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e-Learning of Japanese Pictography – Some Perspectives

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Abstract

To understand foreign culture, one has to learn the foreign languages. Among foreign languages, Japanese language has a very important role to play throughout the world. This paper is based on the self-learning process of Japanese pictography (KANJI). We are developing an e-learning tool which will help us to learn Japanese pictography on our won. For that, a colligated study has been made on e-learning of Japanese pictography (Kato& Okamoto, 2003). With the rapid progress of computing technology, this e-learning tool can be of great use to the common people who are interested in learning Japanese language. At the same time, any educational institute's foreign language department can implement this concept while teaching Japanese language to

their students. The efforts which we make in this paper, its message, conceptualization and demonstration, fairly minimize the usual customary routine teaching and would inspire the young students to learn the Japanese language by themselves.

Introduction

Japanese language is spoken by 120 million people throughout the world (Honna, 2008). In the early centuries of the Christian era, Japanese people did not have a writing system of their own (Hidaka, 2010). As the Japanese began to interact with the Chinese (Norman, 1988), they adopted Chinese institutions and pictographic style. Chinese characters were introduced to Japan via the Korean peninsula in the fourth century A.D. In the next two centuries, Chinese books on philosophy and Buddhism were brought to Japan and studied by the Japanese aristocrats (Tan & Jones, 2003).

In the beginning, Japanese did use the authentic Chinese or a hybrid Japanese-Chinese style**.** A good example of the latter is 古事記 kojiki (Ancient Chronicles), written in 712. Since the Japanese did not have their own script, they soon began to use same Chinese characters for their own Japanese language (Verdonschot et al., 2010). In the beginning, they utilized the characters purely for their phonetic values, for example, the native Japanese word yama (which means 'mountain' in English) was written 也麻, with the first character representing "ya" and the second "ma" (Halpern, 2001). This method of writing is referred to as 万葉仮名 man'yōgana because it was used extensively in the 万葉集 man'yōshū, an eighth-century anthology of Japanese poems. (Kimbrough, 2005).

We have partially developed a group of essential pictographs or **当用漢字表** /toyokanjis for the Japanese language with the help of software technology as .NET . We made the database

with the help of ORACLE. Utilizing this software technique helps every one to access the pictography or KANJI stored in the data base with the input given in the software.

In this paper, we have depicted the effectual features, speedy response and excellent graphical environment of the e-learning of the possibility of future software, which will make e-learning process of Japanese language easier.

Demand for Learning the Japanese Language

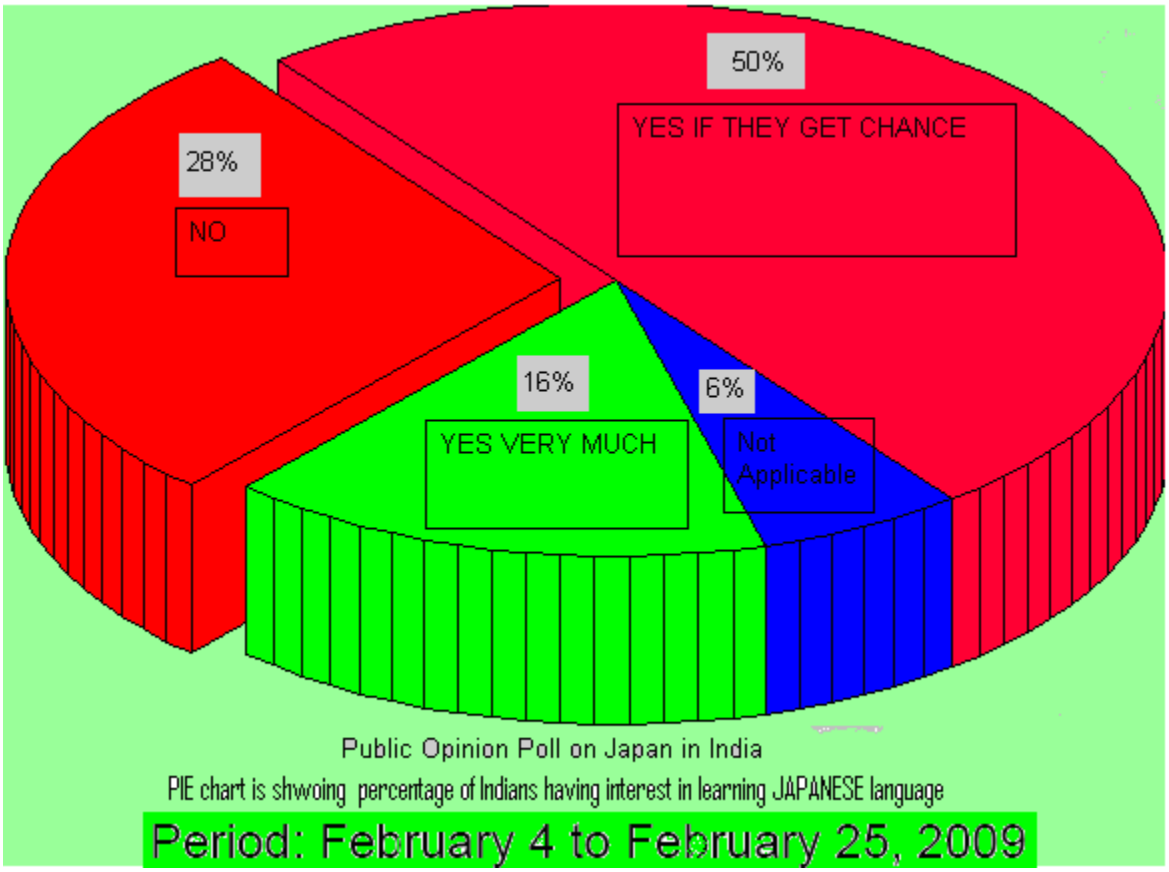

Fig-1: The above figure shows the amount of interest shown by the Indians for learning Japanese

language during a public opinion poll on Japan .The survey was performed between 4th to 25th February, 2009. Courtesy: Embassy of Japan, New Delhi.

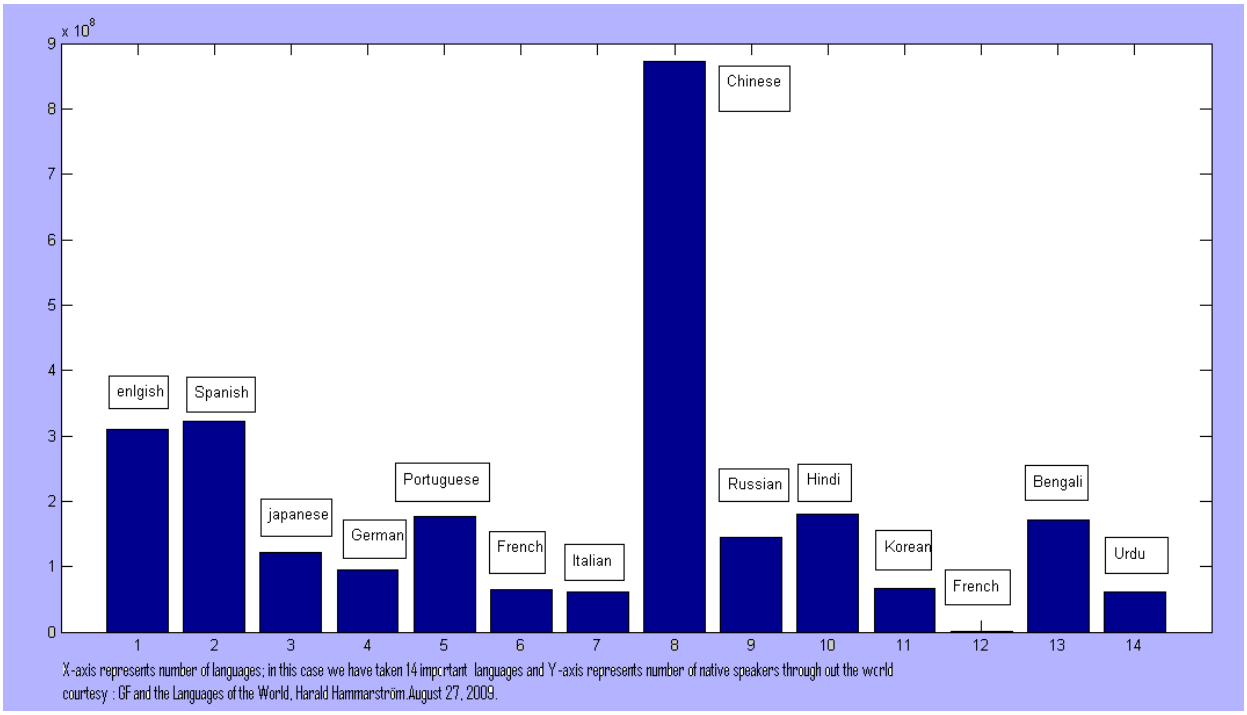

Fig-2: In the above figure we have chosen 14 important languages. X axis represents number of chosen languages and Y-axis represents number of native speakers throughout the world.
Courtesy: GF and Languages of the World; Harold Hammerstrom, August 27, 2009.

The Focus of This Study

We are designing this e-learning software for those who are eager to acquaint them with the written Japanese language and to enhance their elementary ability to read and write. This proposed e-learning software will be a dictionary like resource that will furnish the beginner with the knowledge of sufficient characters in written Japanese, which will enable students to read and write the language in everyday life. This dictionary represents 1850 characters which are prescribed by the Japanese Ministry of Education (Yamada, 1992). It will definitely make the learning process easier.

Review of Literature

This e-learning dictionary is partitioned into two major sections. The first part presents 881 characters designated by the Ministry of Education, Japan (Ogasawara, 2009), as the basic requirement for new learners. The second major section of the dictionary presents 1850 characters designated as standard for general every day's use in the publishing world. This includes the previous 881 basic characters, and the total characters represent the most significant measurement, which simplify the Japanese language.

The essential 881 characters are given with their on-yomi (reading taken from Chinese) kun-yomi (native Japanese reading) definitions and number of strokes (Ogasawara, 2009). All the words regarding Romanization and pronunciation of all kanji's are in order of Hepburn (Hepburn, 1867) system of Romanization has been followed in this e-learning project.

Methodology

We are developing this soft dictionary which will be having effectual features, speedy response, and excellent graphical environment. It will be evolving as a great e-learning interactive tool. Consider the following examples of Kanji (Picone, Staples, Kondo, Arai and Arai) characters

休 = rest, vacation

人 = person

上 = top, above, raise

Using Microsoft .NET technology, we can draw Kanji characters so that people can learn these characters very easily. In this paper, we have tried a number of keystrokes to generate one Kanji character.

Below are the programming steps, where we have shown the possibility of using C# (pronunciation-C Sharp) language and Microsoft .NET technology. The following screen shot is a windows form application. We discussed the algorithm of the code used for the software here in this paper as follows.

I. Create a Windows Form Application in .NET using language C#.
II. Create the following controls in the form: NumberSelector, Enter (button), Exit Form (button), Next Kanji Button and one panel for displaying the Kanji information.
III. Initialize components for the form.
IV. Choose two adjacent rectangular areas on the form where the person kanji will be painted as shown in figure – with similar width and height.
V. Set the x, y co-ordinates for those rectangles.
VI. Choose two elliptical areas inside each rectangle in the central position – calculating the lengths of a and b (2a= height of rectangle, 2b=width of the rectangle) keeping in mind the following

Equation of ellipse is defined as

$x^2/2 + y^2/2 = 1$, So the rectangle forms the bounds of the ellipse .

VII. Using DrawArc function in System. Drawing namespace, actually draw two arcs –which are part of two ellipses –as shown in figure.

VIII. Supply Pen object, points of rectangle, start Angle and Sweep Angle to the drawarc function.

Start Angle = Angle in degrees measured clockwise from the x-axis to the starting point of the arc.

Sweep Angle = Angle in degrees measured clockwise from the *startAngle* parameter to ending point of the arc.

IX. Thus, person kanji will be created.

X. To draw raise kanji, draw 3 lines in the drawing pane. Two will be horizontal and one will be vertical.

XI. The lines are drawn on each button click event of enter button.

XII. Two small triangles (of green color) are drawn at the edge of each blue horizontal line – to signal the end of drawing stroke.

XIII. The DrawLine function in System. Drawing namespace is used to draw the raise kanji.

XIV. Supply Pen object, start and end co-ordinates of the line to be drawn.

XV. The application can be closed with Exit button.

Screen Shots

Kanji

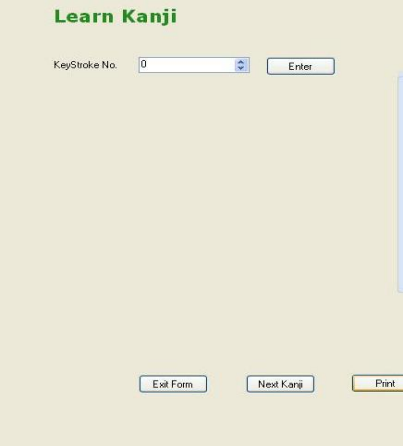

Fig-3: Picture is showing front page of our proposed software

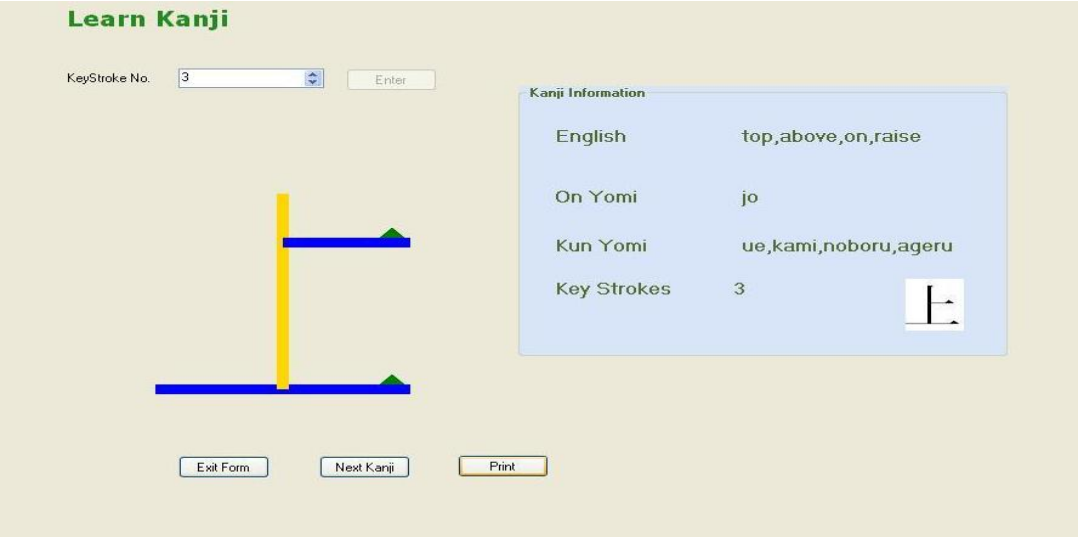

Fig-4: picture is showing Kanji and it's explanation of our proposed software

Conclusion

Many high schools and colleges in India require foreign language classes for graduation. Learning a foreign language is more essential today than ever before. This learning process will

definitely make us more receptive; create opportunities for employment and transfer of knowledge, while bringing prosperity to us. Learning Japanese language is beneficial for personal, professional, social, and economic aspects. But the conventional class room teaching method may not always be effective and efficient. Using e-learning tool as a tool helps motivate the learners while making their learning more efficient. Also, the effectual features, speedy response, excellent graphical environment of the e-learning software surely make students desire more to learn the Japanese language. This will quicken the process of learning as well.

References

Philip Babcock Gove. Webster's *Third New International Dictionary of the English Language*. Unabridged. Merriam-Webster Inc, 1993.

Jack Halpern, Editor in Chief, Kanji Dictionary Publishing Society (KDPS), Based on the *New Japanese-English Character Dictionary*, July 20, 2001.

J.C. Hepburn. *A Japanese and English Dictionary with an English and Japanese Index.* Shanghai, American Presbyterian Mission Press, 1867.

Tomoo Hidaka, How Japanese Language Has Been Used and Transformed—Focused on Social-cultural Context and the Use in Communication, 2010, p. 156.

Nobuyuki Honna. Challenging Issues in English Language Teaching in Japan, Aoyama Gakuin University, Tokyo, 2008. pg 1-6.

Yukari Kato, Toshio Okamoto. Different Evaluations of e-Learning for Japanese Academic Reading between Foreign Students and Japanese language Teachers. Tokyo University of Agriculture and Technology, The University of Electro-Communications. 2007. Seventh IEEE International Conference on Advanced Learning Technologies 2007, p. 73.

R. Keller Kimbrough, Reading the Miraculous Powers of Japanese Poetry, *Japanese Journal of Religious Studies*, 2005, pg 1-33.

Jerry Norman. *Chinese*. (Cambridge Language Surveys) Cambridge: Cambridge University Press, 1988. P. 292.

Shinya Ogasawara, The Instance of the Letter in the Japanese Unconscious. Trans. Jack Stone. 5 December, 2009.

Joseph Picone, Tom Staples, Kazuhiro Kondo, and Nozomi Arai, Kanji-to-Hiragana Conversion Based on a Length-Constrained-Gram Analysis, *IEEE Transactions on Speech and Audio Processing*, Vol 7, Nov 1999, pg 685.

Masayoshi Shibatani, *The languages of Japan*. Cambridge University Press. 1990. pg 94.

J.Y. Tan, C. B. Jones. Chinese Philosophy, *New Catholic Encyclopedia*, 2nd Ed Kato, Okamoto.2003, pg 507.

R. G Verdonschot, La Heij & N. O Schiller, Semantic context effects when naming Japanese kanji, but not Chinese hànzì, June 2010, pg 512.

Jun Yamada. Asymmetries of reading and writing kanji by Japanese children, *Journal of*

Psycholinguistic Research, Nov, 1992, pg 563.

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