

## Mobile phone dictionaries for small languages: the Whitesands electronic dictionary

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This poster presentation reports on work to develop an electronic dictionary of Whitesands (Austronesian; Tanna Island, Vanuatu) which can be stored on and accessed through mobile phones. In the presentation we will outline some of the benefits of mobile phone electronic dictionaries for speakers of small languages, look at some of the difficulties that we had to overcome in preparing the dictionary, and discuss the reception of the dictionary in the Whitesands community.

As Corris et al (2004) have shown in the case of Warlpiri, an Australian Aboriginal language, electronic dictionaries can be more accessible and engaging than printed dictionaries for speakers of languages that are not highly codified or well represented in formal education. In these situations many dictionary users have only low levels of literacy and so they may have difficulty finding the entries they are looking for in a traditional alphabetically sorted list of headwords. Electronic dictionaries can assist these users by compensating for inexact spellings in searches, as well as providing a range of alternative methods to find dictionary content, such as hyperlinks between related words. Electronic dictionaries can also incorporate multimedia content, such as images, sounds and video, which might be difficult or impossible to include in printed dictionaries.

One problem with electronic dictionaries that Corris et al (2004) point out is that they require an electronic platform to run on. Standard desktop computers and even laptops are troublesome in this regard because they are expensive, have limited portability and must be used while sitting down. In recent times the appearance of mobile phones that can run third-party application software has reduced this difficulty. Mobile phones are almost ubiquitous in many places around the world today, including many remote communities, such as the Whitesands-speaking community in Vanuatu. Users of mobile phones normally carry their phones everywhere they go and they are often very familiar and comfortable with the operation of their phones.

To create the mobile phone dictionary of Whitesands we took our existing lexical database that was assembled during fieldwork and prepared it for use as a dictionary by making structural changes, and adding definitions, glosses and other fields that would be useful for the language speakers. We then used the free and open-source *Wunderkammer* mobile phone dictionary software (<http://pfed.info/wksite>) to produce a Java ME application containing the dictionary data that could be run on mobile phones. During our poster presentation we will have a laptop running the *Wunderkammer* importing tools and a mobile phone running the output dictionary application set up so that our audience can observe the conversion process and the final product.

The sociolinguistic environment and grammatical structure of Whitesands presented several problems that we had to overcome in preparing the Whitesands dictionary. In Vanuatu, most people are multilingual but the particular languages they speak (or use on a regular basis) are a function of place, belief systems, education and heritage. The presence of three national languages that interact with any particular vernacular language meant that multilingual glosses were necessary. The nature of the electronic dictionary enables users to access the information from either Whitesands, English, French or

Bislama (a Melanesian pidgin). This allows interested people to use the dictionary regardless of which linguistic groups they belong to.

Whitesands is a heavily pro-drop language and has an obligatory prefixing system on the verb. As such verb roots are rarely recognisable and rarely even surface in natural language. Therefore, careful consideration is required as to how to present the head word of any lexical item. An electronic dictionary allows for an unlimited number of surface form entries that can all link back to the root word and thus show all its alternative forms, including any irregularities. This means that the user does not require knowledge of underlying forms of words, since the various prefixing conjugations of each particular lexeme can be listed.

We hope that the Whitesands electronic dictionary will help to improve the status of the language in the community. Whitesands is currently not considered a language suitable for written registers. People prefer to use Bislama, even when writing just for the benefit of other Whitesands speakers. We hope however that the electronic dictionary, along with more vigorous vernacular teaching in schools, may start to change this outlook and provide a new era of written Whitesands communication. While mobile phones are now commonplace in the community, their use is still in its infancy (the mobile phone tower was turned on in August 2008). As such their capacity to lead new interactions, including a need for dynamic written communication through the use of SMS, may provide the medium that was lacking for the use of Whitesands as a written language.

**References**

Corris, Miriam, Christopher Manning, Susan Poetsch and Jane Simpson. 2004. 'How useful and usable are dictionaries for speakers of Australian indigenous languages?' In *International Journal of Lexicography*, 17.1. 33-68.