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Revenge by Gadget

Zapping subway gropers, shaming bad drivers, speeding up slow golfers. Jennifer Saranow on the growing ranks of electronic vigilantes.

By JENNIFER SARANOW
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Attention loud cellphone talkers, overzealous horn honkers, inconsiderate cab drivers and other everyday pests. Your days may be numbered.

Thanks to the falling cost of microcontroller chips and the lure of easy online sales, inventors are turning out record numbers of gadgets. One growing subset of these inventions: products that help people neutralize antisocial behavior at the push of a button.

The brains behind these devices range from entrepreneurs in suburban Los Angeles to graduate students at the Massachusetts Institute of

Technology. A Tennessee company has created a \$50 device that shuts up other people's dogs by answering their barks with an ultrasonic squeal that humans can't hear. (The unit is disguised as a birdhouse.) British inventors are exporting a new product for people who hate lousy drivers -- it's a luminescent screen that fits in a car's rear window

Students at MIT's Media Lab demonstrate new inventions and gadgets that carry social applications or have social aims.

and, at the driver's command, flashes any one of five messages to other motorists. These include a smiley face, a sad face and phrases like "Back Off" and "Idiot." (Since the product's U.S. debut, the company says it also has received several requests for images of offensive hand gestures.)

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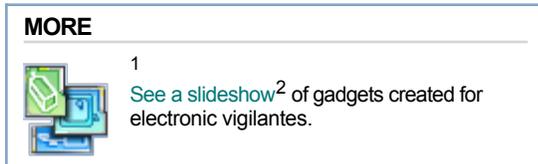
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'Annoyancetech'

While many of these gadgets are built by small companies or basement tinkerers, the field has caught the attention of graduate students at MIT's Media Lab, where it is known as "annoyancetech." Among their recent creations: a "No-Contact Jacket" that, when activated with a controller, delivers a blast of electricity to anyone who touches the person wearing it. During a demonstration in Japan, co-creator Adam Whiton says it drew interest from women who were eager to retaliate against gropers on the subway.



"It's becoming easier for people to imagine that technology is a conduit through which they will solve all their social problems," says Christopher Csikszentmihalyi, director of the Media Lab's Computing Culture group.

Edward Tenner, a historian and author of books on the consequences of technology, says he isn't surprised that people are turning to gadgets. The idea of solving problems with a gadget rather than a direct confrontation makes more sense, he says, at a time when people are concerned about the growth of social explosions like road rage. A study published last year in the Archives of General Psychiatry found that intermittent explosive disorder -- characterized by recurrent, violent, out-of-proportion reactions -- is more common than previously thought in the U.S. and may be on the rise.

These devices are also a way for people to bridge the gap between the birth of a new form of annoyance (people driving while sending text messages, for instance) and the point at which lawmakers finally organize a response. "In those petty cracks of life is where you can see the desire for revenge is alive and well," says Michael McCullough, a professor of psychology at the University of Miami.

For inventor Michael Donine of Temecula, Calif., the problem was simple enough: His wife, Laurie, didn't approve of his habit of going to a local casino to play poker on weekday mornings -- and would regularly call his cellphone to check up on him. While sitting at the poker table one day, the 47-year-old entrepreneur lit upon a possible solution: A device that would play background sounds that could fool her into thinking he was actually somewhere else.

Excuse Booth

Mr. Donine first imagined building an "excuse booth" for patrons at casinos, nightclubs and racetracks, but dropped the idea when he realized he would have to rent a warehouse and hire employees to collect change. In October, after consulting with a Chinese manufacturer, he came out with a quicker solution -- a device the size of a keychain that plays 10 one-minute "excuse" tracks, including police sirens, a thunderstorm, airport public address announcements, an auto-repair shop and a secretary who says "Excuse me, you have an urgent call on line two."



Faith Ninivaggi/Polaris

The electrified No-Contact Jacket

After selling nearly 100,000 units of the "Xcuse Box," Mr. Donine says he's working on an updated version with new sounds, including a carpool of screaming and fighting children. "It's a little bit more edgy," he says.

Calum Dunan's idea came to him during a golf tournament in Scotland as he stood waiting at the tee while the group in front of him spent 15 minutes scouring the course for a lost ball. As he became increasingly frustrated, Mr. Dunan realized his problems might be solved with a gadget. He's currently working on the final prototype of "Timeball," a device with five LED lights that turn on, one by one, until a golfer has exceeded the regulation five-minute limit on looking for a lost ball. He hopes to convince golf courses to promote the device. "I do believe this is going to be a household name," he says.

Some products, like the "Outdoor Bark Control Birdhouse," which aims to quiet loud dogs, came about by accident. Though the technology has been around for five years, the manufacturer, Radio Systems of Knoxville, Tenn., initially sold it as an indoor training tool for pet owners. But the company says it began getting requests from customers for an outdoor version that could be used on annoying neighborhood dogs. When a market analysis showed 60% of consumers would welcome a covert way to shut up somebody else's canine, the company decided to proceed. Mike Taylor, a Radio Systems executive, says the company doubled the bark controller's range to 50 feet, then asked a focus group to help figure out a way to camouflage the unit so neighbors wouldn't know what it was. After flirting with fake rocks and footballs, the company settled on a somewhat unlikely design -- a brightly painted Bavarian-style birdhouse. "I was the first user," says Mr. Taylor, who says he tested the prototype on an obnoxious neighborhood German shepherd. "I'm sleeping pleasantly now."

Zap Them With Silence

Not everyone building devices like these is interested in making a buck. Phil Torrone, an editor for *Make*, a do-it-yourself technology magazine, was fed up with taxi drivers who blast grating music or irritating talk shows on their radios and are nearly impossible to reason with. To address the problem, he bought a product from Griffin Technology that allows people to broadcast music from their iPods over FM stations. He pulled out the antenna to increase the device's range and then downloaded a noiseless track to his iPod.

Now whenever a cab driver switches on an annoying FM station, Mr. Torrone uses his creation to zap it with silence. "I travel a lot and when you are trapped and a hostage, you start thinking of an escape plan," he says. "This is my escape plan."

The spread of these behavior-regulating devices is part of a larger invention boom. There were 442,479 new patent applications filed in the U.S. last year, nearly double the number from a decade ago. In general, any device that sells more than 100,000 units qualifies as a smashing success -- and few of them do. One of the more successful products of this kind is the TV-B-Gone -- a \$20

handset that allows people to shut off loud televisions in public places like doctor's offices and bars. The manufacturer says it has posted sales of \$1.5 million in nearly three years.

Many of these products are little more than practical jokes. A New Jersey company called Outrageous International has sold 300,000 golf balls loaded with magnetic gyroscopes that can be made to zig and zag on the putting green with a remote handset. While some marketing materials suggest using it "if you're being thrashed by your opponent," company spokesman Alan Sutton says its chief target is pranksters. "It's supposed to be a joke," he says.



The Drivemocion screen

Likewise, a British invention called the Beer Burglar Alarm -- a \$12 device that attaches to a glass or bottle and uses a motion sensor to sound an alarm when anything comes within one foot -- was designed as much for laughs as for social utility. One alarm consists of a threatening voice that says "Keepa da hands off ma beer." James O'Brien, the device's inventor, says he thought up the idea in a pub. "After coming back from the toilet I found my friend drinking my beer," he explains.

According to Dr. Tenner, the technology historian, the first widely marketed "countergadget" may have been the Zenith remote control of 1950, since it was invented in part to help people skip commercials. The trend continued in the 1970s, he says, with the proliferation of radar detectors. Though illegal in the U.S., cellphone jammers have been floating around for nearly as long as cellphones.

But inventors say the current gadget boom is far more widespread. The chief difference is the falling cost of programmable microcontrollers, the integrated circuit chips that were once too expensive for small-scale production. Doug Freedman, a semiconductor-industry analyst, says these chips are smaller and more complex than just five years ago and cost about \$1.50 on average, down from about \$5 to \$6 in 2002. At high volumes, he says, these chips can be found for as little as 75 cents each. Inventors say inexpensive Chinese manufacturers have also helped reduce production costs.

American Airlines says it has barred a nearly four-year-old product called the Knee Defender that lets airline passengers keep the seats in front of them from reclining. To guard against products like the TV-B-Gone, some business owners have removed the infrared receivers from televisions in public spaces.

In some cases, however, businesses are embracing the technology: Regal Entertainment 8 announced this May that customers in 114 of its movie theaters can ask for wireless paging devices that allow them to summon ushers or managers if someone misbehaves by pressing a "disturbance" button.

More of these products are on the way. There's an updated version of the TV-B-Gone in the works that will be powerful enough to shut off televisions from behind sheets of glass. A well-publicized British invention called "the Mosquito" that emits high-frequency sounds particularly irritating to congregations of teenagers is now being marketed in the U.S. by a company called Kids Be Gone.

Several years ago as an engineering graduate student at the University of California, Berkeley, Eric Paulos built a device called the "I-Bomb" that emits an electromagnetic pulse that disables all electronics in its range (a similar device was depicted in the movie "Ocean's Eleven"). While Mr. Paulos says he has operated the I-Bomb only about half a dozen times in front of audiences -- he considers it a work of performance art -- he says he continues to get emails from would-be manufacturers and marketers and, more oddly, people who live nearby and just want to borrow it. One such message: "My neighbor is playing loud music, I just want it to stop."

Excessive Honking

If Joseph Mauriello has his way, the entire island of Manhattan will soon be a quieter place, thanks to a gadget. For 20 years in New York City, the 55-year-old says he's been disgusted by all the honking. As a tour company operator who's on the street constantly, he says he often finds it hard to hear over the clamor.

Mr. Mauriello has spent three years and tens of thousands of dollars developing the "Automobile Horn Audit System," a device that records honk stats like time, date and duration and has a GPS component to determine where the honking occurred.

He envisions it being installed in all cars in New York so that when owners bring them in for a state inspection, the data will be sent to a central office that will be empowered to assess levies on anyone who has demonstrated a pattern of excessive honking.

After drawing up blueprints and hiring a lawyer, Mr. Mauriello is waiting for a final decision from the U.S. patent office. He's already looking for a corporate partner and lobbying legislators. "It's not a matter of if this is going to be a reality," Mr. Mauriello says, "it's a matter of when."

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