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# Habitat for Humanity to Open Retail Store After Analysis by UD Engineering Students

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## HABITAT FOR HUMANITY TO OPEN RETAIL STORE AFTER ANALYSIS BY UD ENGINEERING STUDENTS

DAYTON, Ohio — When the Dayton-area Habitat for Humanity opens a new retail outlet to sell construction, remodeling and decorating supplies in its 1041 S. Patterson Blvd. warehouse on May 1, University of Dayton engineering technology students will take pride in the role they played in it.

The development of the retail store, named ReStore, was just one suggestion made by students in industrial engineering technology professor Chuck Edmonson's project management class last summer, which analyzed five aspects of Habitat's operations.

The project was one of several proposed in spring 1998 to UD's Design and Manufacturing Clinic, where upper-level students tackle real-world analysis and design problems for business and industry sponsors. Although the clinic is based in the School of Engineering, students can be drawn from all areas of the University to work on teams for projects that need business or human factors expertise, for example. Projects have ranged from designing and fabricating a safe, cheap one-size-fits-all-trucks ladder for Friendly's Ice Cream Corp. to a prototype automated pillow tester that simulates pillow wear for E.I. DuPont DeNemours Co. Inc.

Students hone their skills while sponsors get new perspectives and creative solutions.

Habitat's new executive director, John Robinson, brought his project to the Design and Manufacturing Clinic. With just two paid construction supervisors and thousands of hours of volunteer labor, the organization builds eight to 10 homes a year, Robinson said.

But while the nonprofit home-building organization was good at home-building, it wasn't quite as good at organization, said Emily Drye, a senior industrial engineering technology major whose team addressed managing home-site building and materials storage. Other teams in her class reviewed Habitat's cost accounting, determined the benefits and drawbacks of pre-building and on-site building and visited two other major Habitat cities to determine which of their processes might improve those in Dayton.

In the fall, students expanded on two of the summer class' recommendations. They designed a preliminary layout for the retail store and put together a surveying checklist to help

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Habitat determine whether donated land parcels meet the organization's home-building site requirements.

With the grand opening of ReStore, Dayton will become one of only about a dozen Habitats nationwide that operate retail sites, Robinson said. It seemed a logical function for the warehouse, where much of the space now occupied by ReStore had earlier been used for construction and storage of pre-built walls.

Pre-building walls isn't terribly complex, explained Habitat construction supervisor Bob Plummer, but when you factor in the time it takes to move the walls, the man-hours really added up. In Dayton, it was taking 10 workers eight hours just to load, move and unload the walls for what Habitat calls a "blitz-build," in which several homes are constructed at once.

In Houston, where a team of students went to analyze site management methods, it took volunteers 12 to 16 hours to build all the walls on site.

So, the students determined, pre-building walls was not only a waste of time, but also a waste of space.

The pre-building facility is now filled with donated paint, plumbing equipment, appliances, lumber, windows, doors, carpeting, tiles, floor coverings and more, all of which will be marked at half of the wholesale price or less. "And we'll mark it down till we sell it," said Robinson, who tested the retail waters when a carpet retailer donated 900 rolls of carpet.

"At \$2 a yard, it sold like wildfire," he said. "Landlords, do-it-yourselfers and rehabbers bought it up in no time flat. We made \$15,000."

That made Robinson a little more comfortable with his original sales goal.

"We wanted to net \$50,000 in sales in the first year," he said. "Now I know that that was a very conservative goal."

It's almost sheer profit, all of which will be used to build homes.

"It's volunteer labor," he said. "I'm going to buy a cash register, but the ReStore fixtures are all made of scrap materials. Since we're not buying anything for resale and we only sell what's been donated, what we're doing is classified as a rummage sale, and there's no tax on the inventory. The six-and-a-half percent sales tax is our only cost."

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For media interviews, contact **John Robinson** at (937) 586-0860, **Emily Dye** at (937) 461-1701 and **Chuck Edmonson** at (937) 229-2853. **Phil Doepker**, coordinator of UD's Design and Manufacturing Clinic, can be reached at (937) 229-2971.