Good afternoon. The Illini Gadget Garage is a project that helps consumers with troubleshooting and repair of electronics and small appliances. Before we dive into specifics, we need to talk about how people interact with everyday products and why changing attitudes toward repair is important.
Maybe you’ve already noticed—people are strange. We’re influenced by all sorts of factors, and alas, logic is not always one of them.
For example—many of us have experienced the misfortune of a flat tire. It’s inconvenient and annoying, but no one would look at this image and say “Ahh, man! Guess it’s time for a new car!” We’d recognize that our car has a damaged part that can be replaced.
This is more likely to make someone to say “Ah man, guess I need a new phone!” Once again there’s a damaged part, which can be replaced to restore proper functioning. But we’ve been conditioned to think about electronics and small appliances as items that aren’t meant to last.
Valuing progress, real or illusory, was ingrained in our culture early on, as depicted by painter John Gast. Giles Slade says his book, *Made to Break: Technology and Obsolescence in America*, "Not only did we invent disposable products, ranging from diapers to cameras to contact lenses, but we invented the very concept of disposability itself, as a necessary precursor to our rejection of tradition and our promotion of progress and change. As American manufacturers learned how to exploit obsolescence, American consumers increasingly accepted it in every aspect of their lives."
As the Industrial Revolution made production easier, manufacturers feared supply would outpace demand. So they learned to inspire repetitive consumption not only by creating disposable products, but also with appeals to aesthetics and status. GM introduced the annual model change for cars to compete against Henry Ford, who wanted the Model T to be the last car you’d need to own. GM started putting restyled bodies on top of old, or only slightly modified, technology to make their cars seem innovative, fresh, and stylish. The Model T became the butt of jokes even though it was reliable. People who drove them were seen as “tightwads,” “behind the times,” or oblivious to style and comfort. Eventually, even Ford had to introduce regular model changes to remain competitive as consumer expectations changed.
Nowadays we love it when new models of phones or other electronics come out. People wait in line to get the latest status symbol and often believe it’s important to upgrade long before the model they already have is technologically obsolete. I’ve yet to meet anyone who really uses all the features on their phone. Even so, according to a 2016 report on the smartphone industry, Americans keep their smartphones for an average of only 22.7 months before upgrading.

Besides a trend toward disposing of our actual electronic devices before they’ve stopped being useful, electronics are being integrated into more and more devices all the time. Even in products that are *meant* to be disposable, like greeting cards.
All of this leads to waste. In the book Made to Break, Giles Slade talks about taking his son to see an exhibit on Egypt. “..it occurred to me that while the ancient Egyptians built great monuments to endure for countless generations, just about everything we produce in North America is made to break.” He considered the legacy of ancient Egyptian culture and wondered what our legacy would be, asking “Will America’s pyramids be pyramids of waste?”

The latest municipal solid waste report from the US EPA states waste generation was at 4.44 lbs./person/day in 2014, and we generated a total of 258.46 million tons of MSW that year. The recycling rate for “selected consumer electronics” specifically was at 41.7%—meaning over half of our electronics were landfilled.

If we want to change our wasteful ways, we should consider a different type of pyramid—the US EPA’s Waste Management Hierarchy, which prioritizes different strategies for dealing with waste generation. Source reduction and reuse are most preferred. It makes sense to avoid generating waste, if possible. We can encourage industrial designers and manufacturers to create more durable goods, but as consumers we help stem the tides of waste by doing whatever we can to get the most use of the products we already own. One of the ways you can do that is through repair.
But there are barriers to repair, especially for electronics. Beyond the ingrained sense that it might be better to replace your old item because it’s bound to be obsolete soon, people may be afraid that taking an item to a repair shop would be expensive. Or perhaps a previous experience with a mechanic who always found “extra” problems with their car makes them wary of repair businesses in general, especially since most people don’t understand basics of how their devices work. When considering do-it-yourself they figure they don’t have the right tools, information, or technical savvy. If the item to be repaired is literally a black box, it doesn’t alleviate doubts.
Around the world and throughout the US, people who hate to see waste and items replaced prematurely, have addressed some of those barriers through what is called “collaborative repair,” or “do-it-together” rather than “do-it-yourself.” Organizations called Repair Cafes, Fixit Clinics, or other similar titles involve volunteers coming together in public places to share their knowledge, skills and tools, to help other people fix all sorts of things. There’s also a business called iFixit, started by two college students who couldn’t find instructions and parts for a laptop they needed to fix. So they decided to create a web site where people from all over the world contribute step by step instructions for repairing anything and everything. They also sell parts and tools. Such efforts promote repair as a means for personal empowerment and a component of community.
These examples, along with knowledge of the environmental and social impacts of electronics throughout their lifecycle, inspired the launch of the Illini Gadget Garage here on campus. Hourly employees and student volunteers work together with UI students, staff, and members of the community to extend the useful life of electronic devices like phones, tablets, laptops, and even small appliances through repair. We use a do-it-together approach, helping device owners to identify problems, obtain necessary parts, and make the repairs themselves. We have open hours at a physical workshop on Oak Street as well as regular “pop-up” clinics at locations around campus.
We also provide experiential learning for students by participating in the iFixit Technical Writing Project. Students dismantle devices using our tools and photography equipment to create step by step guides for the iFixit web site. Our services are free thanks to grants from the Student Sustainability Committee and donations from individuals and corporations. Recently we've begun offering special engagement events for a fee where we can come to a business or organization and help their employees with repair.
Since the workshop has been officially open, a little over a year, we’ve consistently gotten 5 out of 5 star reviews and positive comments on Facebook. As of October 11, 2017, we’ve diverted 354.32 lbs of devices through successful repair or supplying info on recycling. We collect single use and rechargeable batteries for recycling and have turned in 78 lbs. thus far, with collection bins currently stationed and rapidly filling at the Gadget Garage and ISTC.
It’s worth noting even professional, independent repair shops face barriers to repair. Manufacturers have been known to purposefully limit access to repair manuals, repair codes, parts, and specialized tools, effectively controlling the market on repair of the products they create. This has lead to what is called “The Right to Repair Movement.” That movement is currently lead by the Repair Association, an advocacy group that represents everyone involved in the repair of technology, from DIY hobbyists and independent repair technicians, to environmental organizations and the aftermarket. A highlight of the movement was pressuring US auto manufacturers to allow vehicle owners and independent repair businesses to have access to the same diagnostic and repair information made available to the manufacturers’ authorized dealers and repair facilities.

[right to repair legislation proposed in many states and ultimately passed in MA (2012) that required manufacturers to allow vehicle owners and independent repair facilities to have access to the same diagnostic and repair information made available to the manufacturers' authorized dealers and repair facilities. In 2014 a memorandum of understanding based on the MA law committed vehicle manufacturers to meet the requirement of the MA law nationwide.]
A similar scenario is currently taking place related to consumer electronics and even things like farm equipment, which, like cars, have been increasingly endowed with electronic components over time. Illinois is one of 12 states with proposed legislation that would support the right of consumers and smaller independent repair businesses to have access to instructions, parts, and tools necessary to repair electronics and other products.

[https://repair.org/stand-up –other states are NY, MA, MN, NE, KS, WY, TN, NC, IA, MO, NJ
HB 3030 in IL –Digital Fair Repair Act.]
As is often the case, Europe is ahead of the US in terms of promoting repair. On July 4th, the European parliament voted to approve a resolution calling on the European Commission, member countries and producers to improve product repairability. The resolution called for products to be built to last longer and made easier to repair, as well as protecting the ability of DIY and independent repair shops to have access to information, and spare parts. It suggests an EU-wide definition for planned obsolescence, and exploring a system to test for built-in obsolescence, addressing obsolescence for both hardware & software. The resolution doesn’t put requirements into law, but together with grass-roots efforts like the Illini Gadget Garage and similar projects, it suggests a sea change coming in our relationship with products.
So join the repair revolution! Become one of the *Fixing* Illini. Volunteer with us, or bring your devices in to work on with our guidance. Help us chip away at the waste stream by repairing one device, and one mindset, at a time. Thank you.