JELTec (Journal of Learning Technology)
JELTec, Volume 01, Number 01, March 2023
E ISSN: 2986-3538; P ISSN: 2986-4364, pp. 11-17
https://www.mubtadiinpublishing.org/index.php/JELTec

INDONESIAN TRANSLATOR JAPANESE USING WEB-BASED SPEECH

Chandra Rosandi, Ferry Susanto
Departement of Information System, Institute Bakti Nusantara
Wisma Rini Street, No. 09 Pringsewu, Lampung, Indonesia
yuukieaoi@gmail.com

Article history:
Received: Feb 12, 2023
Revised: Feb 20 2023
Accepted: Feb 27, 2023

Corresponding authors
yuukieaoi@gmail.com

Keywords:
Translators,
Japanese Language,
Website

Abstract
Japanese language is a foreign language as well as English, studied English language difference from elementary through high school. For the Japanese language itself is only a few schools implement it because of the lack of teachers who can speak Japanese. Therefore this program is designed to address the problem. With this program do not have to worry about someone can speak Japanese because the program is equipped with a voice that means someone who wants to speak Japanese need only speak Indonesian to be converted or translated into the Japanese language in sentences and sound the Japanese language. The method used is the method of literature study, observation, analysis of needs.

I. INTRODUCTION

Communication holds the most important role in bringing together the various activities of life, especially in social life. Bridging the communication and information exchange between personal knowledge as well as among the public so that the interaction between them. Communication helps the process of information exchange so that the message or information can be quickly delivered[1]. Language is a system of symbols that are meaningful and articulate (produced by the vocal organs) are arbitrary and conventional, which is used as a communication tool by a group of people to give birth to feelings and thoughts. (Wibowo, 2001). Japanese language can be regarded as one of the languages to be learned and demand. In addition to Japanese culture such as music and clothing, Japan is now increasingly recognized and desired by the people of Indonesia.[2]

In modern times, many people who have difficulty studying the Japanese language problem is a lack of teachers who can speak Japanese. If someone wants to learn Japanese and other foreign language they have to spend quite a bit. If someone wants to learn Japanese, but do not want to spend big they could have taught himself by relying on Japanese language books, or applications or websites to learn Japanese. To help such cases it is necessary to be made Indonesian translator system to a web-based Japanese language using the programming language PHP and JavaScript. One study that looked like the above cases, the research done by Linda Perdanawanti, Sofyan Setiajid (2017), entitled "Application Dictionary of Basic Japanese bebasis Android Method Using User Centered Design", which can help a person look for the meaning of the words of a language Japan[2], As well as research conducted by Winia Waziana, Leni Anggraeni, Nur Sari Laela (2016), entitled "Implementation of Basic English Learning Application-Based Multimedia", which aims to help facilitate students in understanding the English language material[3], With their translators or web-based applications that can help a person to communicate or learn the Japanese language without the need to spend big.

II. RESEARCH METHODS

2.1. Method of Collecting Data

In a study to obtain data information, there are several methods used for the data collection process, namely:

a. Study of literature
   At this stage it done is to find and study reference books or resources related to Indonesian translator - Japanese use web-based speech.
b. Needs analysis
   At this stage it is used to determine the needs of software and hardware to Indonesian translator - Japanese use web-based speech
c. Observation
   This phase is done by direct observation on the interpretation system.

2.2 Methods System Life Cycle

System Life Cycle (Lifecycle System), in systems engineering and software engineering, is the process of creating and modifying the system as well as the models and methodologies used to develop these systems. The concept generally refers to computer or information systems. The stages of the SDLC is a plan (Planning), analysis (Analysis), design (Design), implementation (Implementation), testing (Testing), and the processing or maintenance (Maintenance).[6]

2.3. System Requiments Analysis

To implement Indonesian translator - Japanese use this web-based speech, must first be provided computer equipment (hardware), software (software). Specifications of the hardware and software needed to implement Indonesian translator - Japanese use web-based speech:

a. System configuration
   In testing this system, the system configuration used are:
   - OS: Windows 10
   - Xampp: v3.2.4
   - PHP: v7.3.9
   - Apache: v2.4.41
   - CURL: enabled v7.64.0
   - Microsoft Visual Studio Code
   - Browser: Google Chrome v79.0.3945.130
   - jQuery: v3.4.1

b. Hardware Requirement Specification (Hardware)
   Minimum hardware specifications required by the user to gain access to Indonesian translator - Japanese using a web-based speech is as follows:
   - 800 HMZ / 1 GHz Processor
   - 512MB RAM
   - 64MB VGA
   - 20GB hard drive (HDD)
   - keyboard
   - Mouse
   - NIC (Network Interface Card)
   - Internet connection

III. RESULT

3.1 Design

In this era, there are still many people who are still using interpreter services such as tourist attractions, as well as administration and for the school itself is a teacher whose system is described as below:

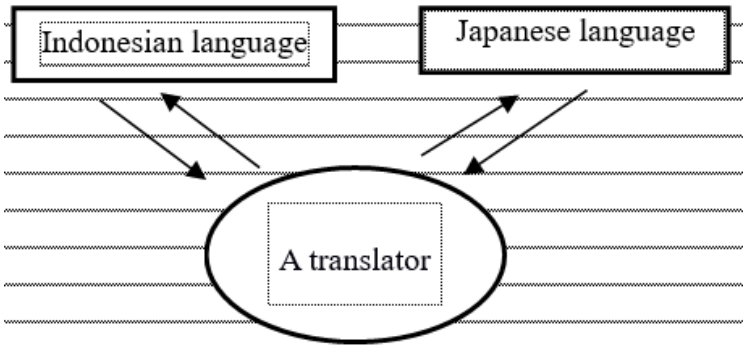

Figure 1 How To Manual

The above system using the services of an interpreter as an interpreter between that of the Indonesian language by an interpreter translated into Japanese and vice versa Japanese translated by an interpreter into Indonesian. The system made in this study will change the way that they use a manual or an interpreter or services would be an interpretation system that is no longer using an interpreter.

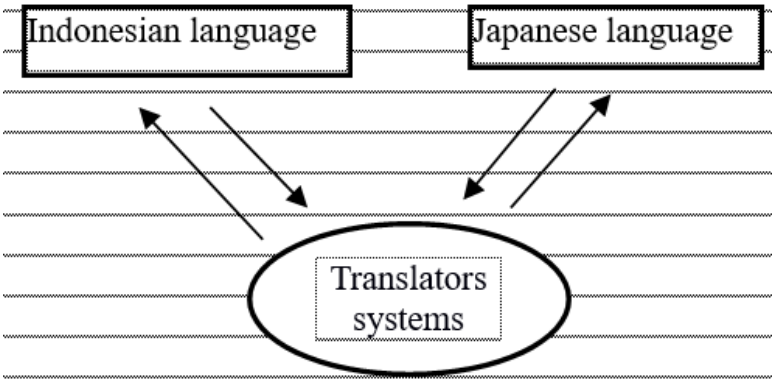

Figure 2 System Translator

The above system is no longer using the manual method but has been using the system as an intermediary interpreter of Indonesian to Japanese and vice versa can also Japanese to Indonesian. Indonesian translator Systems - Japan use a web-based speech will use technology PHP, jQuery/JavaScript APIs, HTML, CSS. Translator system using PHP and APIs from a third party that is Microsoft while the javascript as a recording media as well as media speech. And the system to be designed will be described as below:

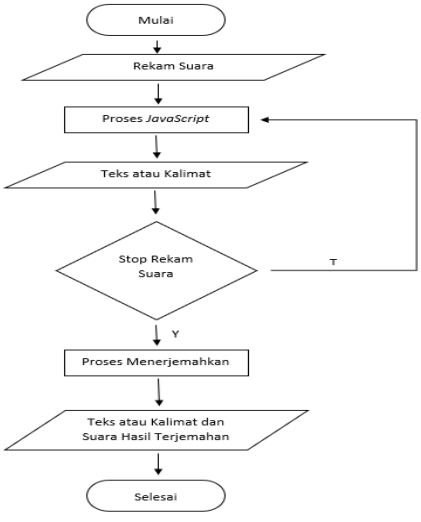

Figure 3 Flowchart

The process starts from a sound recording and will be processed by javascript in order to become or converted into text form or sentence. If the sound recording is dismissed or stop to record again the text or sentences that have been made earlier would be sent for translation by the system through PHP and APIs from Microsoft and third parties that will be displayed text translation accompanied by the sound of the results that have been processed earlier. If the sound recording is not terminated or stopped the process of converting voice to text will continue to record sound stops by itself.

3.2 Implementation

After conducting further system design to the implementation stages, design and program code that has been made to operate. Pages as well as buttons that open when the operation of Indonesian translator - Japanese use web-based speech is the main page, the record button, a stop button to record. As well as a translator to see the loading process of translations are accompanied by sound.

1. Main page
   The main page is the front page or the beginning of Indonesian translator - Japanese use web-based speech.

Figure 4 Main Page

2. Record button
   The record button is used to record sounds that will be used as text.

Figure 5 Key Records

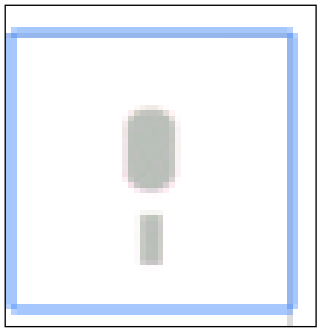

Figure 6 Key Records

3. Display Currently Being Changed Voices Text
   Here the change of sound resulting text will be displayed.

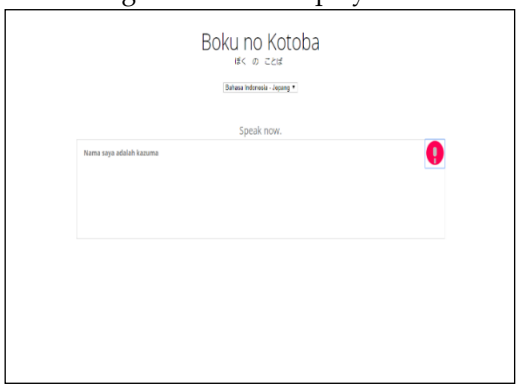

Figure 7 The change results from Voice to Text

4. Stop Record button
   The stop button is used to stop recording record voice when it is not used this button is also used as the data transmission process of the text results of change sound to be transmitted via javascript and then processed in PHP

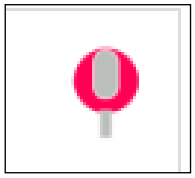

Figure 8 The Stop Record

5. Loading display Translating Process
   Ditampilan this translation process will take place.

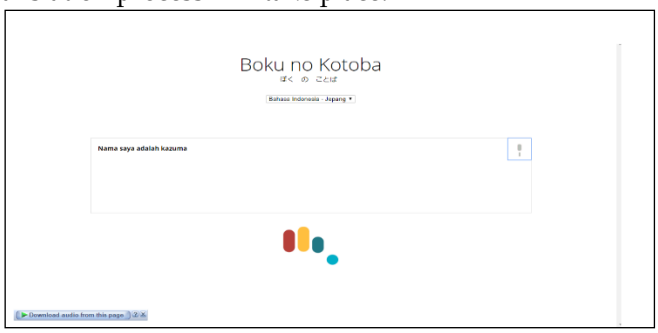

Figure 9 Loading Process

6. Display Results Translation
   Once processing is successful it will display the results of Indonesian translation into Japanese.

Figure 10 Results Translation

7. Sound View When Ejected
   This display will appear when the sound will be issued by way of a mouse focus or highlight text to the translation results.

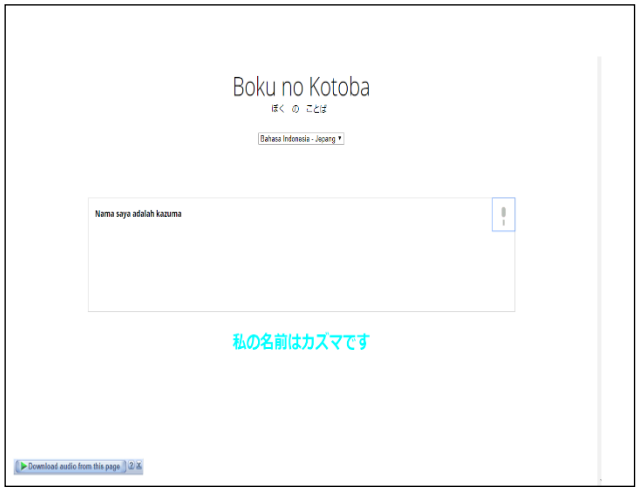

Figure 11 Sound View When Ejected

3.3 Discussion

From the implementation of the above websites use localhost Xampp can be expressed in tabular form as follows:

Table 1 Results of Testing

No.	Description	Function	Test results
1	Record button	To start a sound recording	Successful (OK)
2	Stop Record button	To stop recording voice	Successful (OK)
3	*Loading* translation	For the process of translating	Successful (OK)
4	Results Text and Voice	Displays the results of text and voice	Successful (OK)

IV. CONCLUSION

With Indonesian translator Japanese use this web-based speech can translate Indonesian to Japanese easily and can help students and people who want to understand the Japanese language through sound or pronunciation of the words that students or the public wanted. Here are some suggestions for further development this research can be developed according to the needs of the system that can be implemented into the software more user friendly, the user can more easily use them as android application, as well as other mobile. Learn more in programming languages and techniques of processing data to be processed for use in further development.

REFERENCES

[1] S. Hartati, NA Kristiana Goddess, D. Puastuti, M. Muslihudin, and N. Setio Budi, "System-Based Applications Pringsewu EDUCHAT STMIK ANDROID For Media Communication and Information," *J. Nas. Teknol. and Sist. Inf.*, Vol. 3, no. 1, pp. 143-152, 2017, doi: 10.25077 / teknosi. v3i1.2017.143-152.

[2] S. Perdanawati, Linda; Setiajid, "Dictionary of Basic Japanese Application Android-Based Method Using User Centered Design," *telematics*, Vol. 10, no. 2, pp. 77-91, 2017.

[3] W. Waziana, L. Anggraeni, and NL Sari, "Application Application Basic English Learning-Based Multimedia" *J. TAM (Technol. Accept. Model)*, Vol. 7, pp. 22-26, 2016.

[4] FIB Ui, "Analysis of physical culture vocabulary translation into Indonesian Japanese language in a short story," 2008.

[5] "Indonesia." [Online]. Available: https://id.wikipedia.org/wiki/Indonesia.

[6] SI Ikwan, Ahmad, "Web Design Government in South Lampung Natar District-Based Mobile," *Jtksi*, Vol. 01, no. 02, pp. 1-4, 2018.

[7] "PHP." [Online]. Available: https://id.wikipedia.org/wiki/PHP.

[8] Vrh - BSI AMIK Purwokerto, RW - STMIK Nusa Mandiri in Jakarta, and AA - BSI AMIK Purwokerto, "Registration Information System Web-Based Work Selection in Bkk (Special

Employment Exchange) Tunas Karya Insan Smk Negeri 2 Banyumas," *J. Evolution of Science and Manaj.*, Vol. 6, no. 1, pp. 76-84, 2018, doi: 10.31294 / evolusi. v6i1.3584.
[9] "jQuery." [Online]. Available: https://id.wikipedia.org/wiki/JQuery.
[10] "Speech." [Online]. Available: https://id.wikipedia.org/wiki/Wicara.