VOSS - A Voice Operated Suite for the Barbadian Vernacular

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Abstract. Mobile devices are rapidly becoming the default communication device of choice. The rapid advances being experienced in this area has resulted in mobile devices undertaking many of the tasks once restricted to desktop computers. One key area is that of voice recognition and synthesis. Advances in this area have produced new voice-based applications such as visual voice mail and voice activated search. The rise in popularity of these types of applications has resulted in the incorporation of a variety of major languages, ensuring a more global use of the technology.

Keywords: Interfaces, mobile, Java, phone, Android, voice, speech, Windows Phone 7.

1 Introduction

This paper presents VOSS a voice operated software suite for the Barbadian vernacular. Its primary function is to provide tools for translating the local indigenous grammar to Standard English. Barbados is a small Caribbean island, located to the east of the chain of islands. It is a former British colony and so English is the standard language taught in schools. However, as with most Caribbean islands, there is an internal dialect which is spoken by the local population. In fact, it is not uncommon to encounter instances where Standard English and the Barbadian dialect are being used interchangeably. This can be problematic since visitors to the island may find it difficult to understand someone using the dialect. Since tourism is one of Barbados’s primary commercial sectors, the use of technology can provide a cost effective mechanism to help alleviate this problem.

2 The VOSS System

The VOSS system is a collection of integrated software and hardware components which allows both external and administrative users to access and to add or update data that is generic to the Barbadian culture and vernacular. It is a combination of web servers, databases and web based or windows forms application interfaces.
2.1 Dictionary Interface

This is a Windows form application interface to be used by the administrators of the system for the purpose of adding words to the lexical database, which is used by the translator interface, and to the voice recognition dictionary.

This interface is password protected so that no unauthorized user can make changes to the database. The user keys the correct spelling of the word they wish to add. Then using the basic rules of syntax the various parts-of-speech categories, such as noun or verb, that the word falls into are added to its properties. When that process is completed the user will pronounce the word as it should be recognized by the speech recognition engine. The system will ask the user to repeat the word three times then it will replay the word. If the user is satisfied with the pronunciation he or she can apply the word and it will be added to the dictionary. If the user is not satisfied, the process can be repeated. The interface is also used to edit or remove existing words from the database.

2.2 Web Page Creator

This interface is used to create the content on the web server. This interface does not require the user to have any knowledge of web design, instead, the content is generated using Microsoft Word.