Research on tangible olfactory displays that can strongly impress fragrances

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The scent of a partner's perfume, which we perceive when hugging or kissing in our daily lives, is more attractive than a similar scent in the air, which we smell passively.

In this study, we hypothesized that scents are more likely to make a strong impression on people when accompanied by active sniffing, and we developed a device that can verify this hypothesis.As a preliminary experiment, we focused on the point of picking up a scented object and smelling it, and implemented an olfactory display that incorporates this action.A DC fan was used to diffuse the fragrance in response to the act of hugging a mannequin equipped with a distance sensor.Preliminary experiments did not prove that the act of sniffing enhances the impression of the fragrance. We considered that this was due to the time lag between the hugging and the recognition of the fragrance by the user.

Therefore, we tested the distance between hugging and scent presentation that minimizes the error between hugging and scent recognition.The experimental results showed that the error between hugging and scent recognition was minimized when the distance between the olfactory display and the user was 1500mm.