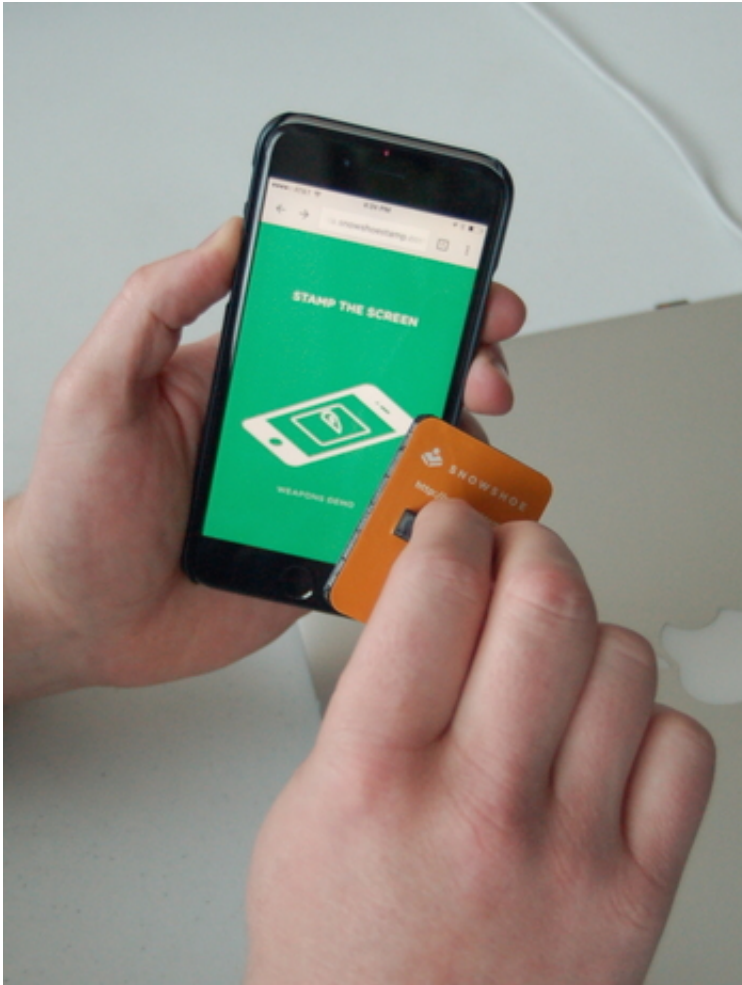# Startup marries digital, physical worlds

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When pressed against a smartphone screen, the SnowShoe stamp returns a unique identifier across the Web, triggering a of a range of specific interactions. Credit: David Tenenbaum

A startup business that wants to link the realm of physical objects to the

digital world of the Internet is basing its future on low-cost, highly engineered, one-of-a-kind plastic stamps.

What began as a means to inform shoppers about the environmental consequences of their purchases has morphed into a company that makes unique plastic stamps that, when pressed against a smartphone screen, trigger a specific action somewhere on the Internet.

"When the phone observes this unique piece of plastic, we return a unique identifier across the Web to our client, where it can trigger any of a range of interactions," says SnowShoe Stamp co-founder and CEO Claus Moberg, who obtained degrees in political science, economics, atmospheric science, and environmental studies during 11 years at UW-Madison.

Moberg says SnowShoe "offers a platform to developers who want to build applications that cross the physical-digital divide. We build the physical object, they pay for it and for the server service that identifies the object, and they build the application on top of that."

Using the stamp, an app developer can know that a specific phone owner was present at a specific location. That makes the stamps a natural for customer loyalty programs. Alternatively, SnowShoe can inform an app developer that a user has bought an item bearing the stamp.

One client wanted to attract the audience from a music show to its website. "If you were at the show and touched a stamp to your screen when the website is displayed, you got a free download through iTunes, instantly," says Moberg. "We drove 92 percent of the concert attendees to log in during the show, and we've never before seen a technology that can achieve that level of engagement."

SnowShoe Stamp can make millions of unique stamps on 3-D printers at its facility in University Research Park in Madison. Credit: David Tenenbaum

Another promising market would link stamp-equipped toys with games for smartphones. Instead of buying the full suite of action figures along with the game, video game makers increasingly sell physical figures separately. Users then activate the figure's digital counterpart inside the game through a short-distance radio connection.

SnowShoe can make the same connection without radios, batteries or an antenna, Moberg says. "If you touch a toy to the screen of an iPhone or a tablet, you can teleport the character into a mobile game."

SnowShoe Stamp traces its roots to an innovation that won a $15,000 prize in the 2010 Climate Leadership Challenge, a project of the Nelson Institute Center for Sustainability and the Global Environment at UW-Madison. To encourage the purchase of local food, the founders wrote a smartphone app that would read a QR code in a market, display information about the item's sustainability and produce a discount coupon.

Moberg says he and his co-founders, Jami Morton and Matt Luedke, were pursuing Ph.D.s in environmental studies at UW-Madison and were not particularly interested in starting a company, but the competition for the best business idea to address climate change was irresistible.

However, after testing in several supermarkets, it was clear that the concept would be difficult to implement into the varied computer systems in the industry.

Sheradyn Mikul, the company's "user interface" designer, operating one of 20 3-D printers that are continuously making stamps. Credit: David Tenenbaum

Trying to solve the scale-up problem led SnowShoe to the current, patent pending technology, in which a touch screen can employ the same technology it uses to detect the position of several conductive plastic elements.

Moberg and Morton, the chief operating officer, have moved to San Francisco, where five of the company's eight full-time employees work. Two employees at University Research Park in Madison operate 20 3-D

printers that are continuously making stamps.

The company can already make millions of unique stamps, Moberg says.

SnowShoe benefited from UW-Madison's Entrepreneurial Bootcamp, "which opened our eyes to the fact that we could start a company as grad students," Moberg says. They filed incorporation papers with help from the university's Law & Entrepreneurship Clinic.

SnowShoe has gained credibility from the $2 million it has raised in venture capital. But Moberg concedes that challenges remain. "We have this really amazing technology and we need to find the right product-market fit. We are learning how to manage a company. We have eight people now; four months ago we had three. There is a lot to learn about being a good manager, and adapting to constantly changing roles, but it's all fun and a good challenge."

Provided by University of Wisconsin-Madison