

Creating new speech recognition models for PocketSphinx

You will need to follow the below steps for creating your own language model for use with pocketsphinx-sonic-server.

- First of all, we will need the "jasr" tool. This tool includes java bits that do some preprocessing, and some wrapper code to make it easy to trigger the creation of Language-Models from java, and also two external libraries that can actually make the .arpa (Language-Model) files. There is a dependency from jasr to djutil which is under the DNLG folder.
- To make the actual Language-Models, you can use 'cmuslm' or 'srilm', which are both included within the jasr folder. However 'cmuslm' currently only works for Linux and 'srilm' works for linux and Windows XP.

You should do the following

```
1. cd jasr/bin
2. ant
3. cd srilm
4. ./create-lm.bat <corpus.txt> <output.arpa>
```

where "corpus.txt" is a text file containing individual lines(text) that comprise the words that make up the vocabulary for your domain and output.arpa is the name of your output file i.e. Language-Model.

- Once this is done, copy over the newly created .arpa file to your pocketsphinx-sonic-server folder under core/.
- We will need to edit the "cfg" file in the above mentioned folder to point to the newly created Language-Model. In order to do so, just change the file-path in the "cfg" file where it says '-lm'.
- The same "cfg" file also specifies the dictionary being used (-dict) and the acoustic model being used (-hmm).
- By default, the Virtual Human Toolkit uses the wall street journal acoustic model that comes with pocketsphinx and the CMU pronunciation dictionary. You can change this to use your own.