

Syllabic Typing: Writing Text by Simultaneously Striking Multiple Keys

M. Rude, Nagoya University

Sequentially typing a text character by character is a legacy from the era of mechanical typewriters. Some modern keyboards allow multiple keys to be struck simultaneously and transmit all the characters hit – in “random” order. But correction software can already correct some of the occurring transpositions. How does this relate to phonetics? This research suggests *syllabic typing*: the act of simultaneously striking all keys contained in a syllable, and thus to input a text syllable by syllable instead of character by character. *Why?* It could be a more natural way of recording spoken language, since the typing motion patterns would be structured spatio-temporally in syllabic units (temporal syllabic structures in ordinary sequential typing have already been identified through interkey interval analyses, see e.g. Weingarten 2004); this could – for example – help a language learner of *German* to acquire the rhythm of this language, simply by writing in syllabic pulses (see Figure). For the *Japanese* language, syllabic typing could even serve native speakers, since it would avoid the unnatural Romanization of their language in typing (1 furigana syllable, now 1–3 sequential key strokes, would become 1 multi-key stroke). There are already uses for scrambled output, e.g. puzzles (see below). These are not too difficult to solve, if certain conditions are met (see e.g. Rawlinson 1976). Furthermore, correction software could supply unscrambled, correct output: morphological and contextual constraints would simplify the creation of such software.

Figure: 1 syllable – 1 action

Simultaneously striking four keys for the German word “Zeit” (time).
e & t: left middle & index finger;
z & i: right index & middle finger.



Puzzle: Try to read the scrambled output correctly

Language	scrambled output	unscrambled, correct output
Japanese	soERah iOSagNAi.	soreha isoganai.
German	das hta ziet.	Das hat Zeit.
English	that si nto urgnet.	That is not urgent.

Other potential benefits of syllabic typing:

- 1) The distinct key combination for each syllable is linked to a distinct haptic-proprioceptive sensation; this might support *memorization* (e.g. the symmetric pattern of “e tz i” corresponds to a symmetric hand/finger gesture with mutually touching index fingers. See Figure.),
- 2) syllabic typing might outperform sequential typing in *speed*, since the same typing frequency would result in a multiple of key activations.

Literature

Rawlinson, Graham Ernest (1976). *The significance of letter position in word recognition*. Unpublished PhD Thesis, Psych. Department, University of Nottingham, Nottingham.

Weingarten, Rüdiger et al. (2004). “Morphemes, syllables and graphemes in written word production”. In: Pechmann, Th. & Habel, Ch. (eds.) *Multidisciplinary Approaches to Language Production*. Berlin, New York: Mouton de Gruyter.