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Soon, solar purse could do the charging

ISU designer melds talents in fashion, engineering

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Ames, Ia. — Finally, a solution for the fashionable and the environmentally conscious.

Joe Hynek is developing technology that integrates solar panels into purses. With enough sunlight, a purse left on a windowsill for a few hours can charge a cell phone or other portable device.

The project has educated the Iowa State University graduate student on the finer points of fashion as he works on items that bridge his science background with newfound design ambitions.

"I was looking for a way to integrate my art and engineering skills," said Hynek, 26, a native of Beaconsfield in south-central Iowa.

Hynek is still fine-tuning the technology, which he plans eventually to apply to hats and jackets, too. The purse is the furthest along in development. Hynek said his Solarjo Power Purse should be available within a year.

Hynek, a doctoral candidate in mechanical engineering, began working with solar panels during an internship with Iowa Thin Film Technologies in 2001. The Ames company develops thin, flexible solar panels used in industrial or military applications. For example, Iowa Thin Film has a contract with the U.S. Army to supply tents that use flexible solar cells to provide electric power.

The power purse would bring that same concept to a consumer market, Hynek said.

Mark Bryden, ISU professor of mechanical engineering, has been helping Hynek develop the purse at ISU's Virtual Reality Applications Center. Bryden, Hynek's adviser, said the student mentioned taking a textiles class last year.

Bryden supported him. Mechanical engineering students don't typically take clothing design classes, but the Virtual Reality Applications Center encourages interdisciplinary studies.

The purse started as a project for the class. Hynek later entered it in an annual contest sponsored by the American Association of Textile Chemists and Colorists, and he won second place in the aesthetic design category.

From a distance, the outside panels look like a pattern. Inside, wires connect the panels to a charger. Hynek is still designing a circuit that will deliver the charge to a cell phone through a Universal Serial Bus connection.

Purses come only in black — the color of the panels. But Hynek took pains to study fashion to develop a purse women would buy. He formed two focus groups consisting of engineering and fashion design students. Reaction varied within each group, he said.

Solar technology has been built into bags before, said Jamie Wornson, co-owner of Back Country Outfitters in Beaverdale. Several years ago, backpacks with solar panels entered the market. Wornson said they didn't sell well, partly because of cost and partly because some people go backpacking to escape technology.

Wornson said he believes there is growing interest in solar products.

"There's a whole group of people interested in anything that's green, but I really do think the price has to come down a bit before it becomes viable," Wornson said.

At a recent trade show, Wornson saw solar panels for recharging flashlights. They cost \$250.

Hynek said he plans to price the purses for less than \$300, though he's still researching what consumers are willing to pay.

ISU's Institute for Physical Research and Technology has given a \$22,500 grant to Bryden, Hynek and J.R. Campbell, professor of textiles and clothing, to develop the technology. Hynek is seeking a patent, and he plans to make his solar technology an Iowa-grown business.

For now, research continues. An undergraduate student has volunteered to carry the purse with her to test how much charge it



HOLLY McQUEEN/REGISTER PHOTOS

Developer: ISU mechanical engineering student Joe Hynek, left, has been getting help from his adviser, associate professor Mark Bryden, in developing the purse at ISU's Virtual Reality Applications Center.

On the Web

To learn more about the Solarjo Power Purse, visit www.solarjo.com

receives during typical student use. Hynek said he could have done that research. But it occurred to him that walking on campus with his handiwork might raise a few eyebrows.

"It doesn't strike you that you're a guy carrying a purse until you have to leave the confines of your cubicle and walk among your peers," he said with a laugh.

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