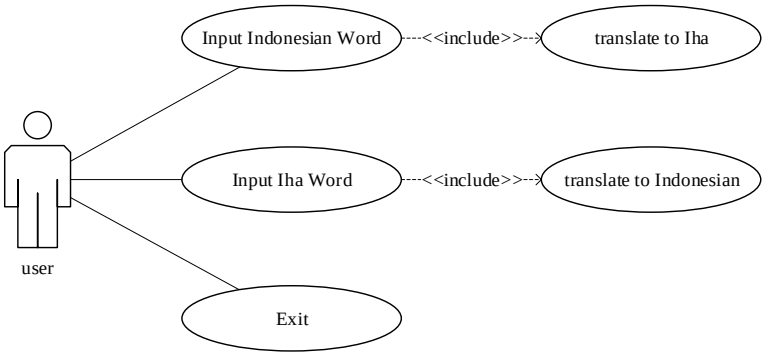

Figure 4. Use Case

In Figure 4, it can be seen that there are basically two types of interaction between the user and the system, namely the interaction for translating from Iha to Indonesian and from Indonesian to Iha. The interaction comes with the option to exit the application.

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

3 Result and Discussion

3.1 Resualt

a. Application Testing

In the testing process, the first step that must be done is planning the test. The test plan can be seen in the following table:

Table 1
User Test Design

User	Tested Items
User	1. Dictionary display menu 2. Word input menu 3. Translate menu

b. Dictionary display test results

In this test, an experiment was carried out to enter the application and test the display shown by the application as expected.

Table 2
Dictionary Display Test

Test Method	Scenario	Result	Info.
Enter Application	Move to menu: Dictionary view Word column Translate button	Displaying Pages: Dictionary pages Word column Translation	Succeed

c. Word input test results

In this scenario, the application is tested to accept input words that are inputted in the prepared column, both columns for inputting Indonesian words, and columns for inputting Iha words.

Table 3
Dictionary Isplay Results

Test Method	Scenario	Result	Info.
Click the word column	Enter word	Word input can be done	Succeed

3.2 Translation test results

This test is done by entering the word to be translated, then the application will display the translation results according to the Iha language database that has been inputted into the system.

Table 4
Iha-English Vocabulary Testing

No	Iha Language Vocabularies	Indonesian Translate	Info.
1	Wong	Angkasa	Succeed
2	Awiyar	Abadi	Succeed
3	Hwoden	Absen	Succeed
4	Tewe	Ada	Succeed
5	Naggha	Adik	Succeed
6	Kara	Air	Succeed
7	Nggrok	Akat	Succeed
8	Mandha	Anak	Succeed
9	Komboum	Angin	Succeed
10	Mbiyar	Anjing	Succeed
11	Huha	Bahaya	Succeed
12	Ndur	Babi	Succeed

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

13	What	Bagi	Succeed
14	Mag	Bahasa	Succeed
15	Landan	Baju	Succeed

a. Application User Interface

Figure 6 display the user interface for the Indonesian – Iha and Iha – Indonesian Dictionary application. There are two features in the application, namely, an Indonesian word input field to be translated into Iha and an Iha word input field to be translated into Indonesian. As for how to use it, users enter an Indonesian word into the Indonesian text column if they want to be translated into Iha language, or into the Iha language text column if they want to be translated into Indonesian. After that the user presses the translate button and the application will display the translation results.

Figure 5. Dictionary View

Figure 7 shows the results of the word translation that was tested on the electronic dictionary application. It can be seen that the inputted word "Saya" means "on" in the Iha language and the opposite is seen the word "On" which is inputted in the Iha language means "Saya" in Indonesian.

Figure 7. Running Results Translate Words

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

3.3 Discussion

By using this application, the public and everyone who wants to learn the Fakfak Regional Language is easier to get information about the Fakfak (Iha) Language. The input of application is vocabulary in Iha language and will be translated into Indonesian Language and vice versa. This Indonesian-Iha, Iha-Indonesian Dictionary can still be developed to have maximum features. Such as using the voice input feature to enter the word, as well as the voice feature to display the translation results.

4 Conclusion

Based on application testing, it can be concluded that the application can be run on Android smartphones. The application can perform the function of translating vocabulary from Iha to Indonesian or vice versa from Indonesian to Iha. The application is designed for supporting of preservation local languages that are almost extinct. The application can be used as a learning medium for the younger generation, the Fakfak society, and anyone who wants to learn Fakfak (Iha Language). According to the testing result using the Black Box method, it is concluded that the application built is functioning properly.

References

[1] S. Hastuti and N. Neviyarni, "Teori Belajar Bahasa," *Edukatif : Jurnal Ilmu Pendidikan*, vol. 3, no. 1, 2021, doi: 10.31004/edukatif.v3i1.179.

[2] F. Lafamane, "Fenomena Penggunaan Bahasa Daerah di Kalangan Remaja," *Fenomena Penggunaan Bahasa Daerah di Kalangan Remaja*, 2020.

[3] R. Arridha, R. Tomsio, and T. Magfirah, "Rancang Bangun Sistem Informasi Musyawarah Perencanaan Pembangunan Pada Badan Perencanaan, Pembangunan, Penelitian Dan Pengembangan Daerah Kabupaten Fakfak," *SINTECH (Science and Information Technology) Journal*, vol. 2, no. 2, 2019, doi: 10.31598/sintechjournal.v2i2.299.

[4] K. Khairul, S. Haryati, and Y. Yusman, "Aplikasi Kamus Bahasa Jawa Indonesia Dengan Algoritma Raita Berbasis Android," *Jurnal Teknologi Informasi dan Pendidikan*, vol. 11, no. 1, pp. 1–6, Apr. 2018, doi: 10.24036/tip.v11i1.102.

[5] D. Sugiri, H. Hikmayanti, and A. Suharso, "RANCANG BANGUN APLIKASI KAMUS SUNDA-INDONESIA DENGAN METODE BINARY SEARCH BERBASIS ANDROID," Techno Xplore : Jurnal Ilmu Komputer dan Teknologi Informasi, vol. 4, no. 1, 2019, doi: 10.36805/technoxplore.v4i1.537..

[6] M. Nasir and V. Sahfitri, "Prototype Kamus Elektronik Bahasa Daerah Lubuk Linggau Berbasis Android," Jurnal Ilmiah Matrik, vol. 22, no. 2, 2020, doi: 10.33557/jurnalmatrik.v22i2.998..

[7] E. W. Fridayanthie, H. Haryanto, and T. Tsabitah, "Penerapan Metode Prototype Pada Perancangan Sistem Informasi Penggajian Karyawan (Persis Gawan) Berbasis Web," *Paradigma - Jurnal Komputer dan Informatika*, vol. 23, no. 2, 2021, doi: 10.31294/p.v23i2.10998..

[8] S. Hartina and A. Hadi, "Pengembangan Aplikasi Media Pembelajaran Berbasis Mobile Apps untuk Mata Pelajaran Administrasi Infrastruktur Jaringan di SMK IT," Voteteknika (Vocational Teknik Elektronika dan Informatika), vol. 9, no. 1, 2021, doi: 10.24036/voteteknika.v9i1.111258.

[9] M. Nur Faiz, N. W. Rahadi, and N. W. Adi Prasetya, "Online Presence System Development Website-Based using Prototype Methods," Applied Technology and Computing Science Journal, vol. 4, no. 1, 2021, doi: 10.33086/atcsj.v4i1.2096.

[10] T. Hidayat And S. Sukisno, "Rancang Bangun Sistem Penerimaan Mahasiswa Baru Online Dengan Model Sdlc Metode Prototipe Di Universitas Islam Syekh-Yusuf," Jurnal Penelitian Dan Karya Ilmiah, Vol. 18, No. 2, 2019, Doi: 10.33592/Pelita.V18i2.49.

[11] R. H. Saputra And K. Latifah, "Perancangan Sistem Informasi Absensi Berbasis Web Menggunakan Metode Prototipe Di Semarang Tv," Science And Engineering National Seminar, Vol. 5, No. 1, 2020.

[12] N. Renaningtias and D. Apriliani, "Penerapan Metode Prototype Pada Pengembangan Sistem Informasi Tugas Akhir Mahasiswa," Rekursif: Jurnal Informatika, vol. 9, no. 1, 2021, doi: 10.33369/rekursif.v9i1.15772.

[13] R. Habibi and R. Aprilian. Tutorial dan penjelasan aplikasi e-office berbasis web menggunakan metode RAD. Vol. 1. Kreatif, 2020.

[14] R. Arridha, T. Magfirah, C. D. Hayunada, and D. Astuti, "Android-based Geographic Information System for Worship Places in Fakfak Regency," *Sinkron*, vol. 7, no. 1, 2022, doi: 10.33395/sinkron.v7i1.11227.

[15] M. Noor and A. Masykurinnisa. "Aplikasi Ayatul Ahkam Berbasis Web." Jurnal Sains dan informatika 3, no. 2, 2017, doi: 10.34128/jsi.v3i2.107

[16] R. Arridha, and A. Roy. "Android-Based Geography Information System and Tourism Object Locations (A Case Study: Fakfak Regency, West Papua Province)." Jurnal Mantik 5, no. 3, 2021, pp. 1860-1872.

[17] R. Arridha, T. Magfirah, A. Roy, M. N. A. Ganiyu, and R. Z. Nengsih. "Rancang Bangun Sistem Informasi Data Alumni Pada Politeknik Negeri Fakfak." Jurnal Informasi, Sains dan Teknologi 3, no. 2, 2020, doi: 10.55606/isaintek.v3i2.34

[18] F. Ciccozzi, I. Malavolta, and B. Selic, "Execution of UML models: a systematic review of research and practice," Software and Systems Modeling, vol. 18, no. 3, 2019, doi: 10.1007/s10270-018-0675-4.

[19] Y. Afrianto, N. Br Ginting, S. Suratun, and Y. Nelawati, "SISTEM INFORMASI INVENTORY P.O.S (POINT OF SALES) BERBASIS WEB PADA COUNTER CELLULAR," JURTEKSI (Jurnal Teknologi dan Sistem Informasi), vol. 6, no. 2, 2020, doi: 10.33330/jurteksi.v6i2.407.

[20] W. Aliman, "Perancangan Perangkat Lunak untuk Menggambar Diagram Berbasis Android," Syntax Literate ; Jurnal Ilmiah Indonesia, vol. 6, no. 6, 2021, doi: 10.36418/syntax-literate.v6i6.1404.

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.