

LN Report MP1

All the work was done through the exchange of ideas between the two members and the work was equally divided.

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Metaphone is a phonetic algorithm, proposed by Lawrence Philips in 1990, for indexing words by their English pronunciation. The objective of this work was to build a variation of the original algorithm.

Our option was to start by building step 2 transducer, then all the following steps until step 9 and every time we finished building one, we tested it to make sure it was functional. Next, with the experience we won by building the other 8 steps, we built step1 without any difficulties and we tested it to confirm it was well built. To do so, we used weights to simplify our transducers. First, it was defined a default path which correspond to all symbols with a weight of 5. Then, it was defined special paths which correspond to the transformations we want to perform with weights less than 5. Moreover, the *shortestpath* command will always select the special paths whenever possible because it has the smallest weights.

Finally, with all the steps concluded, we built the metaphoneLN using the command *fstcompose* and the “inverted” metaphoneLN with the command *fstinvert*. While testing the metaphoneLN, we discovered a few errors in steps 7 and 8 that were immediately corrected.

We believe that our solution is completely viable. When we test each step separately, all the tests are concluded returning the correct output. Then, when we tested the metaphoneLN transducer, it had some problems returning the correct output at the first time but we were able to fix it.

When we talk about the “inverted” metaphoneLN transducer, we can tell that this one isn’t working well. However, that was expected. As we are doing the inverse of the metaphone, the input is a phoneme which is ambiguous and because of that, it isn’t supposed to work well.