Speed reading apps are great for snippets but not sonnets

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A new app is about to come on the market with promises to dramatically increase the speed at which you read. Spritz is a text streaming technology that allows you to read a sentence, one word at a time. Each word is shown for only a brief flash, in the same place on a screen, before the next appears.

Up to 1,000 words can be shown every minute, which would allow you

to race through an entire novel in just 90 minutes. This could revolutionise the way we read, particularly on small-screen devices, such as smartphones and smartwatches.

How it works

When we read, our eyes normally make a series of brief pauses to extract information before moving on. These are referred to as eye movement fixations and saccades. It is only during fixations that the eye processes what is before it.

Spritz allows you to read faster by presenting words in the same place on the screen. This means that the eye can remain in the same spot and does not have to waste time making lengthy saccades to get to the next word.

When we read we have to recognise words. Spritz supports this by focusing our attention on the most informative part of a word so that we recognise it quickly – the word's optimal recognition position. This is done by highlighting the letter that should be fixated in a different colour to the rest. Doing this grabs our attention and makes us fixate at that point.

Spritz also takes into account some of the factors that explain why we don't fixate on each word for the same length of time. Rather than reading each letter in a word, our visual system is able to process common words as whole units, using the context of the text and the overall shape of the word as clues to aid recognition. This means that words that are very similar to each other in shape, like "bed" and "fed", will require more time to process than words that are more distinct, like "decide". Spritz therefore slows down when displaying very short words and speeds up for words that are four to seven letters long.

Reading or skimming?

Reading is more than just moving your eyes across a page. It is a cognitive activity. Our brain is busy processing the meaning of the words that have been read. For demanding content or tasks, this cognitive processing can take time. We naturally compensate for this by lingering on some words for longer than others to give our brains time to process the meaning of what we are reading.

The spritz website hints that some in-house testing has been done and claims people are able to perform well when tested for their comprehension and recall of a text that they have just "spritzed".

But there's a potential problem with treating all words equally and pushing everything through a high-speed funnel. Experiments using Rapid Serial Visual Presentation (RSVP), participants have demonstrated attentional blink. They were more likely to miss something important because their attention is occupied by something else that they had just experienced. For example, if you've just read an emotionally charged word such as "coffin" or "murder", you're more likely to miss something important if it occurs very soon afterwards.

The current system doesn't appear to offer any deeper adaption to the content that is being presented. It doesn't slow down if a main character dies suddenly, or a complex idea is presented in a sentence. This is not so surprising as this would be an extremely difficult technological problem to solve.

Spritz does slow down at the end of sentences to provide the reader with a little extra time to process the sentence that has just been read. But this might not be sufficient. In fact, readers frequently re-read sections of text when it did not make complete sense on the first pass –- something that is not possible with this system.

Spritz users might find themselves missing important information that they would have caught with regular reading as a result.

So while this technology could open up fantastic opportunities for reading small snippets of text, such as a tweet, on a very small screen, there's probably some way to go in the development of the technology before you'd want to read War and Peace on a smart watch.

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