

## INDIGENOUS LANGUAGE IN AN ELEARNING INTERFACE

*Translation of PLACE™ into the Māori language.*

TE TAKA KEEGAN, ROGER LEWIS, TOM ROA, JOANNA  
TARNOWSKA

*University of Waikato  
Hamilton, New Zealand*

**Abstract.** This paper reports on a pilot study into the feasibility of developing an indigenous language option for the interface of a Learning Management System. The authors focus on the technical, philosophical and linguistic challenges faced in the translation process and outline the approaches taken to overcome these problems. The conclusion highlights the need for extensive user involvement and acceptance testing to determine the long-term benefits of the immersive indigenous eLearning environment.

### 1. Background

This paper reports on the process involved in developing an immersive indigenous language-based platform for an eLearning system. The eLearning or Learning Management System (LMS) used is called *PLACE™* which is powered by the web-based collaboration engine, WebCrossing v.5. The proposed interface language is Māori, the indigenous language of New Zealand. The project was undertaken at the University of Waikato (New Zealand) and involved staff from the Waikato Innovation Centre for electronic Education (WICeD®), the Māori Department and the Computer Science Department.

The rationale for this pilot study included the development of the first immersive Māori language-based online collaborative environment. Additional anticipated benefits related to the compilation of a substantial database and a dictionary of terms relating to the Human Computer Interface domain in the Māori language. The project brief was to translate as much of the *PLACE™* LMS interface as possible into the Māori language given the funding constraints. Objectives included providing meaningful, useable and widely recognizable translations to assist with usability.

### 2. Methodology

#### 2.1. PERSONNEL INVOLVEMENT

An initial meeting was called with interested parties to discuss the feasibility of the project. It was agreed the project was viable and a suitable English-Māori translator was sourced. A second meeting was held where the LMS was introduced and translation

methods were discussed. The translator began by translating a small file (100 terms) which was forwarded to the other parties for approval.

A Translation Team was formed consisting of: the principle translator; a member of the Māori Department's Translation Unit; and a lecturer from the Computer Science Department. This brought together three types of specialised knowledge: an in-depth understanding of the Māori language, experience using the LMS with Māori students and experience using the Māori language in the computing environment.

The Translation Team met four times to incorporate the translated files that had been completed by the translator into the interface, to decide which interface screens of the LMS deserved highest priority, and to complete further translations of the interface.

## 2.2. INTERFACE LOCALISATION– TECHNICAL PROCEDURES

The *PLACE*<sup>TM</sup> LMS is based on an Object Orientated Database. Each instance, or site, is fully localisable, meaning that the user interface can be translated into any number of languages. Users can choose from the languages available at each site by selecting a language display option in their Preferences. The WebCrossing software has been translated into several languages including Arabic, Japanese, Spanish and Portuguese. To the best of our knowledge, the project reported in this paper is the first translation of this system into an indigenous language.

All text strings used in the interface are stored in files of variables. There are approximately 40 variable files, each based around a particular function of the software, with a total of over 2,200 variables. The variables range from single words through phrases to complete paragraphs. In order to implement a multi-lingual site, a set of variable files needs to be available for each language option. Additionally, a special directory can be created containing all the graphics – buttons and images for each non-English language supported at the site.

The LMS allows two methods to assist in creating new language interfaces. The first approach is to simply import new (translated) variable files. This *import method* of creating a new language interface involved translating variables in isolation from the software. The second method uses an internet interface where, using the software's Localisation Manager, each individual variable could be translated and updated on line. This *online method* of creating a new language interface involved viewing variables in context and then translating them individually, in real-time.

A mixture of the two methods was used in the translation. The *import method* was used initially as it was more cost effective. However ambiguity in the variables meant that their true meanings were not easily discernable. Consequently translations were finalised when the Translation Team met and the *on-line method* was used. This allowed the translated variables to be viewed on-line and in context where their suitability could be verified.

## 3. Translation Theory and Subsequent Issues

Essential in any translation work is an understanding of the original material (Houbert 1998) along with that meaning being conveyed to a new readership (Newmark 1998). In this instance, the impacts of the 'dominant' language and culture (English) on the 'indigenous' (Māori) also play their parts (Niranjana 1992).

### 3.1. UNDERSTANDING THE LMS VARIABLES

Meaning is best determined by the context and function of the word or phrase. Zaky (2000) states that ‘a translator ought to translate the communicative function of the source language text, rather than its signification’. The Translation Team had to observe the terms in real time to understand their context, function and thus their true meaning.

Translating the Add button is an example. An initial observation would suggest using the term *Tāpiri* which means ‘to add’. However on closer inspection the function of the button was actually to create something new like a new message or a new teaching resource. Consequently the term *Hanga* meaning ‘to create’ was used. Another example is the Check Moderated phrase. This phrase is very ambiguous and on closer inspection the function of the phrase was to actually authorise messages. Consequently a translation was generated for Authorise Message and used in place of Check Moderated.

A considerable amount of effort was required by the Translation Team to understand the true meaning of the LMS variables.

### 3.2. LENGTH CONSTRAINTS

The requirement to locate translated texts into small spaces on predefined interface layouts was an issue that required significant consideration. This requirement while not desirable is not really against translation principles but rather is known as a constraint, a concept which Delisle (et al, 1999) define as ‘a rule limiting linguistic choice’. The Translation Team often found that they weren’t able to paraphrase for full comprehension but rather had to insert a word or small words to convey a function.

For example ‘Edit this Folder’ was translated as ‘Whakatika tēnei kōpaki’ whilst the grammatically correct statement would be ‘Whakatika i tēnei kōpaki’ the ‘i’ having been omitted for the sake of brevity. While the communicative function of the statement will be obvious to the user of the LMS the compromising of the object marker in this and many similar phrases was something that did not sit well with the Translation Team and is something that has been scheduled for re-evaluation.

### 3.2. FAMILIARITY

One of the key principles used to support usability is familiarity (Dix, et al, 1998). When undertaking the translation certain decisions were made based on the presumed familiarity of the target audience with the computer environment and the dominant English language.

Transliterated words assist second language learners in understanding but in an effort to keep the Māori language as independent from English as possible they are usually avoided in translation work. There were however, three instances where they were used to support the principle of familiarity. The word *īmēra* was used for email, the word *pātene* was used for button, and the word *rēhita* was used for register.

Again, in reference to familiarity and in support of usability there was a small group of words that were retained in the target language. These were words such as Sysop, POP3, IMAP, Eudora and Outlook Express.

Care also had to be taken with the usage of indigenous words that have a wide semantic range as they can become ambiguous and confusing to the user. For example the word *kōrero* could be used to describe a message, a discussion, an email, a text or even a chat. These are all major, and yet quite distinct functions within the LMS.

### 3.3. TARGET AUDIENCE

To be able to convey a meaning to a new readership you must first understand who the readership is. A concern when undertaking this project was that the profile of the target audience had not been defined. Initially it was suggested that teachers using the LMS would be the primary candidates but on reflection it was decided that students of the LMS should be the focus. Consequently translation decisions had to be made considering the likely knowledge and experience that the LMS students had with the Māori language and the eLearning environment.

## 4. Practical Issues

### 4.1. BUDGET AND TIME CONSTRAINTS

Creating the Māori language platform for the *PLACE*<sup>TM</sup> LMS occurred within a short time frame and with a limited budget. A complete translation of the platform was not possible and the focus was to complete the interface screens that the students of the LMS most often interact with. As the LMS was also being upgraded at the time, it meant that final versions of the interface were not always apparent and the developers of the software were not always immediately available to respond to queries from the Translation Team.

### 4.2. LMS INTERFACE CONSTRAINTS

The two methods offered for translating the LMS both had difficulties. Using the *import method* required translating variables out of context. Using the *on-line* method required finding the correct variable in the appropriate variable file, which was often very time consuming. The term 'discussion' for example, occurs at least 92 times in 10 different variable files. Consequently the Translation Team tended to translate a whole range of variables that seemed to coincide with the text that was being reviewed for translation. This had the effect of many translations appearing on the interface unintentionally.

While a little unnerving it was also quite pleasing to see from the translators' perspective. One notification option of the *PLACE* software is to automatically generate emails whenever new messages are posted to the discussion group. Members of Translating Team were surprised (and quite pleased) to note that after their second meeting these emails were being sent out in the Māori language. Obviously the variables used to construct these email messages had been translated and unintentionally incorporated into the LMS.

### 4.3. CULTURAL CONFLICTS

Conflicts of culture were noted. Groupings of commands and functions while giving affordance to an Anglo-American culture were not often appropriate with regards to an indigenous culture. For example the time notions of 'am' and 'pm' were used extensively throughout the LMS, but from a Māori perspective the time division would more appropriately be ao and pō, day and night, denoted by sunrise and sunset as opposed to midnight and midday.

Another example was the abbreviation of month names to the first 3 letters by the LMS. This forced the usage of transliterated month names in Māori as the first 3 letters will form unique names. The preferred usage of traditional Māori month names could not be incorporated as there are instances where the first 3 letters are not unique.

## 5. Māori Language Development

A dictionary of computer terms was compiled containing 5,745 terms. This is to be made available to users of the LMS and other interested parties. Some of the terms used are ground breaking. This added to the importance of ensuring they were correct, not only for this project but for the future of the Māori language.

## 6. Conclusions

Performing a translation exercise like this is difficult because it requires a number of expertises to be present at the one time. While the *PLACE* LMS does offer the ability to create new language platforms there are important issues that need to be considered when undertaking the translation of this type of software into an indigenous language.

As the saying goes; the proof is in the pudding. It is one thing to sit down and analyse the methods used to provide a new language interface for a LMS, but the real proof in the indigenous interface will be shown by its usage. Once the Māori language version of the software becomes available will users fluent in the Māori language choose to use it? Will they begin to use it and then switch back to English? Or maybe begin to use English and then switch back to Māori? Will the type of course being taught by the software dictate which language the students prefer the interface in? These are very important questions. It is hoped that further funding can be sourced so that the appropriate usability and user acceptance studies can be undertaken to seek answers to these questions.

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