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Conference Paper

Designing Bilingual Dictionary Application, Indonesian-Biak and Biak-indonesia Using Visual Basic.Net2010 and MySQL

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Abstract

The aim of this project is to create a bilingual dictionary application as an education tool in introducing Biak language. The electronic dictionary application is used to translate the meaning of words from Indonesian into Biak language and vice versa.The programming language used to create the interface of the dictionary is Visual Basic.NET 2010 while to create the database MySQL has been used. This electronic dictionary application can also be used to add, edit and delete words. Besides the goal of designing and manufacturing the electronic dictionary, itis expected to help the people who may want to learn the Biak language and in particular the tribal people of Biak who may not fluently speakBiak language because of lack of vocabulary or who may not speak Biak language at all. In addition, it is expected that this application can also be used to maintain the culture of the nation, especially the preservation of Biak language.

Keywords: Bilingual Dictionary, Biak-Indonesian Language and Culture Preservation

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1. Introduction

Advances in science and technology have a positive impact and play an important role in supporting the various sectors of human life (Vergragt, 2006). Science and technology has also provided ease and improve the efficiency of time, effort and cost. An example of the application of science and technology in education is an electronic dictionary application.

In this era of globalization, the preservation of local languages plays an important role in supporting the country's success in preserving the culture. Science and technology can also be the most appropriate solution as a learning tool for a person to be able to learn the other languages, especially languages in Indonesia.

Biak language is one language among thousands of local languages in Indonesia and is among the 307local languages in Papua (Tabloidjubi, 2015). Biak language is one of the dominant languages in the coastal areas and islands in northern Papua. As one of the native language in Papua, Biak language has its uniqueness in terms of grammar and meaning. This is that can distinguish Biak language from other local languages, particularly local languages in Indonesia (Fautngil & Rumbrawer, 2002).

To prevent the extinction of the Biak language, the government and the society should take real efforts to increase the interest of young Papuans, especially people of Biak to learn the Biak language, because this is one of the means to assist government programs to preserve the national culture through the local languages.

2. Research Methods

2.1. Methods

Stages of work in creating an electronic dictionary application Biak-Indonesia using techniques of Rapid Application Development (RAD). Rapid Application Development (RAD) as an alternative of the System Development Life Cycle is often used to overcome the delays that occur when using conventional methods. The advantages that can be obtained using this method is speed, accuracy, and the cost relatively lower than conventional methods. The stages include;planning, analysis, design, implementation and testing (Djafar,et al, 2014).

2.2. Planning

Planning stages is to formulate the draft of time allocation, resources, as well as the purpose and benefits of designing a dictionary application.

2.3. Analysis of System Requirements

This stage is aim to analyzeminimum hardware and software requirements to designthe dictionary application.It is recommended that the minimum suggested configuration for windows clients is as appended below;

- Hardware Specification;

Microprocessor: Pentium-4 class processor, 2.2 GHz
Ram: 512 MB of RAM
Hard Disk: 10 gigabytes (GB) on installation drive, which includes 500 MB on system drive.

- Software Specifications;

Operating System: Microsoft Windows 7
RDBMS: MySQL (XAMPP 2.5)
Front End: Microsoft Visual Studio 2010

2.4. Designing

This stage is to design the interface of the application, database storage and the output of the application. Output of the interface can be seen in Figure 1 as follow.

KAMUS e-Biak-Indonesian
TERJEMAHAN
<u>Indonesia – Biak</u>
<u>Biak- Indonesia</u>
Login Admin

Figure 1: Interface design application.

2.5. Implementation and Testing

This stagein the form ofapplication programmingbasedon designhas beencreated. The system implementation is very effective of the project to the system requirement data. It is a system requirement implementation of the system analysis.

a. DFD/Flow Charts. The Data flow Diagram shows the flow of data. According to (Jogiyanto, 2005), It is generally made of symbols given below:

- A square shows the Entity.

- A Circle shows the Process.

- An open Ended Rectangle shows the data store.

- An arrow shows the data flow.

The flowchart of the application from user and admin login can be seen in the following two diagrams of Figure 2 and Figure 3.

2.5.1. Entity Relationship Diagram (ERD)

ERD (Entity Relationship Diagram) is a model to explain the relationship between the data in a database based on the data basic objects that have relations. ERD is used to model data structures and relationships between data. Todescribe ERD model there are some notations and symbols. Basically there are three symbols used according to (Indrajani, 2015), namely;

1. Entity

   Entity is an object that represents something real and can be distinguished from something else. A symbol of this entity is usually depicted with a rectangle.

2. Attributes

   Each entity must have an element called attributes. The function of this attribute is to describe the characteristics of the entity. The contents of the attribute have something that can identify the contents of the elements one to another. The image of this attribute is represented by an ellipse symbol.
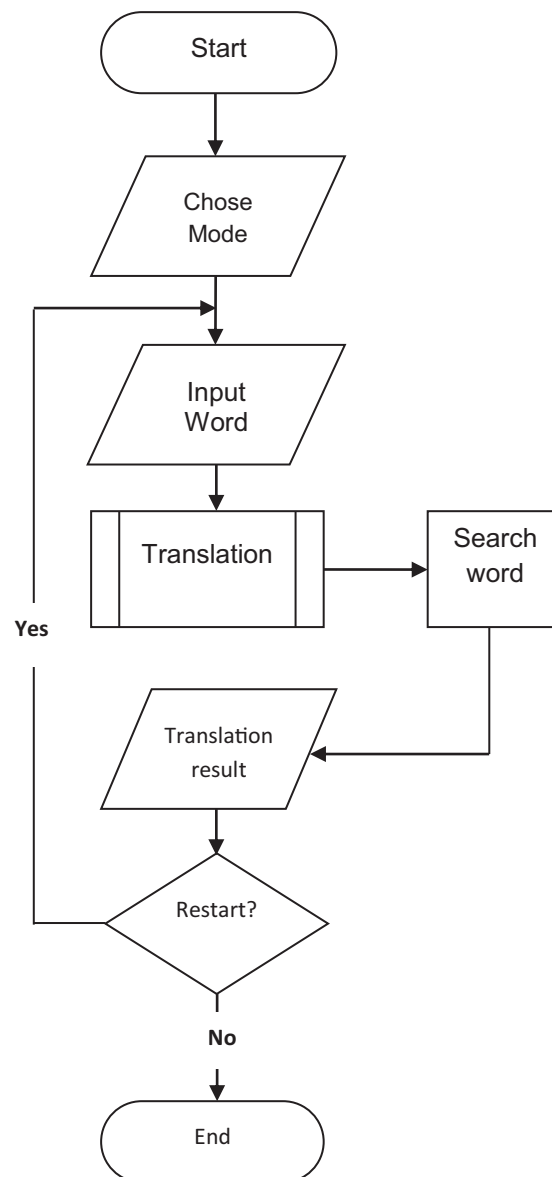
Figure 2: Flowchart of the application design (User).

3. Relationships

    The relationship between number of entities that come from a different set of entities. Relationships can be described as follows:

- One to one. One to one relationshipis that every entity in the entity set A associated most with a single entity in the entity set B.

- One to many. Each entity in the entity set A may be associated with many entities in entity set B, but each entity to entity B may be associated with an entity in the entity set A.

- Many to many (Many-to-many) Each entity in the entity set A may be associated with many entities in the entity set B.
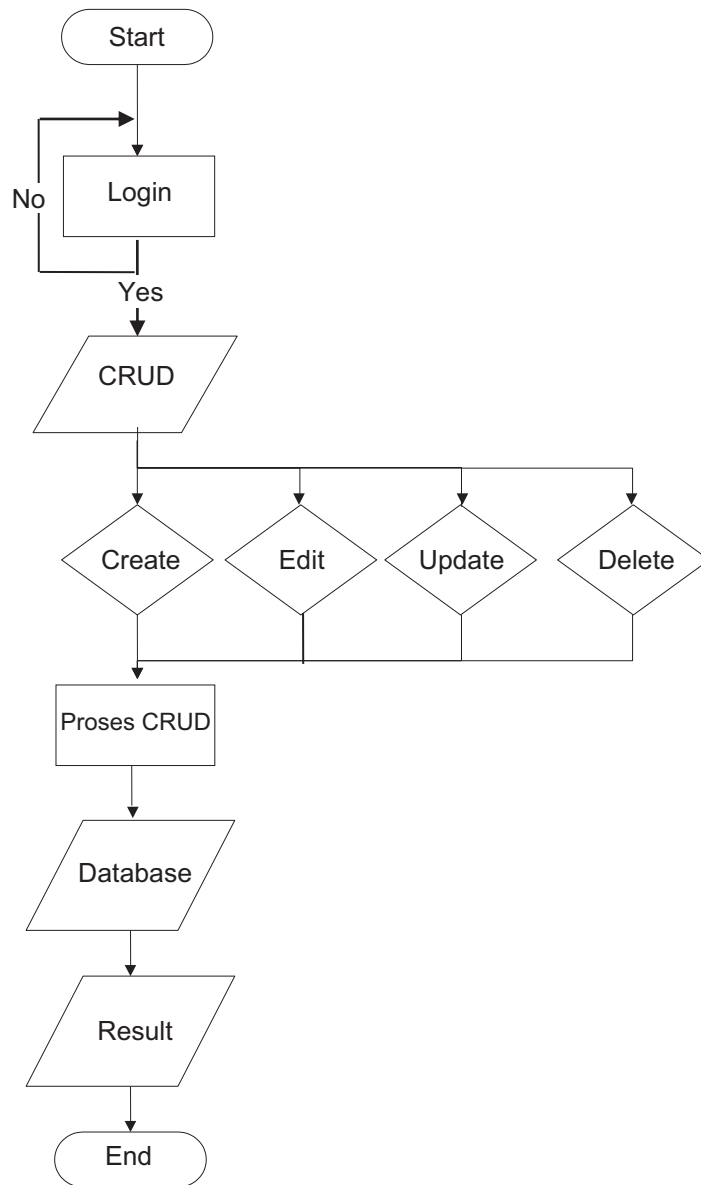
Figure 3: Flowchart of the application (Admin).

3. Result and Discussion

The purpose of this research is to design bilingual dictionary application that can help people who want to learn Biak language easily and quickly. The results and testing of the system is as follows:

3.1. Splash Screen

The splash screen is the main menu form before the form is to wait a few seconds and then go to the main menu. With the splash screen is further enhance an application.

Figure 4: Splash screen.

Figure 5: Main menu.

3.2. Main Menu

The main menu is a form of the dictionary application for a user to search for a vocabulary, which has options, Indonesia-Biak and Biak-Indonesia. The main menu is connected directly to the database that can be used to store for the manufacture dictionary.

3.3. Translation Form

Translation form is a form of the main menu, which is used to find a vocabulary of words to be translated into the language translation option on the main menu.

3.4. Login Form

From the main menu, admin can login into CRUD Form with correct username and password to Create, Read, Update and Delete data.

Figure 6: Translation form Indonesia-Biak.

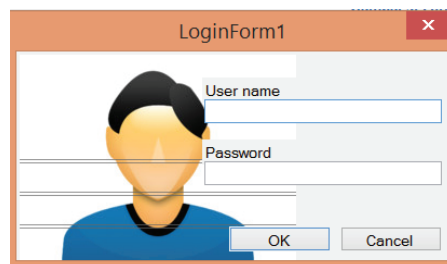**Figure** 7: Translation form Biak-Indonesia.

Figure 8: Admin login form.

3.5. CRUD Form

Crud (Create, Read, Update, Delete) is a form where administrators use to add new vocabulary into the database (Prasety, 2006). On Indonesia column indicates to enter the word in the Indonesian language text form, while for Biak be used to fill in the Biak language vocabulary. When finished entering data that is suitable for storing by pressing the button Save,the diskette/floppy disk, to edit existing data, can press the edit button with a picture of a plus sign (+) blue, while to delete the data in the database can press the button delete a picture ofa red cross.

4. Conclusion

1. To design dictionary Indonesian language to multiply, we can use visual application basic.NET 2010 and MySQL database.

Figure 9: CRUD form.

2. This application is designed as a learning tool for people who want to learn the language Biak, in particular the tribal people of Biak who may not fluently speak-Biak language because of lack of vocabulary or who may not speak Biak language at all.

3. This application can also be used to maintain the culture of the nation, especially the preservation of Biak language.Applications dictionary application is far from perfect in terms of interfaces, design and features. Therefore, it still requires further development.

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