

PLAGIARISM SCAN REPORT

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Imagine watching a YouTube video about the recipe to prepare your favourite dish, being able to smell it. Even better, consider reading an old novel and that 'woody', or as some might say 'earthy' smell, tingle your neural senses. Well, work towards olfactory technology has been going on for the past few decades.

Scentronix, a Netherlands-based start-up, already operates a perfume printing machine. The machine uses an algorithm to create a scent based on the answers to a questionnaire.

But now, they want to make a wearable necklace, so that this immersive sensory experience can be made mobile.

Scentronix, however, is not the first one trying to work on this.

Poems of ancient Greece describe how doves' wings were scented, to spread the aroma of fragrant oils over people gathered for a feast. Perfumes and incense also play a significant

role in religious rituals and ceremonies. Several attempts to screen films with scents started as early as 1916, when the annual Rose Bowl American Football screened in a cinema

hall filled with rose oil. In 1939, at the World's Fair in New York, Smellovision presented a prototype with pipes attached to viewers' seats, and delivered smells in sync with

images shown on the screen. The same scent technology was used in 1960, when Scent of Mystery got released.

However, the technology didn't work very well because clearing an odour in time for each scene was not easy.

In 1991, Linda Buck and Richard Axel, who later went on to win the Nobel Prize for their work, in 2004, published that our sense of smell relies upon about 1000 different genes.

These genes reside in a small area of tissue in the upper part of our nasal cavities. Each cell expresses a type of receptor but together, they allow us to detect around

10,000 smells. Debates on how exactly odour activates our olfactory receptors are still ongoing. One theory suggests that weak electrostatic forces between scent molecules

trigger vibrational frequencies that get translated into electrical signals, through which data on that smell gets delivered to the brain. Another theory states that scent

molecules act as a key in a lock system, much like substrates and enzymes.

Other recent developments in this area include Scentee, a cartridge-powered gizmo which went on sale in 2013, but was discontinued rather shortly, because people couldn't

be bothered to refill cartridges for just a narrow range of smells. The founder, however, shifted his focus entirely and is now working on a device that directly stimulates

the olfactory receptors via electrodes through the nostril. The lab results seem promising, but sitting with electrodes inserted into one's nostril is perhaps not an

experience many would enjoy. Additional current issues include timing and distribution of scents, a somewhat tenuous understanding of human olfactory perception, the health

concerns regarding synthetic odours, and many more. Nevertheless, one can hope that we figure out a way around these problems soon, since it can greatly enhance our multimedia experience.

