Sarah Koeun O

Open Sesame!

Uncovering the hidden system beh Apple's predictive t

"Open Sesame!"

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Fingerprint is tracked, it is determined that the intended character hit is 'L'



Whilst displayed keyboard remains the same, an undisplayed responsive keyboard adapts to user behaviour From the first 1888 predictive typewriter invented by American missionary, Devello Sheffield in China, to Roy Feinson's 1985 patent describing a predictive telecommunication device for the hearingimpaired; history distinguishes **a general human interest for increasing the efficiency of writing**. Predictive text is a method of input technology in which a certain character, or sequence of characters, 'predict' which word is being typed or will be typed next. The technology aims to enhance the efficiency of typing by serving as a suggestion index.

Most modern-day predictive keyboards follow a general formula: when a sequence of characters has been written, the keyboard will compare each character to a candidate word from the device's database (dictionary), calculating a 'likeness' score based on **context and corresponding position**. Where Apple promises to go beyond its predecessors, is described thoroughly in the 2012 patent for a predictive keyboard developed by Ken Kocienda.

Whilst the keyboard may display a fixed character set, in actuality there is an **"adjustable undisplayed hit region of dynamically adjustable size"** (claim 13). This basically means the keyboard adapts to the accuracy of the user by analysing behavioural patterns. For example, if the user's thumb is more likely to miss an 'L' and hit a 'K', the keyboard will remember this and adapt to typo feedback so that the range of the 'L' and 'K' is shifted.

The Apple keyboard would also 'form a user-graph' which would **determine the probability of words based on the history of the user** (claim 24). For example, if one was to type in a completely unique word, such as 'Opensesame', a predictive keyboard would first try to suggest similar words or phrases that the user may have recently used. Unless corrected, this unique sequence of characters is remembered and saved into the user's personal database. Now when a user begins typing the word 'Opens'- 'Opensesame' will become a suggestion (case study: Vatsal Manot) . Thus, the Apple keyboard becomes more **personalised** to the user by adapting their unique dialect.

In this day and age, there seems to be one loud negative voice to the discussion of predictive text: "texting is killing language!". Age old concerns for the debasement of English through governing technology have always existed (George Orwell, 1946, "Politics and the English Language"). However, as linguists Betty Birner and John McWorter point out - language has never been stagnant, it shifts with zeitgeist and geography.

Where concern should lie, in alignment with social psychologist Johnathan Haidt's research, is the limitation of predictive text in reading nuance. A keyboard which absorbs all manifestations of communication into a user's database without consideration of context, means

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predictions made to a young adult who has not fully developed their frontal cortex (American Academy of Child & Adolescent Psychiatry) may be misguided to the dialects needed to communicate with certain individuals. A young adult with an incomplete decision-making process, may be perplexed by the keyboard's informal predictions. Thus, leading to incorrect and misguided use of specific words and dialects all from the suggestions of predictive text.

Although the intentions of predictive text are sound, there is an ultimately paradoxical predicament: the more responsive and efficient predictive text is to become, the more indecisive and inefficient the user may be. And so, such questions echo the concerns for this iPhone wielding generation: **is it truly more efficient to become reliant on predictive text?**



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Mapping Predictive Text Suggestions

