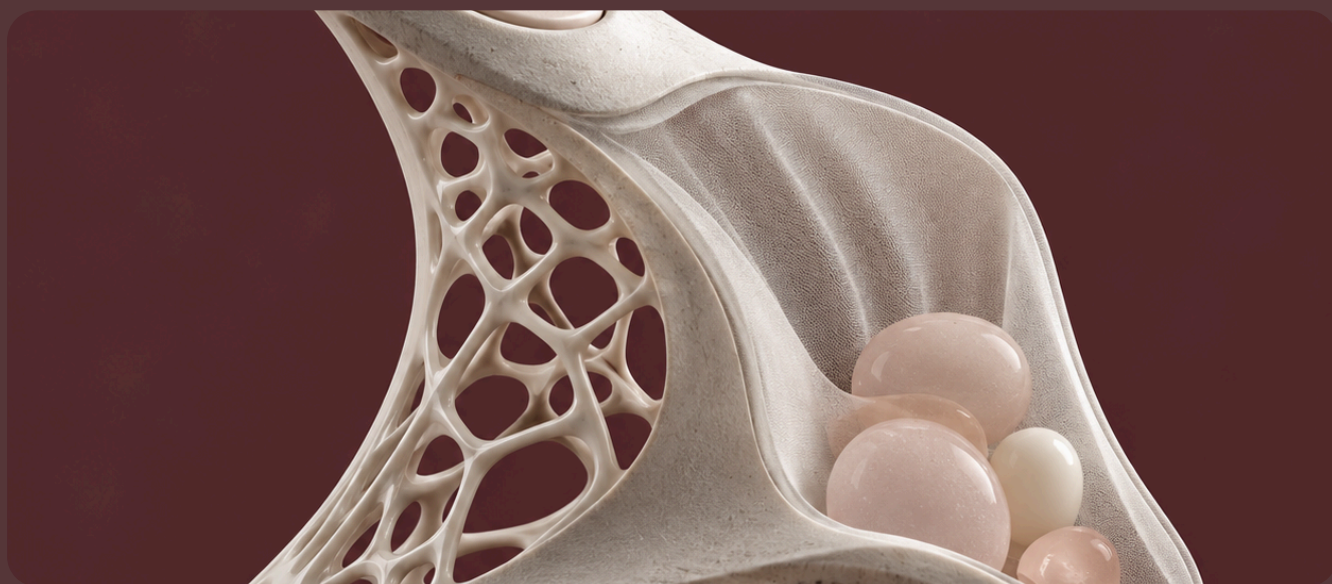


SHAPE TAKES THE LOAD

A control surface moves with the hand. Virtual reality exposes the cost of fixed sensory intensity. A lattice divides structural work, fluid flow sculpts microgels, and a breath sensor closes the loop through a pillow. Capability becomes quieter when form absorbs part of the task.



PHYSICAL INTELLIGENCE AND
ADAPTABLE INTERFACES

The useful object does not merely contain capability; its geometry, material, and adjustment decide how much complexity reaches the person.

01



Razer announced the Tartarus V2 Pro, a one-handed gaming keypad that concentrates 31 programmable controls, a full-size TMR thumbstick, and analog optical switches into one adjustable surface. The company specifies a 0.1–4.0-millimeter actuation range, Rapid Trigger sensitivity down to 0.1 millimeter, up to 8,000-hertz polling, and 24 keymaps across three onboard profiles. More consequentially for form, the wrist rest slides and rotates to meet different hand positions, while actuation can be adjusted on-device with LED feedback. These are manufacturer specifications, not an independent ergonomic finding; the object still carries substantial configuration through Razer Synapse.

A QUESTION FOR DESIGN

CONTROL MOVES WITH THE HAND

Could physical adjustment and local feedback make a deeply configurable control surface feel fitted rather than burdened with setup? ^{*1}

02



An ACM Transactions on Accessible Computing study used in-depth interviews with 15 people with ADHD, autism, or both to examine virtual reality outside therapeutic settings. Participants described an appealing overall vision alongside uncertainty, anxiety, and discomfort tied to current hardware and interaction patterns. The authors argue that worlds and avatars should let people control their preferred level of sensory stimulation without making that control cognitively expensive. This is a small qualitative study, not a universal profile of neurodivergence, but it moves adaptability from an optional setting toward a condition of access.

A QUESTION FOR DESIGN

**SENSORY
CONTROL
BELONGS
TO THE
WEARER**

What if sensory intensity were a legible property of the experience—easy to shape in the moment without asking the wearer to manage another complex control panel? ^{*2}

03



A Virtual and Physical Prototyping paper reports a titanium lattice design strategy inspired by the layered architecture of pomelo peel. Researchers used a simulated temperature field to divide a part into regions, then assigned Gyroid, IWP, and Diamond triply periodic minimal-surface cells before fabricating the structures by laser powder bed fusion. Compression tests, thermal-insulation tests, and simulations showed that cell sequence and volume fraction changed deformation stability, stress distribution, energy absorption, and temperature attenuation. Compared with homogeneous Gyroid lattices, the heterogeneous designs suppressed localized shear-band propagation and improved how stress and temperature were distributed. The work remains a specimen-level route, with mechanical and thermal performance evaluated separately.

A QUESTION FOR DESIGN

ONE LATTICE CARRIES TWO JOBS

Could a part distribute different jobs through one continuous geometry, reducing the need for added layers, fasteners, and assembly steps? ^{*3}

04



Researchers in Advanced Functional Materials introduced SHAPE, an all-aqueous process that changes microgel form by changing inlet and outlet geometry. Experiments and simulations link the flow field to interfacial deformation, turning spherical gels into microrods, microfibers, and microribbons with tailored aspect ratios. The method supports multiple hydrogel materials and the integration of living cells; the paper demonstrates the forms as sacrificial templates and granular hydrogels, including capillary-forming topographical cues and cell infiltration. It is a fabrication platform rather than a validated therapy, but it makes fluid-path design the tool that programs the resulting material.

A QUESTION FOR DESIGN

FLOW WRITES THE MICROGEL

When a manufacturing path can write function into shape, which parameters should remain editable and which should be resolved before fabrication? ^{*4}

05



A Chemical Engineering Journal paper reports a hot-film airflow sensor built on a pneumatically sprayed, lightweight branching network inspired by mammalian vasculature. The breathable substrate reduces thermal inertia; the authors report a detection threshold of 0.0015 meters per second and an 86 ± 8.9 -millisecond response. Comparisons with polysomnography found accurate breath-to-breath interval measurement in the reported tests. The team then used prolonged intervals to trigger pillow movement in real time, demonstrating a closed loop from sensing to positional intervention. This is a feasibility study, not evidence that the system diagnoses or treats obstructive sleep apnea at home.

A QUESTION FOR DESIGN

BREATH MOVES THE PILLOW

Could a health product move from measurement to a small, reversible physical response while keeping thresholds, uncertainty, and human override visible? ^{*5}

AUXETIC LENS

EXPAND WITHOUT ADDING WEIGHT.

The useful future is not the one with the most technology. It is the one that adapts without transferring its complexity to the person.

01

Which decisions become calmer when geometry, material, or fit resolves them before software asks for attention?

02

How can adaptive controls remain available without turning access into another layer of configuration work?

03

When one continuous form performs several jobs, what evidence should prove that those jobs still hold under combined real-world use?

04

Could a closed loop act physically, reversibly, and legibly enough that the person stays in command even when the interface recedes?

SOURCES

Images: editorial illustrations, not prototype photography.

***1**

RAZER.COM / 2026-09-17T14:25:02Z

MAXIMUM COMMAND. INFINITE CONTROL. RAZER UNVEILS THE TARTARUS V2 PRO

[Open source ↗](#)

***2**

DOI.ORG / 2026-09-17T21:01:52Z

IMMERSIVE TECHNOLOGY THROUGH THE LENS OF NEURODIVERGENCE: A QUALITATIVE EXPLORATION OF HOW PEOPLE WITH ADHD AND AUTISTIC PEOPLE EXPERIENCE VIRTUAL REALITY

[Open source ↗](#)

***3**

DOI.ORG / 2026-09-17T13:04:57Z

BIOINSPIRED TOPOLOGY-PHYSICAL-FIELD CO-DRIVEN DESIGN OF MULTI-MORPHOLOGY TPMS LATTICES FOR LOAD-BEARING AND THERMAL INSULATION

[Open source ↗](#)

***4**

DOI.ORG / 2026-09-18T03:22:01Z

SHEAR-EXTENSIONAL ASPECT PROGRAMMING OF MICROGELS (SHAPE)

[Open source ↗](#)

***5**

DOI.ORG / 2026-09-17T17:34:51Z

ULTRALOW-THRESHOLD AIRFLOW SENSOR FOR NONINVASIVE OBSTRUCTIVE SLEEP APNEA MONITORING AND INTERVENTION SYSTEM

[Open source ↗](#)
