Scents-ing Mask

A Crip Visualization of Atmospheric Exposure



The “Scents-ing Mask” is a facemask with a volatile organic compound (VOC) sensor and paired with a P5.js visualization. Using video capture and a body-detection computer vision library, the system maps live VOC data onto the body, rendering it as a site of toxic accumulation.

VOCs are a group of chemicals released by building materials and household products, making them a significant contributor to indoor air pollution. They are also a common trigger for people living with environmental illness (EI).

In the visualization, particles cling to the body, intensifying when the sensor detects elevated VOC levels and gradually accumulating over time. The project challenges the notion of assimilative capacity—the belief that bodies, whether human or environmental, can absorb a certain amount of contamination without harm.



"Multiple chemical sensitivity (MCS) or environmental illness (EI) is a condition in which exposure to 'normal' twenty-first-century environments and substances causes a range of reactions, including rashes, tremors, convulsions, breathing difficulties, headaches, dizziness, nausea, joint pain, 'brain fog,' and extreme fatigue."

Stacy Alaimo in *Bodily Natures: Science, Embodiment, and the Material Self*

"Conceptions of the human self are profoundly altered by the recognition that 'the environment' is not located somewhere out there, but is always the very substance of ourselves."

"For chemically sensitive individuals, everyday spaces such as offices, supermarkets and buses contain exposures that cause reactions which last for hours or days. Many seemingly benign household products, home furnishings, and building materials actually contain small amounts of toxic chemicals that fugitively leak into everyday atmospheres, despite little being known about the long-term effects of low-level indoor emissions."

"Difficult to tie to a particular event, chemical harm occurs slowly over time as exposures accumulate into what environmental medicine practitioners call an overwhelmed 'total load.' This term describes a sort of threshold reached by those with chemical sensitivities when the body can no longer successfully process toxic substances without adverse effects."

Sophia Jaworski in "Tenacious Fumes, Chemical Sensitivity, and the Politics of Relation"

"Smells themselves frequently take the form of (or indicate the copresence of) volatile organic compounds, which have been associated with a range of short- and long- term health effects."

"Because such airborne chemical risks have been neglected, obfuscated, misrepresented, and medically derecognized, narratives of chemical sensitivity frequently take on the conventions of detective fiction, mobilizing smell to sense— and make sense of — airborne toxins and their embodied effects"

"The risks posed by unanticipated smells demand constant atmospheric vigilance and respiratory choreography for those with environmental sensitivity."

Hsuan Hsu in *The Smell of Risk: Environmental Disparities and Olfactory Aesthetics*

"A few pedestrians cross my path and before they come near, I quickly assess whether they are likely (might be the "kind of people") to wear perfumes or colognes, or sunscreen. I scan their heads for smoke puffs or pursed lips prerelease; I scan their hands for a long white object, even a stub. In an instant, quicker than I thought anything could reach my liver and have it refuse, the liver screams hate, hate, hate whose intensity each time shocks me."

"To my relief, the pedestrians pass, uneventfully for my body. I realize then that I should certainly have taken my mask with me. When I used to walk, mask-less, with unsuspecting acquaintances they had no idea that I was privately enacting my own bodily concert of breath holding, speech, and movement; that while concentrating on the topic of conversation, I was also highly alert to our environment and still affecting full involvement by limiting movements of my head while I scanned."

Mel Chen in "Toxic Animacies, Inanimate Affections"

Common Sources of VOCs

Examples of Household Products	Possible VOC Ingredients
Fuel containers or devices using gasoline, kerosene, fuel oil and products with petroleum distillates: paint thinner, oil-based stains and paint, aerosol or liquid insect pest products, mineral spirits, furniture polishes	BTEX (benzene, toluene, ethylbenzene, xylene), hexane, cyclohexane, 1,2,4-trimethylbenzene
Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray	Acetone, ethyl alcohol, isopropyl alcohol, methacrylates (methyl or ethyl), ethyl acetate
Dry cleaned clothes, spot removers, fabric/ leather cleaners	Tetrachloroethene (perchloroethene (PERC), trichloroethene (TCE))
Citrus (orange) oil or pine oil cleaners, solvents and some odor masking products	d-limonene (citrus odor), a-pinene (pine odor), isoprene
PVC cement and primer, various adhesives, contact cement, model cement	Tetrahydrofuran, cyclohexane, methyl ethyl ketone (MEK), toluene, acetone, hexane, 1,1,1-trichloroethane, methyl-iso-butyl ketone (MIBK)
Paint stripper, adhesive (glue) removers	Methylene chloride, toluene, older products may contain carbon tetrachloride
Degreasers, aerosol penetrating oils, brake cleaner, carburetor cleaner, commercial solvents, electronics cleaners, spray lubricants	Methylene chloride, PERC, TCE, toluene, xylenes, methyl ethyl ketone, 1,1,1-trichloroethane
Moth balls, moth flakes, deodorizers, air fresheners	1,4-dichlorobenzene, naphthalene
Refrigerant from air conditioners, freezers, refrigerators, dehumidifiers	Freons (trichlorofluoromethane, dichlorodifluoromethane)
Aerosol spray products for some paints, cosmetics, automotive products, leather treatments, pesticides	Heptane, butane, pentane
Upholstered furniture, carpets, plywood, pressed wood products	Formaldehyde

source: New York Department of Health

Suggested Readings

Stacy Alaimo. 2010. *Bodily Natures: Science, Environment, and the Material Self.* Indiana University Press, Bloomington, IN.

Jacob B. Berkson. 1996. *A Canary's Tale: The Final Battle.* The Odyssey. Illustrated by Jack Garver, 1st ed.

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