

Request For Comments: A functionally motivated Swedish phoneme inventory for speech technology

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Abstract

The design of existing phoneme inventories for speech technology has been governed by a wide and varying range of criteria, from computational limitations on character encoding to theory-laden decision and occasionally by coincidence and laziness. One of the most prolific systems is the Swedish SAMPA and more recently subsets of IPA. In practice, at least for Swedish, there are subtle differences in the phoneme inventories for many, if not most applications. These inventories are rarely well-documented, nor are the design choices explicitly motivated.

The national research infrastructure Språkbanken Tal (the speech branch of Språkbanken) is in the process of releasing a range of tools and models for Swedish speech technology. As part of this, we are specifying a common Swedish phoneme inventory for speech technology. The phoneme inventory is functionally and pragmatically motivated rather than theoretically, with key requirements including ease of use, avoiding conflicts with for example source code, and platform independence.

The current draft specification is largely based on a phoneme inventory that the Swedish Agency for Accessible Media has adapted from earlier phoneme sets. We will present the draft and the underlying design criteria, and we hope for feedback and comments which we will incorporate into the next version, which we aim to present at the Swedish Speech Technology Conference later this year (SLTC 2024).

