Manual for Voice Input

1. Introduction

   In this part, I implemented the voice as the input to games. To achieve that, you might need to quickly read the following instructions before you integrate this part into your game.

2. Prerequisite

   The first part is to add the libraries and setting files into the project. First of all, you need to add the following libraries into the project. These jar files are in the ***src/input/lib*** folder.

- *jsapi and sphinx4.*
  These two libraries are applied for speech recognition. References for these two libraries can be found at: http://cmusphinx.sourceforge.net/sphinx4/.

- *WSJ_8gau_13dCep_16k_40mel_130Hz_6800Hz*
  This library contains the audio files for more than 6,000 English words. Our program matches our voice with the audio files here and gets the most approximate match.

- Jdom-2.0.4
  This helps us to edit the configuration file that is an XML file. References for this can be found at: http://www.jdom.org/.

  Second, we must include the following two files before we start the voice recognition.

- Dictionary file (***Default is input/dict.gram***)
  The dictionary file includes all the words and phrases that should be recognized during the game. In other word, you should first list all the possible words and phrases in this file. Basically, you can list all the possibilities by the following syntax.

  (open | close) (window | door)

  This means that your system will support four two-word phrases (open window, open door, close window and close door).

- Configuration file **(Default is input/dict.config.xml)**
  This file specifies all the settings for the voice recognition system. Fortunately, you don't need to manually modify the file. Our system will generate a duplicated file, modify the duplicate, and set up the system based on the duplicated file once the dictionary file is changed.