Circuits
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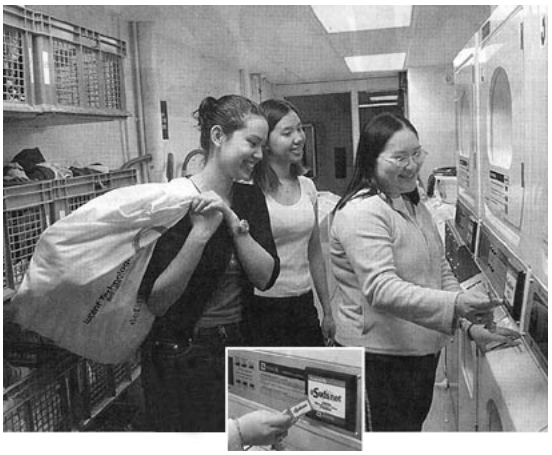
The Net Helps With the Laundry (Even if It Can't Fold the Shirts)

DOING the laundry — always a chore — became a little less unpleasant this semester for Cindy Ku and other students at her M.I.T. dormitory.

Her dorm is home to an experimental laundry room, with 20 brand-new washers and dryers connected to the Internet.

Ms. Ku must still run downstairs to the laundry room to load and unload her clothes. And she must still vie for a machine during the peak washday, Sunday, the only day she can squeeze laundry into her schedule.

But now, before hauling her laundry basket downstairs, she logs on to a Web site with her password to see whether a



machine is available. While the clothes are being washed and dried, she returns to her room to study. She gets e-mail messages to tell her when her washing or drying cycles are finished.

If the online laundry system appears viable after its test run at the Massachusetts Institute of Technology, it will be rolled out at colleges nationwide. College students constitute "the perfect captive audience for us — people who access the Internet and who need to use a Laundromat," said Wendy Jenkins, vice president of sales and marketing for the e-Vend.net Corporation, in Kennett Square, Pa., which developed the wireless technology. The company is working with the Maytag Corporation and Mac-Gray, one of the nation's largest commercial laundry operators. (Maytag, which makes the machines, has a minority stake in e-Vend.net.)

So far, the system has been well received at its test dormitory, New House, and not just because it is free this semester for the building's 300 residents.

People often have to wait for an available machine, said Ms. Ku, a junior. "Everybody does their laundry at the same time," she said. "Before, you had to keep track of time and keep checking your watch. Now, I leave my e-mail window open, and the e-mail pops up."

The e-mail notes also prod those laggards who, by failing to retrieve their finished loads, tie up machines that others could be using or force others to remove the offending laundry.

"I hate to take people's laundry out, and I don't want to wait for someone to come get their stuff," Ms. Ku said. "The e-mail helps people remember to go down and move their stuff."

Once in commercial use, the system will automatically deduct laundry charges from a student's account, eliminating the need to scrounge for quarters. It also tries to eliminate a problem of "smart card" laundry systems: the tendency of card readers to become clogged with lint and soap residue.

The system's wireless technology uses a kind of key fob that is held in front of the machine, where a detector picks up its radio frequency signal. The laundry machines are wired into a nearby hub, which transmits the information to e-Vend.net's servers.

The new washing machines also allow the option of automatically injecting laundry detergent and fabric softener. (For the experiment, Procter & Gamble contributed both.)

That's a real plus, said Malia Kilpinen, a sophomore. Without a car, shopping for laundry supplies can be difficult. "A huge bottle of laundry detergent is actually quite heavy," Ms. Kilpinen said, "and lugging it up and down the stairs is a pain."

The laundry operator will be able to monitor the system online, checking the use of the machines and the amount of detergent and softener available.

But students have detected some flaws. Even if someone is loading a machine, the Web page shows it as available. (A little graphic representing each machine is colored green for "available" or yellow for "in use.") And some students would like to know how much time remains on the machines or get e-mail alerts before laundry cycles end.

"When the e-mail comes, I am already downstairs waiting," said Monica Perez, a sophomore who usually does her laundry on alternate Sundays. "I go a few minutes beforehand because I really don't like when someone takes my laundry out."

Though Internet laundry is just beginning to be used commercially, the idea is certainly not new at M.I.T. A homegrown version flourishes at Random Hall, the school's smallest dormitory, with 90 students. The Random Hall laundry server started six years ago as a student project for a course called Introductory Digital Systems Lab, said Jim Paris, a sophomore who rebuilt the server after dormitory renovations last summer.

The page tells how long each of the three washers and four dryers has been off or on. For machines that are on, it gives the current stage of the cycle (fill and wash, add softener, rinse, high heat, and so on) and the approximate time until a load is finished. It does not send e-mail.

The laundry server is a point of pride for students in the dormitory. "While it sounds like a lazy thing, it makes a huge difference," said Shannon Cheng, who lived in Random Hall before graduating last year.

Ms. Cheng came up with idea for another innovation at the dormitory: online bathroom monitors.

"I would get up in the morning to take a shower and wander around looking for a bathroom," said Ms. Cheng, now an M.I.T. graduate student. In Random Hall, groups of 14 students share two bathrooms.

Last year, two of Ms. Cheng's neighbors wrote software to indicate whether the bathroom lights were on or off, and they wired the five bathrooms closest to them. After dormitory renovations in the summer, the bathrooms were rewired, making it simple to expand the bathroom server to include all the bathrooms. The new version, which is expected to be running within a few weeks, will check whether the doors are open or closed, said Riad Wahby, a junior who is building the bathroom server.

"I needed to get to class and didn't want to waste my time looking for a bathroom," Ms. Cheng said. "If I saw the bathroom closest to me was open, I would inwardly rejoice."

eVend.net℠
500 North Walnut Road
Kennett Square, PA 19348-0218
tel (888) 427-8743 *fax* (610) 925-5484

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by Joyce Cohen