Now anyone can design and evolve 3-D printable objects interactively

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Forget small tables and complicated computer-aided design programs. You dream it, Endless Forms helps you design it.

Cornell University’s new interactive website, EndlessForms.com allows anyone to point, click, collaborate and create online in the evolution of printable, three-dimensional objects — without any technical knowledge and using the same principles that guide evolutionary biology.

EndlessForms.com users can develop objects just as gardeners tinker — a “generation” of objects is displayed, and a user chooses objects they like, which are “bred” to produce the next generation. Over time, objects evolve and users can publish these objects. Others can further evolve, share and rate them, creating a collaborative exploration of designs that represents an entirely new way of thinking about design, according to Neil Ipman, Cornell associate professor of mechanical and aerospace engineering and computing and information science.

Examples of items to choose from and evolve (credit: Cornell University)

Users can then have their objects made by 3-D printing companies in a wide range of materials, such as silver, steel, ceramic or sandstone.

The concept eliminates the need for skilled engineers to draw in Computer-Aided Design (CAD) programs, which can be complicated and non-intuitive. These new design tools free people to focus creativity, instead of being mired in technical details, said Ipman.

Now that 3-D printing is taking off, the goal is to unshackle the design process, finding the inherent creativity that others have limited or are not aware of.

The Web site demonstrates in real-time the power of evolution to produce complex designs, providing a new glimpse of the process in action. Users can also view the ancestral lineage of each object stretching back to the final, simple, randomly-generated object, and thus can see how evolution builds complexity via a series of small changes.

For more information about EndlessForms.com, including high-resolution pictures of evolved and 3D-printed objects, visit EndlessForms.com/press.

Cornell Creative Machines Lab is at http://creative.machines.cornell.edu.