

Astroid: A Parametric Ergonomic Mouse Built with Rhino

The Astroid 7000 is a parametric, ergonomic 3D mouse that revives the legacy of the original Spaceball using Rhino as a central tool for design, prototyping, and engineering. This case study highlights how digital modeling can transform legacy concepts into responsive tools for today's designers.

3DCITYGH: A Parametric Workflow for Digital Urban Survey and City Information Modeling

3DCITYGH presents a modular parametric workflow for generating structured City Information Models from survey data and point clouds, enabling efficient urban-scale modeling for risk assessment, heritage documentation, and structural analysis. Developed within Grasshopper, the approach combines AI-assisted segmentation, custom semantic structuring, and BIM/FEM interoperability.

Digital Clay: A New Layer at the Natural History Museum

At the Natural History Museum's new Fixing Our Broken Planet gallery, digital design meets sustainable craftsmanship through 3D printed ceramics. Using Rhino and Grasshopper, the team developed modular components that bring innovation to a heritage space without leaving a trace.

ShaperBay: A Browser-Based Platform for Custom Surfboard Design and Fabrication

ShaperBay is a browser-based platform that empowers users to design and export custom surfboards using parametric tools powered by Rhino and Grasshopper. Its standout Hollow Wood Structure (HWS) feature supports the fabrication of sustainable, high-performance wooden boards through laser-cut templates and intuitive digital workflows.

Bio Corallo: A New Biomaterial for Digital Craft

and Architecture

Bio Corallo is a lightweight, bio-based ceramic composite developed by Ana Bridgewater that merges digital craft with ecological material research. Made from porcelain and tapioca starch, the project explores how computational design and sustainable thinking can reshape the future of lighting, architecture, and modular fabrication.

TV Head Guy: From Digital Sketch to Life-Sized Installation

Brooke Pennington's TV Head Guy is a larger-than-life sculptural piece brought to life through a fusion of digital design, CNC fabrication, and character storytelling. Developed as an independent study, the 6-foot figure showcases Brooke's skill in Rhino, RhinoCAM, ZBrush, and physical prototyping.

Unroll, Design, Reroll: Creating Ceramic Textures with Rhino

Jenna Richards developed a custom ceramic texture roller using Rhino's modeling tools and 3D printing, transforming precise

digital patterns into tactile clay impressions. The project explores the challenges of wrapping geometry around cylindrical forms and refining prints for hands-on ceramic use.

Speculating Futures: DeNile's Vision for a Water-Adapted Egypt

DeNile is a speculative design project by students at Coventry University Cairo that envisions adaptive futures for Egypt in response to rising sea levels. Through floating farms, vertical aquaculture, and digitally modeled hybrid systems, the project reimagines survival in a water-transformed landscape.

New Dawn: A Lamp That Lives, Breathes, and Decomposes

New Dawn by Aga Blonska is a 3D-printed lighting piece that transforms microbial biopolymers into an evocative sculptural form, entirely modeled and fabricated within the Rhino and Grasshopper environment. Showcased at Milan Design Week 2025, the project reimagines material decay as design potential, marking a milestone in sustainable large-scale additive manufacturing.

The Rooster Wears Code: Parametric Design in Recife's Galo da Madrugada

For Recife's 2025 Carnival, computational designer Pedro Vilarim developed a parametric system to map 10,000 recycled plastic bottles onto the chest of the 32-meter Galo da Madrugada sculpture. The design reimagines the vibrant cloak of the Caboclo de Lança using code, craftsmanship, and discarded materials.