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### Illinois assistant professor: Consider cell phones' fate when designing them

By Jared S. Hopkins

Tribune reporter

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The BlackBerries, iPhones and cell phones given this Christmas undoubtedly will consign many older models to the landfill.

What would it take to put more of those -- or at least pieces of them -- back to work in the next generation of electronic gadgets?

Harrison Kim, an assistant professor in the University of Illinois Department of Industrial and Enterprise Systems Engineering at Urbana- Champaign, has studied the question and found that the time to think about such "end of life" issues is before the small electronics are even designed. Creating cell phones that can be easily disassembled, for example, can save money and keep waste out of the landfill.

Kim analyzed how design differences affect product recovery and determined that manufacturers are losing money by not reusing components. He estimates that more than 100 million phones are retired each year. But fewer than 5 percent are recycled or reused -- which means most end up in the landfill.

"These are profits currently neglected," said Kim, whose studies were supported by the National Science Foundation.

In the case of a cell phone, its outer case may be worn and the keyboard faded but the glass LCD screen could be easily transferable if it were "modular," or designed to be taken apart. An integrated cell phone has parts more difficult to disassemble and reuse.

So why doesn't a company promote being modular to appeal to the environmentally-savvy consumer?

"I'm not sure why they are not doing that actually," Kim said. "They should."

He hopes the United States will eventually require labels on phones that grade their impact on the environment.

He notes some companies have already noticed the potential -- Apple offers refurbished products, and sites



like recellular.com offer reused and refurbished products.

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