



Stanford Students Design Recyclable Laptop with Autodesk Inventor Software

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Modular Computer Simplifies Electronics Recycling, Reduces Electronic Waste and Disassembles in Two Minutes

SAN RAFAEL, Calif., Oct 29, 2010 (BUSINESS WIRE) -- [Autodesk, Inc.](#) (NASDAQ: ADSK) has named a class of Stanford University graduate students as Autodesk [Inventor of the Month](#) for October for developing a prototype of the recyclable Bloom laptop.

The Bloom laptop is the project of a team of students from Stanford and Finland's Aalto University who were given the task to create a recyclable consumer electronics product that makes electronics recycling a simpler, more effective and engaging process for consumers. The students used [Autodesk Inventor](#) and [Autodesk Inventor Publisher](#) software to help develop and refine the innovative laptop during the school year. Creating 3D [digital prototypes](#) of the hardware components inside the laptop aided in creating a readily accessible laptop design that is also easy to disassemble.

When separated into different material types -- such as plastics, metals and circuitry -- the Bloom laptop's modular design makes it easy for consumers to decrease the amount of electronic waste added to landfills. For example, 1.9 to 2.2 million tons of electronics became obsolete in 2005, with only 345,000 to 379,000 tons being recycled. The Bloom can be disassembled in just two minutes, without tools and in just 10 steps. By comparison, a commercially available laptop takes about 45 minutes to disassemble, requires three separate tools and involves as many as 120 steps.

"We used Autodesk Inventor software often during the ideation phase to experiment with the design," said Aaron Engel-Hall, a Stanford student and team member. "We created 3D shapes to represent the hardware we had to design around, and the parametric design of Inventor software let me put in different parameters so that all the model dimensions would update immediately. I was also able to experiment with various thicknesses for the case enclosure, making it as thin as possible while maintaining structural integrity."

Autodesk Inventor Publisher software helped the student team create 3D technical documentation materials directly from the Autodesk Inventor digital prototypes. Interactive product manuals and instructions for the Bloom laptop -- including a 10-second animation showing the entire laptop being disassembled -- make electronics recycling a straightforward, user-friendly experience.

Beyond recyclability, Bloom delivers other benefits for consumers. The team used the easy-to-disassemble modularity of Bloom to develop a keyboard and track pad that detach and allow for improved ergonomics. The ease of disassembly also makes it easier to repair and upgrade components over the lifetime of the product, so that buying a computer is no longer a singular investment, but a longer-term relationship between the consumer and the service provider. For more information, visit the [Stanford University ME310 course](#).

"Consumer electronics waste is a significant and growing problem," said [Robert "Buzz" Kross](#), senior vice president, Manufacturing Industry Group at Autodesk. "These students are facing that issue head-on with their innovative Bloom laptop prototype. It's encouraging and exciting to see college students embrace Digital Prototyping to tackle the sustainability challenges of our times."

About the Autodesk Inventor of the Month Program

Each month, Autodesk selects an Inventor of the Month from the users of Autodesk Inventor software, which takes manufacturers beyond 3D to Digital Prototyping. Winners are chosen for engineering excellence and groundbreaking innovation. For more information about Autodesk Inventor of the Month, contact us at IOM@autodesk.com.

About Autodesk

Autodesk, Inc., is a leader in [3D design](#), engineering and entertainment software. Customers across the manufacturing, architecture, building, construction, and media and entertainment industries -- including the last 15 Academy Award winners for Best Visual Effects -- use Autodesk software to design, visualize and simulate their ideas. Since its introduction of AutoCAD software in 1982, Autodesk continues to develop the broadest portfolio of state-of-the-art software for global markets. For additional information about Autodesk, visit <http://www.autodesk.com/pr-autodesk>.

An interview with Stanford student and Bloom team member, Aaron Engel-Hall, is available on the Autodesk YouTube Channel at http://www.youtube.com/watch?v=WQX_NGb5vXs.

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