

COMPANY

Uncharted Play
unchartedplay.com

LOCATION

New York City, New York

SOFTWARE

Autodesk® Product Design Suite Ultimate
Autodesk® PLM 360
Autodesk® Maya®
Autodesk® Showcase®

I highly recommend the Autodesk Clean Tech Partner Program to other startups. Having access to the best design tools helped us accelerate the design process and achieve many of our design-related goals.

—**Jessica Matthews**
Co-founder and CEO
Uncharted Play

The Autodesk Clean Tech Partner Program supports clean technology innovators with design and engineering software they can use to accelerate their development of solutions to the world's most pressing environmental challenges. For more information, visit autodesk.com/cleantech.

When is a ball more than a ball?

Startup inspires children and turns play into clean energy



Image courtesy of Uncharted Play.

Introduction

Uncharted Play (UP) is a new kind of enterprise—one that demonstrates that doing good and doing good business are not mutually exclusive. The company's flagship product is the SOCKKET, a soccer ball that captures the kinetic energy generated during normal play and stores it within the ball for use as an off-grid energy source that can power LED lights, cell phone chargers, and other small electronic devices.

UP co-founders Jessica Matthews and Julia Silverman first conceived of the SOCKKET in their junior year at Harvard University. The women, who had spent much time in Africa in their youth, wanted to develop a product that addressed the lack of reliable electricity in the developing world and the resulting reliance on diesel, kerosene, or wood fires—all of which produce toxic fumes and harmful particulates. Equally as important, they hoped that the transformation of an everyday object—a soccer ball—would inspire children to find creative solutions to other obstacles in their lives.

The challenge

For their class, Matthews and Silverman built a functional prototype by cutting open a soccer ball and inserting a safety flashlight that charged when shaken. "That was our proof-of-concept moment," says Matthews, who now serves as CEO of UP. After the class, however, they put aside the SOCKKET for two years until Matthews was invited to speak about it at the Clinton Global Initiative Conference. "All of the interest we received—including from President Clinton himself—inspired us to turn our class project into a profitable, but socially conscious business—Uncharted Play." The two women used seed money from Harvard to hire a product development firm to create initial physical prototypes of the SOCKKET. Then, in early 2012, UP assembled an internal product development team. "Our goal was to finalize the product's design for high-volume manufacturing," says Victor Angel, vice president of product development at UP.

Using Autodesk Inventor, Uncharted Play designed the SOCKET to within one ounce of a regulation soccer ball's weight

"Designing the internal mechanism was not that difficult," says Angel. The SOCKET contains a rotational pendulum—much like that found in a self-winding watch—that oscillates with the motion of the ball, turning a micro-generator that transfers energy into a battery. The greater challenge was creating a deflation-proof, easily repaired, foam-filled ball that weighed within five percent of a regulation soccer ball and was durable enough to withstand regular play in a wide variety of conditions.

The solution

For help designing the SOCKET, UP turned to the Autodesk Clean Tech Partner Program, which provided advanced design tools at a nominal fee. UP relied on Autodesk® Inventor® Professional software, part of the Autodesk® Product Design Suite Ultimate, for most of the digital prototype design and durability simulation. They also used Eco Materials Advisor, a tool within Inventor, to help select environmentally friendly materials. "Eco Materials Advisor helped us quickly compare the impact of using different product materials," says Angel. "That was very helpful." To further increase the pace of design iterations, UP printed physical prototypes of its Inventor files on its in-house 3D printer.

More recently, UP began to use Autodesk® PLM 360, a cloud-based product lifecycle management tool, for internal project management. "In two weeks of use, PLM 360 has already helped us stay on top of our task list and make sure that we don't miss anything," says Angel. UP also used Autodesk® Showcase® 3D visualization software to create photorealistic renderings for presentations and Autodesk® Alias® for freeform modeling.



Image courtesy of Uncharted Play.

Good business

The SOCKET also makes good business sense. Currently, large corporations provide soccer balls emblazoned with their logos to UP, which converts them into SOCKETS and ships them overseas to NGOs that distribute the products in the developing world and conduct educational activities. UP plans to raise additional funds by including a giving component in its domestic retail sales, and, ultimately, plans to manufacture most of its products in the developing world, generating valuable jobs.

The result

The SOCKET is in the final stages of design and within one ounce of a regulation soccer ball's weight. The Clean Tech Partner Program played an important role in product development. "I highly recommend the Autodesk Clean Tech Partner Program to other startups," says Matthews. "Having access to the best design tools helped us accelerate the design process and achieve many of our design-related goals."

UP has now begun to focus on developing peripheral accessories and an entirely new product, a jump rope. "From an educational standpoint, a jump rope is a very easy way to demonstrate how rotation leads to energy generation," says Angel. "Part of the mechanism is exposed, so children can actually watch the internal lever turning the generator." They envision a sharing system for power that will include other peripherals.

Ultimately, Matthews believes that its products can open children's minds to a whole new world of possibility and encourage them to learn more about science and engineering. "It's about bringing a sense of play into their lives and inspiring them to take matters into their own hands."

For more information about the Autodesk Clean Tech Partner Program, please visit www.autodesk.com/cleantech.

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