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Android Based Minang Language Using UCD Method (User Centered Design): Tour Guide Application

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Abstract-- **UCD (User Centered Design) is a design philosophy of putting users at the center of a system development process. The difficulties experienced by the tourists who visited West Sumatra during traveling is in communicating which can be helped by using UCD method. The approach using UCD method has been supported by various techniques, methods, tools, procedures and processes that help to design more user-centered applications. In the UCD method the user is at the level of design sophistication of all interfaces used based on the guide application. In making the application, the tool used in designing tourist guide application design is using Unified Modeling Language (UML). Data excavation is done by interview and observation to the end user, and library study. Tour guide application built using eclipse with SQLite database storage media. The result of this design is expected to provide convenience to the tourists in making tourism visits to West Sumatra.**

Kata Kunci: Android, Minang Language, SQLite, UCD, UML

I. INTRODUCTION

Indonesia has huge tourism potential, one of the tourism potential is found in West Sumatera Province. The diversity of tourism in West Sumatra makes tourism in the realm of Minang growing rapidly. The development of tourism in West Sumatra is reflected in the number of foreign tourists who come to West Sumatra through Minangkabau International Airport and Teluk Bayur port. Based on statistical data in June 2017 the number of tourists reached 2940 people [1]. In general, tourists come to West Sumatra to see the tourist objects, where West Sumatra has many famous attractions with the beauty of natural scenery such as Air Manis Beach, Padang Beach, Anai Valley, Maninjau Lake, Puncak Mandeh, and others.

Language is the way people communicate; in Indonesia there are diverse types of languages one of which is the language of Minang from West Sumatra. There are 3 languages that are often used in the area of tourism in West Sumatra that is Minang, Indonesian and English. These three languages are a familiar language used in entertaining local and International tourists. The phenomenon that is often experienced by the tourists who visit West Sumatra is the limitations in communication; this is due to lack of understanding of tourists about the Minang language in West Sumatra [2]. While the availability of facility over Minang language dictionary at this time is still in the form of books that have limitations so that the tourists are less so like to carry it in doing tourism activities in West Sumatra. So, it makes the tourists difficult to communicate with Minang language when dealing directly with the surrounding community who daily use more Minang language. Therefore, the purpose of this article is to provide solutions for tourists by providing the availability of dictionaries in digital form with Minang language which is expected to meet the needs of tourists.

This digital app will change the use of dictionary form from the printed form to the form of an android-based language guide. This application is expected to facilitate the tourists in using it. In addition, it can also increase knowledge in understanding a language.

II. LITERATUR REVIEW

2.1 User Centered Design

User Centered Design is a design philosophy of putting users at the center of a system development process [3]. In the User Centered Design process, there are 4 steps [4] to do such as Figure 1.
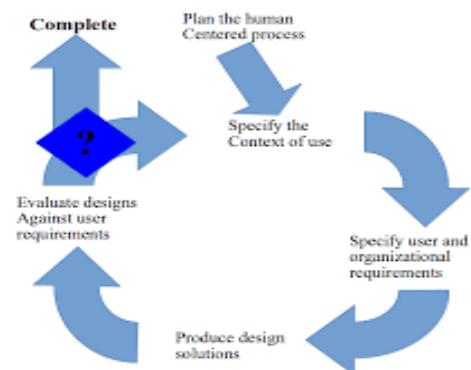

Figure 1. User Centered Design Stages

Caption :

1. *Specify the context of use*
    Identify the person who will be using the system. This stage will explain for what and under what conditions the user will use the system
2. *Specify user and organization requirements*
    Identify the needs of users and the needs of an organization.
3. *Produce Design Solutions*
    Build the design as a solution of the system being analyzed
4. *Evaluate Design*
    Evaluate the design done in the previous stage

2.2 Eclipse, SQLite Database and Unified Modeling Language

Eclipse is an IDE (Integrated Development Environment) to develop software and can run on all platforms (platform independent) [5]. The nature of eclipse is multi-platform, multi-language and multi-role. Eclipse can be used for activities in software development cycles such as documentation, software testing, web development, and so on. While SQLite is one of the most popular embedded software, the combination of SQL interface and the use of very little memory at a very fast speed [6]. The android system has several techniques to perform data storage. Commonly used techniques are Shared Prefences, Files, SQLite Databases and Contents Providers. To create and open the best database is using Libraries import android. database. Sqlite. SQLite Open Helper which provides three methods of Constructor, on Create () and on Upgrade () provides the database conversion facility from the old version of the database to a new version of the database or vice versa. Meanwhile, Unified Modeling Language is a language that has become the industry standard for visualizing, designing and documenting software systems [7]. Unfied Modeling Language is a graphics-based language, visualizing, specifying, building and documenting an OOP (Object Oriented Programming) software system [8].

2.3 Applications, Tour Guide and Android

Application is a ready-made program that can be used to execute commands from users of the application with the aim of getting more accurate results in accordance with the purpose of making the application. The application has a meaning that is troubleshooting using one of the application data processing techniques that usually pace on a desired or expected computation or expected data processing [9]. An application is a subclass of computer software that utilizes the ability of the computer directly to perform a task that the user wants. In a large Indonesian dictionary, language is the symbol of an arbitrary sound, used by members of a society to cooperate, interact, and identify. While the tour guide is a person whose job is to accompany tourists by arranging trips and giving explanations about the places visited. While android is a Linux-based operating system that is used for mobile phones (mobile) such as smart phones (smartphones) and tablet computers (PDA) [10]. There are several android versions ranging from version 1.1 to version 8.0.

III. RESEARCH METHODOLOGY

3.1 Data Collection Method

1. Field Research Methods (Field Research)

a. *Interview (Interview)*

The method used in the design of guiding language language applications is to conduct a question and answer process to the tourists who visit West Sumatra such as Padang Beach, Sweet Water Beach, and Gondariah Beach so that the answers of the tourists can generate data and information needed in the design of the application.

b. *Observation (Observation)*

The method used in the design of guiding language applications tour is to make observations directly on the object of tourism in West Sumatra which aims to generate data and information needed in the design of the application, in order to know things that happen in the field.

2. Library Research Method (Library Research)

A method of research is data collection methods by studying books related to the problems being faced in research, such as android programming books, browse data from the official website of Padang City Tourism Office, and the Central Bureau of Statistics of Padang City.

3.2 System Design Method

System design method using User Centerd Design method. As for several stages of User Centerd Design method as follows:

a. *Specify the context of use*
This language guide application is built for tourists visiting West Sumatra. The phenomenon that is often experienced by the tourists who visit West Sumatra is the limitation in communicating, this is due to lack of understanding of tourists about the Minang language in West Sumatra.

b. *Specify user and organization requirements*

Needs that are needed by the tourists who visit West Sumatra is an android language-based guidance applications in several languages such as Indonesian, English, and Minang.

Table 1. The functional requirements of guides language apps

NO	TERM	DESCRIPTION
1	Word search Input	In the process of searching for words, the user can input the word as desired. As the user inputs the word "Lari ".
2	Word Translation	In this process the user has

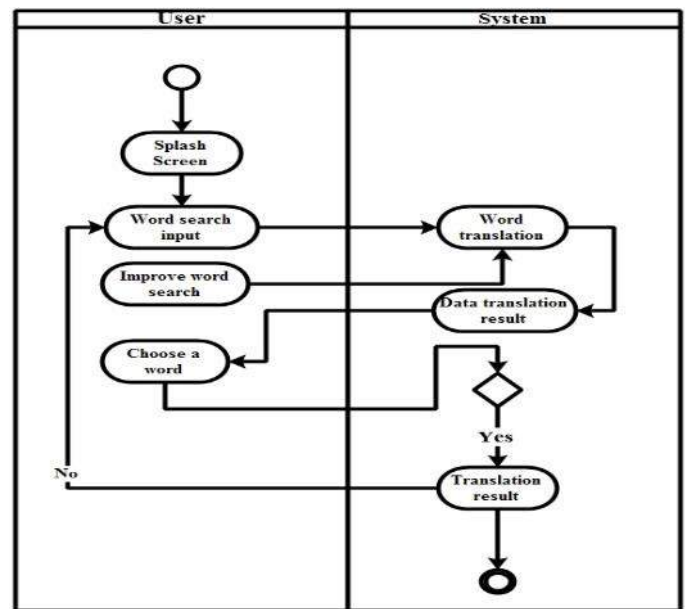| NO	TERM	DESCRIPTION
		input the word as desired. After inputting user can click "Translation" button. Furthermore, the system will translate the word "Run" into two languages namely English and Padang Language or Minang Language.
3	Word Search Output	In this process the system has done the word translation process. When the user inputs the word "Run" then the system will output the translation in two languages - English with "escape, run, leave" and in Padang or Bahasa Minang language will output "balari".

c. Produce Design Solutions

Is a tour guide application design as application development solution that is:

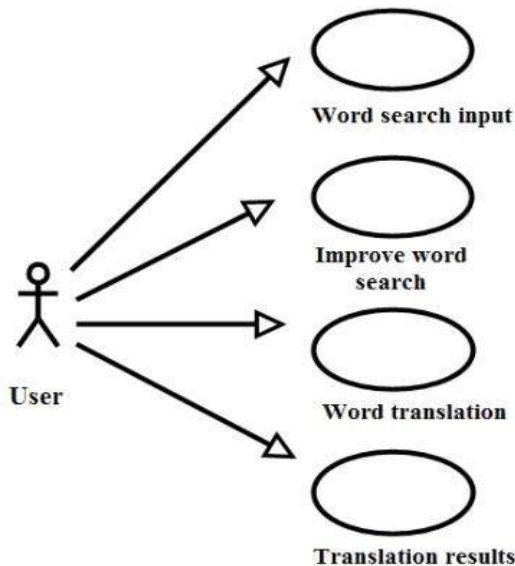*1. Process design*

- *Use Case Diagram*

Figure 2. Use Case Diagram

In figure 2. the user can perform input activity word search, improve word search, word translation, and word translation.

- *Activity Diagram*

Figure 3. Activity Diagram

In figure 3. user start opening guide language app with smartphone media. By clicking the language tour guide app icon in the symbol of the rumah gadang. After opening the guide language app, the system splash screen appears. Splash screen is the main display of programs that appear temporarily before going into the main menu. In the splash screen system there is a "Welcome to Guides Language Information System" feature, gadang home, icon loading and "Please Wait ...". In the process of inputting a word search, the user can input the word as desired. As the user inputs the word "Lari". In this process the user has input the word as desired. After inputting, user can click "Translation" button. Furthermore, the system will translate the word "Lari" into two languages namely English and Padang Language. the language guide application will display data translation results will be given to the user. Users can select the desired word according to word data that has been displayed by the system. As the English word runs there are three translation words like escape, run, and leave ". Here the user can select the word as desired. In this branch, the user can select the required word "Yes" or "No". If "No" user can input the word back as desired. In the process of repair the word user can fix the word if there is an error at the time penginputan. For example the word "Run" typed "Lari". In this process the system has done the word translation process. When the user inputs the word "Lari" then the system will output the translation in two languages English with the result "escape, run, and leave" and in Padang will come-out"balari". The word "Finish" signifies that the search for words performed by the user in the language guide application ends.
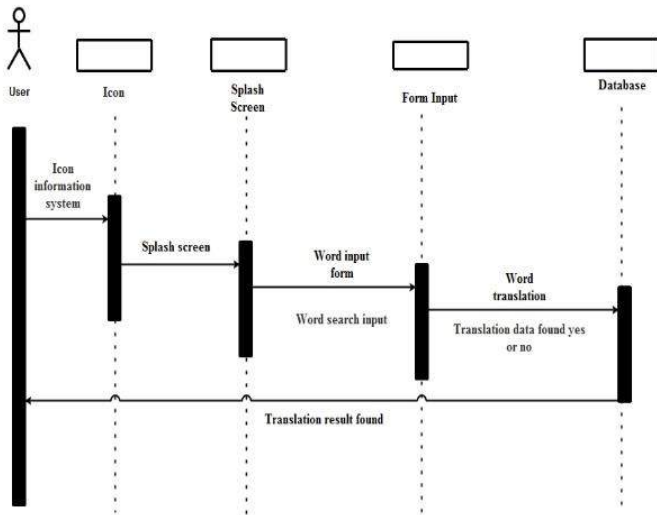
- *Sequence Diagram*

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Figure 4. Sequence Diagram

In figure 4. is an app icon serves as a symbol of the language guide guide applications that can facilitate the search of an application on a smartphone. Icon contained in this application is marked in the form of a Rumah gadang. After opening the guide language app the splash screen system appears. Splash screen is the main display of programs that appear temporarily before going into the main menu. In the system splash screen there is a "Welcome to Guides Language Information System" feature, gadang home, icon loading and "Please Wait ...". Users can input word search as needed in forminput. As the user inputs the word "Run". After doing input word then the system will process search words that have been entered by the user in the database. In the database of tourist guide language there are 1000 words that have been inputted in 3 languages namely Indonesian, English, and Padang language. If the word translation is found then the system will output the translation into two languages namely English and Padang language. If the system does not find it will display a warning "Translation Not Found".

- *Component Diagram*

Figure 5. Component Diagram
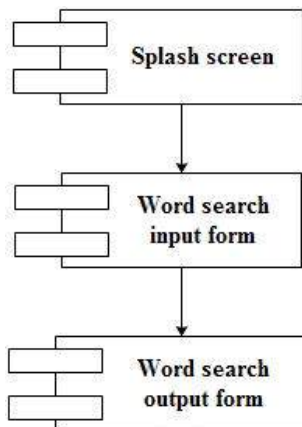
- *Splash Screen Design*

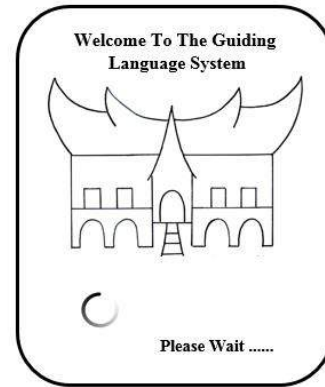The splash screen design contained in the design of guiding language applications are:

Figure 6. Splash Screen

- Input Design

The input design contained in the design of guiding language applications are:

Figure 7. Input Design

- *Output Design*

The output design contained in the design of guiding language applications are:

Figure 8. Output design

d. Evaluate Design

Evaluation results conducted on guided tour guide language applications tested by distributing questionnaires to tourists. The questionnaire was distributed to 90 respondents in Pantai Padang, Air Manis Beach, and Pantai Gondariah. The results shows the success of the application icon function with 93%, 100% smartphone application screening, 97% viewing language, 100% languages, 67% understanding, 77% viewing, 97% search, 100% benefit, information network 83.3%, and content simplicity 100%.

IV. RESULT

While the form of application language android-based tour guides this get the following results:

- *Interface View*

Figure 9. Interface Display

In Figure 9, there is a display interface that serves as the main view before the user entered into the language information system android-based tour guides. In the design of

- *System Process*

Figure 10. Splash Screen

this interface user can click on the icon of the gadang house that there is written language tour guide to enter into the tour guide language information system.

- *Splash Screen*

In Figure 10, a splash screen display that is in the language information system android-based tour guide before going into the main menu. Inside this splash screen there is a welcome reading in the tour guide language information system, gadang rumah image, icon loading and writing please wait.

- *Input Display*

Figure 11. Input Display

In figure 11, is the input of the tour guide language information system. In the input system view, the user can input the word as desired. In the language information system of this tour guide there are 1000 words that have been entered into the database into three languages namely Indonesian, English, and Padang language.

Figure 12. Process View

In figure 12 is the view of the process of language information system of the tour guide. In the system process view, the user has input the word as desired. After inputting the user can click the "Translate" button. Furthermore, the system will translate the word "Run" into two languages namely English and Padang Language.

• *Output System Found*

Figure 13. Output View Found

Figure 13 shows the output of the language information system of the tour guide. Inside the system output view, the system has processed word translation. When the user inputs the word "Run" then the system will output the translation in two languages - English with output "escape, run, and leave" and in Padang will output "balari". Users can select the desired word according to word data that has been displayed by the system. As the English word runs there are three translation words like escape, run, and leave ". Here the user can select the word as desired.

• *Unexpected System Output*

Figure 14. Output Display Not Found

In figure 14 is an output view that is not found. If the system does not find a word that has been entered by the user will display a warning "Translation Not Found".

V.   CONCLUTION

The guiding language app is designed using UCD method, the system generated from this design provides satisfaction for the traveler and increases the usefulness of the guiding language application from the beginning the user has been involved. In addition, the success of system design using UCD method is to build closeness between the developer and the user so as to obtain the needs and desires of the language guide application user. Applications language-based android-based tour guides can be utilized by tourists who visit West Sumatra, even the general public in searching for words that use the Padang language on android-based smartphone. This application can be implemented on the operating system android version 2.2 to 8.0. Future research can follow up on testing this app or add features not investigated in the guide language application article.

REFERENCES

[1]   Perkembangan Pariwisata dan Transportasi Sumatera Barat Juli 2017 (2017)   Badan   Pusat StatistikSumateraBarat.Availableat:https://sumbar.bps.go.id/pressreleas e/2017/09/04/533/perkembanganpariwisatadantransportasi-sumatera-barat-juli-2017.html.

[2]   Alna Hanana, Novi Elian, R. M. (2017) 'Strategi Komunikasi Persuasif Dalam Menciptakan Masyarakat Sadar Wisata Di Kawasan Wisata Pantai Padang , Kota Padang', Strategi Komunikasi Persuasif Dalam Menciptakan Masyarakat Sadar Wisata Di Kawasan Wisata Pantai Padang, Kota Padang,6,pp.34–46

[3]   Purnama, I. (2017) 'Perancangan Kamus Muslim Berbasis Smarthphone Android Dengan Metode User Centered Design (UCD)', Ilmiah AMIK Labuhan Batu, 5(3), p. 14.

[4]   Silva, T. et al. (2017) 'User-Centered Design and Agile Methods : A Systematic Review', iJIM.

[5]   Pu, M.Et.al. (2017)'Framework based on Mobile Augmented Reality for Trans lating Food Menu in Framework based on Mobile Augmented Reality for Translating Food Menu in Thai Language to Malay Language', (October). doi:10.18517/ijaseit.7.1.1797

[6]   Setiawan, A., Handojo, A. and Hadi, R. (2017) 'Indonesian Culture Learning Application based on Android', 7(1), pp. 526–535. doi10.11591/ijece.v7i1.pp526-535.

[7]   Zou, D. et al. (2018) Game-Based Vocabulary Learning in China and Hong Kong : Students ' Evaluation of Different Word Learning APPs. Springer Singapore. doi: 10.1007/978-981-13-0008-0.

[8]   Pe, A. et al. (2018) 'Mexican Spanish Affective Dictionary', pp. 63–71. doi: 10.1007/978-3-319-77703-0.

[9]   Bagus, I and Ludy, M. (2018) 'The Development of an Android-Based Anggah- Ungguhing   Balinese Language Dictionary', iJIM, 2, pp. 4–18.

[11]   Sri Hartati, Novi Ayu Kristiana Dewi, Dwi Puastuti, Muhamad Muslihudin, N. S. B. (2017) 'Sistem Aplikasi Educhat STMIK Pringsewu Berbasis Android sebagai Media', 3, pp. 1–10.