

# INVENTORS

THE MAGAZINE FOR IDEA PEOPLE >

DIGEST

AUGUST 2014  
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PROTOTYPING  
RACING AHEAD  
FOR SCIENCE

ACADEMIA  
WATCH  
INNOVATION &  
DISRUPTION

WELCOME TO  
THE MACHINE  
DECISIONS, DECISIONS

WOMAN INVENTZ  
COUNTING SHEEP

LANDER ZONE  
SWEATING THE  
SMALL STUFF

LAWRENCE UDELL:  
MAN OF MANY VENTURES

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DONE THAT



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# EDITOR'S NOTE

## Time to Crow About Jack!

Over the past few years, I've had the pleasure of working with and reading the many inspiring and educational articles by Jack Lander. He's that trusted uncle you can always count on, no matter what the situation. He's always on time with his articles, to the point, constantly helping me, continually teaching and motivating you.

Last month I realized Jack's article hadn't been submitted (1 month early) as usual. Before I could call Jack, he contacted me to tell me he just had hip replacement surgery. After finding how well he was doing, I told him not to worry about this month and get back to me when he felt better..... Big mistake on my part. Jack promptly informed me he hadn't missed a month in 18 years and wasn't going to start now.

Jack also doesn't like to "Crow" about himself and I found one of his fan letters and had to include it in this issue.

Dear Mr. Lander,

I read your column in Inventors Digest every month. It's always my favorite part of the magazine. You write so well, and I appreciate your sharing your experience and knowledge.

But you outdid yourself with "Crow as Inventor." That was just one of the best articles I've ever read about anything, anytime, anywhere.

I studied the human-animal connection as an undergraduate. We're used to thinking of cats and dogs as companions, but I never realized crows are so intelligent, and that they understand reciprocity. That's a big deal to me; there's a small but important leap between the concept of gratitude, and the understanding of wanting to give back.

My husband and I put out peanuts in the shell every fall; we scatter them in our leaf-beds, to keep the squirrels from digging up our tulip bulbs.

Sometimes the jays and crows grab a few. This year I'm going to see if we get any presents - and if we do, I'll thank the crows and think of you.

You really made my day with this column. Thank you so much!

Sincerely,

Marie H.

If I know Jack -- I'm in trouble for "crowing" about him, but I can live with that! Thanks Jack for your loyalty to our magazine and especially to our readers. They're the true benefactors.

Happy Crowing,

Mark R. Cantey

VP & Associate Publisher

*Mark R. Cantey*



# INVENTORS

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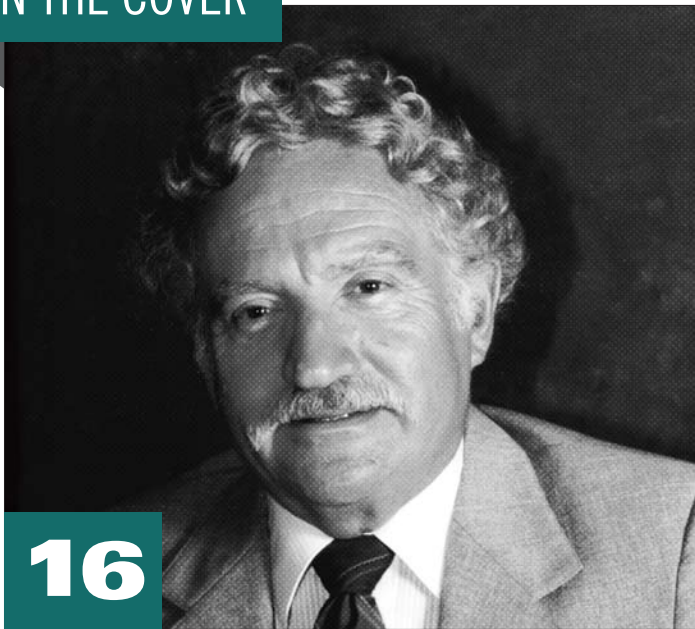
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# CONTRIBUTORS



**JACK LANDER**, our regular columnist on all things prototyping, licensing and inventing, explores the gap between inventor and entrepreneur. Jack, a near-legend in the inventing community, is no stranger to the written word. His latest book is *Marketing Your Invention – A Complete Guide to Licensing, Producing and Selling Your Invention*. You can reach him at [Jack@Inventor-mentor.com](mailto:Jack@Inventor-mentor.com)



**DHANA COHEN** Co-founder of The Women Inventorz Network and the newly created Inventorz(VIRTUAL)Network. Dhana knows a thing or two about great innovation, as an inventor herself she struggled with who to contact, and who truly had her best interest in mind. Luckily she stopped inventing after several products and took her background in marketing and partnered with Melinda Knight, together they have developed the right connections, education and marketing for the inventor community. The new (VIRTUAL) InventorzNetwork.com is the only platform out there in the inventor industry, think Match.com meets Angie's List for the inventor industry.



**EDIE TOLCHIN**, known as "The Sourcing Lady" (SM), "invented" EGT Global Trading in 1997, with a goal to link U.S. inventors with Asian manufacturers, to provide an exclusive import service for sourcing, quality control, production testing and safety issues, manufacturing, international financing, air/ocean shipping, customs clearance arrangements, and dock-to-door delivery. Website: [www.egtglobaltrading.com](http://www.egtglobaltrading.com)



**JEFFREY G. SHELDON**, is the founding partner of Sheldon Mak & Anderson in Pasadena, where his practice focuses exclusively on intellectual property law, including prosecution, litigation, and international and domestic licensing, as well as an arbitrator and mediator. In addition to California state and federal courts, he is admitted to practice before the Ninth and Federal Circuits and the U.S. Supreme Court, and is also registered to practice before the U.S. Patent & Trademark Office.



**JOHN RAU**, president/CEO of Ultra-Research Inc., an Anaheim, CA-based market research firm, has over 25 years of experience conducting market research for ideas, inventions and other forms of intellectual property. In addition, he is a member of the Board of Directors of Inventors Forum, based in Orange County, CA, which is one of the largest inventor organizations in the nation. He has been a contributor to Inventors Digest magazine since 1998. Mr. Rau can be reached at (714) 281-0150, or [ultraresch@cs.com](mailto:ultraresch@cs.com).

# Market Research

## *tip of the* Month

by John Rau

As the story goes, in response to his championing for investment in radio in the 1920s, David Sarnoff's associates were of the opinion that, "The wireless music box has no imaginable commercial value. Who would pay for a message sent to nobody in particular?" The reason for his associates' response was, most likely was that he didn't have a marketing plan. As an inventor, if you plan to license or sell your patent, then you'll need to prepare a marketing plan. The purpose of your marketing plan is to define the market for your patented (or patent pending) idea and define where it fits in the marketplace. You'll need to identify who the potential customers will be and why they would want to buy your new product. You'll also need to know who are your most likely competitors and to present an outline of your strategy for attracting potential investors and/or companies that would be interested in either buying outright your patented idea or licensing it from you.

Topics that you should address in your patent marketing plan include the following:

A description of your invention and its patent status. What is the target market sector and where does your idea fit? Who are the business entities (such as investors, licensing candidates and manufacturing companies) that might have an interest in your new product idea and how do you plan to approach them? These will need to be included in your planned timetable of activities and events.

In this regard, a suggested outline is as follows:

### Section 1

Describe what your invention is—what does it do, what problem(s) does it solve and what basic functions does it perform. If you have developed a prototype, then show any pictures, diagrams and/or schematics to "validate" your idea. Remember it has been said by experts in the field that a "picture may be worth a thousand words, but a prototype is worth a thousand pictures".

### Section 2

Describe its patent status. If it is patented, then is it a utility patent or a design patent and when was the patent granted? If you have filed for a patent and it hasn't been granted yet, then describe where it is in the application cycle. If you have only filed a Provisional Patent Application (PPA), then what is the filing date and what activities have you undertaken to prepare for the PPA next steps. If you have not yet received a patent and are going through the patent examination process relative to prior art, then provide the results of any patent searches that have been conducted to give investors what the likelihood of patentability may be. You can expect that investors will be cautious if there are questions and/or issues relative to the patentability of your idea. Interested parties may choose to wait to see if the patent issues, which could delay getting your product idea into the marketplace.

### Section 3

Describe where your invention idea will fit in the marketplace based on your market research results. Describe the detailed "niche" that you are entering with your invention idea in the sense of how big is the market and what is an estimate of annual sales. Is it a growing market or a declining market? Who are the companies competing in this market area and what products do they have that might be similar or at least potentially competing with your idea? What do their products sell for and, if possible, present sales statistics for these competing products and

what the available data indicates the demand for products similar to your new product idea is. Include pricing information for similar or potentially competing products. If you have done any studies or analyses regarding what you believe you can sell your new product for, then present these results here for comparison with the potential competition. This is an important section of your marketing plan as it helps you "build the case" to present to investors and potential licensing candidates and manufacturing companies to convince them that there really is a market for your idea. You need to emphasize any special features and unique aspects that you feel could be its selling points. Here is where you tell the "why your product is viable" story. If you don't have a strong story here, then you can't expect too many nibbles when you cast your lure into the water.

### Section 4

Present here your list of investor, licensing candidates and manufacturing companies that might have an interest in your invention. You would start by selecting companies with experience in the market sector and product category your invention targets. They will already have established distribution and marketing channels in place and, as a result, should be more receptive to your idea. When approaching these companies, be prepared to tell them how your product idea will fit in with their business. Potential "selling points" would include the following: their customer set is the same as or similar to that expected for your new product idea; your new product idea is complementary to products they already sell and would allow them to expand their presence in the marketplace; if your invention idea is an improvement to one of their products and then point out how this could "enhance" their product line. Keep in mind that backing up your invention with research relative to these types of selling points will greatly increase the chances of selling your new product idea to an organization.

### Section 5

Create and present a timetable for implementation of your marketing plan to include not only your planned schedule of presentations to companies but also other activities such as going to relevant product trade shows, conventions, expos and technology forums to identify companies that might have an interest in your new product idea. Also give consideration to getting involved in various types of "fast pitch" contests and going to venture capital and "angel investor" events.

In addition, as you are implementing your marketing plan, you should continue to track market trends and periodically review your data, looking for shifts in the market. If changes are occurring, you should modify your marketing plan to coincide with these changes.

Remember, having a patent does not guarantee that you will make money. You can't sit back and wait for the doorbell or phone to ring. To successfully commercialize your invention, you have to convince others of its value and viability.

You've got to be aggressive and put together a marketing plan. Use your plan as your vehicle to enable you to tell your new product idea story.



Contact John Rau at:  
ultraresch@cs.com  
714.281.0150



# UNDER THE RADAR

## 1 Coca-Cola Turns Empty Bottles Re-usable

As part of its global sustainability program, Coca-Cola has launched '2ndLives', a line of 16 innovative caps which can be screwed onto bottles after consumption, transforming them into fun and useful totally new objects, such as a paintbrush, water squirter and pencil sharpener, among others, and encouraging consumers to reuse and recycle plastic. Coca-cola has partnered with advertising agency Ogilvy & Mather china for the campaign, where 40,000 free bottle caps will be distributed this year with soda purchases. It will roll out later in Thailand and Indonesia. <http://www.coca-colacompany.com/videos/coca-cola-2nd-lives-ytrwgcqgzjou4>



## 2 Detecting Counterfeit Goods with a Smartphone

Tiny, colorful microparticles able to be read with a smartphone could make it easier to verify the authenticity of goods or cash. The tiny particles, developed at MIT, are equipped with colored stripes of nanocrystals. These crystals will glow brightly when exposed to near-infrared light, and the colors of the stripes can be tuned for each individual product. Each particle can carry six nanocrystal stripes, and the stripes can be created in one of nine colors—allowing for a wide array of combinations. In theory, customers or merchants could determine the authenticity of goods by using a smartphone equipped with a magnifying glass and a near-infrared light source, such as a laser pointer.



<http://www.gizmag.com/anti-counterfeiting-microparticles/31630/>

## 3 Volvo's Inflatable Car Seat Concept

Volvo has introduced an inflatable car seat concept, making the bulky devices easier to carry and store. Designing car seats is not new territory for Volvo, who introduced what they call the first rear-facing child seat 50 years ago. The new inflatable seat can pack down to the size of small backpack, allowing it to be stored in an airline carry-on compartment, and is equipped with a quiet pump system able to fully inflate it within 40 seconds. The seat can even be inflated remotely, via a Bluetooth connection, and weighs only 5 pound (half the weight of a standard car seat). The seat is still in the concept stage—not yet ready for market—and will require vigorous testing to assure parents that is safe for use.

<http://www.gizmag.com/volvo-inflatable-child-seat/31631/>



# UNDER THE RADAR

## 4 Google's New Self-Driving Car

Google unveiled its latest self-driving car, designed to operate safely and autonomously without requiring human intervention. They won't have a steering wheel, accelerator pedal, or brake pedal... because they don't need them because the software and sensors do all the work. The vehicles will be very basic, but they will take you where you want to go at the push of a button. And that's an important step toward improving road safety and transforming mobility for millions of people. The main aim of the project is not luxury, comfort or the speed, it is the safety and accuracy. The car has two seats (with seatbelts), a space for passengers' belongings, buttons to start and stop, and a screen that shows the route. It can still go for a top speed of 25 mph.

[http://en.wikipedia.org/wiki/Google\\_driverless\\_car](http://en.wikipedia.org/wiki/Google_driverless_car)



## LithiumCard Hypercharger Fits in a Wallet

The credit card-sized LithiumCard "Hypercharger" fits in a wallet, and can deliver up to two amps of energy to charge a device quickly and safely. Vastly surpassing its funding goal on Indiegogo, the LithiumCard uses of 'HyperFET drive technology' to determine the device's ideal charging profile in order to optimize the charging speed—enabling it to charge a device's battery up to 1 percent per minute. Devices are charged via a pop-out micro-USB connector that lays flush against the LithiumCard until needed, and the device itself can be charged by its own UBS connector. The LithiumCard also features a bypass charging system that allows it to be charged while it is charging another device.



<http://www.gizmag.com/linearflux-lithiumcard-portable-charger/31652/>

## 6 Self-Healing Polymer Can Heal Scratches at Low Temperatures

Researchers have developed a self-healing polymer able to mend itself quickly and repeatedly at low temperatures. Previous versions of self-healing polymers have required either a network of embedded capsules containing the healing agent or needed to be subjected to high temperatures to activate their healing properties. The new polymer, in contrast, is made up of a "switchable network" of specialized fibers or molecules that have been crosslinked by a reversible chemical reaction. The network can be broken down into its base components and then reassemble when exposed to heat, light or a chemical substance. The method can be applied to a number of plastics, and could also have applications in adhesives, composite materials, rapid prototyping and scratch-resistant paint.

<http://www.gizmag.com/kit-self-healing-polymer/31618/>





# 2 *Critical Steps to getting your NEW PRODUCT "out there"*

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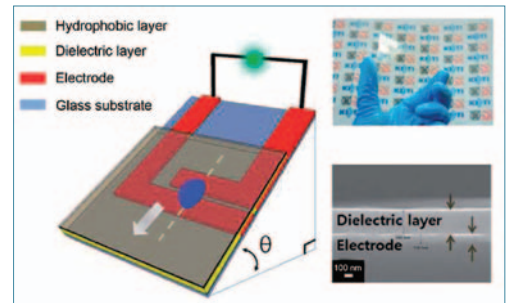
# UNDER THE RADAR

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## Transparent Film Harvests the Motion of Water

Energy-generating toilets may not be far away, thanks to a transparent, flexible film able to harness the motion of water and convert it into electrical energy. Youn Sang Kim and his team created the film by adapting a transducer using dielectric materials. Submerging the dielectric materials in water causes a double layer to form around their outside, and variations between that layer and the water will generate an electric charge. The team has demonstrated that the motion from a 30 ml droplet of water is enough to power an LED. The electrodes used in the technology are flexible and transparent, so they could be applied windows and roofs as well as toilet bowls—anywhere they can capture the energy of moving water.

<http://waterislife.com>



## Tilt Cup Concept



After washing the cup, water causes mildew to form. Water flows along the wall of the regular cup and causes bottom to be damp. If you turn the cup upside down, moisture can't be exhausted because of airtight space. Introducing the 'Tilt Cup' by Huang Shi-hao solves this problem. When turn this chipped cup upside down, water flows along the wall and drain out through the gap. Tilt angle makes weight balance so cup can stand up by itself.

<http://www.spicytec.com/2014/06/tilt-cup-concept.html>

9

## Oddly Shaped Leveraxe Makes Splitting Wood a Snap

The Leveraxe brings its unique lever-action to wood splitting, making the task both simpler and safer. The axe, from the Finnish company Vipukirves, eschews the typical, centered wedge head in favor of a uniquely-shaped head attached to the handle from the side. When the axe head hits and penetrates the log, the widened area of the blade causes the axe to slow down, preventing it from penetrating the log too deeply and becoming stuck. As the axe blade slows, its remaining kinetic energy and off-line center of gravity cause it to rotate and turn the blade into a lever—forcing the wood to split. Once the axe has completed its swing and chopped off the bit of wood, the axe head will land sideways on top of the chopping block, ensuring it does not continue toward the user's legs.

<http://news.discovery.com/tech/gear-and-gadgets/innovative-axe-chops-through-wood-like-its-butter-140417.htm>

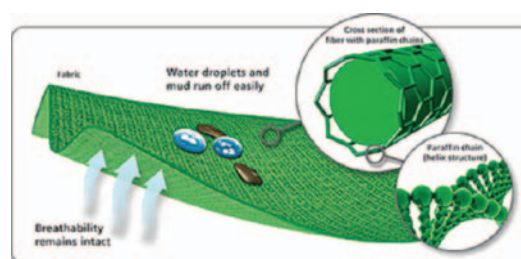




## 10 Ecorepel Keeps Clothing Dirt-Free

Inspired by the way a water fowl's feathers will repel water, the Ecorepel solution can keep fabrics dirt-free through several washings. The Ecorepel coating is made of paraffin wax—the same material used for years by sailors to treat their clothing—but this new version is cleaner and will last longer. The solution is made of long, honeycomb-shaped paraffin molecules that will form a lattice over each fabric fiber, repelling water while still allowing airflow. Coating the clothing involves dipping the individual pieces into the paraffin solution, wringing out the excess solution and then baking the coated garment at 300 F. The Ecorepel will wrap around the separate fibers as it dries, and it can stand up to repeated washings and rough wear.

<http://www.popsoci.com/article/technology/jeans-wont-let-you-or-planet-get-dirty?dom=PSC&loc=recent&lnk=10&con=jeans-that-wont-let-you-or-the-planet-get-dirty>



## Gibson Memory Cable Captures Musical Moments

The Gibson Memory Cable is equipped with a digital recorder, allowing guitarists to capture those moments of accidental genius. The Memory Cable consists of a high-quality instrument cable with a sleek, solid state recorder integrated into one end. The cable can be used like any other instrument cable, and the company says the recorder is easy to operate: simply press the center button to begin recording. The recorder can be set to record constantly or only when the instrument is being played, which saves storage space. When the inspired moment comes—the recording can be stopped

and a new file begun, making it easier to find the saved files later.

<http://www.gizmag.com/gibson-memory-cable/31763/>



## 12 Modular CEF Traffic Lights are Easier to See

Designed as a remedy for visual clutter, the modular CEF Traffic Lights simplify the streetlight design to make the signals easier to identify. Created as a Concept Design Entry for the 2014 iF Design Awards, the CEF Traffic Lights can be assembled in a variety of combinations. The modular design is cohesive, which allows any add-ons, such as video cameras or lights, to blend together—resulting in less visual noise and a more pleasant aesthetic.

<http://www.yankodesign.com/2014/04/21/modular-traffic-lights/>



# UNDER THE RADAR

## 13 Kittyo Lets Cat-Lovers Play with Their Cats Remotely

The Kittyo lets cat owners play with their cats and reward them with treats remotely while also allowing real-time interaction. Equipped with a laser, camera, speaker and treat dispenser, the Kittyo connects with the user's WiFi to communicate with a smartphone via the companion app. The pet owner can speak to their cat or activate a sound to get its attention, which will bring it within range of the Kittyo's camera. The owner can then control the Kittyo's laser by swiping their finger on their smartphone screen while the Kittyo's video camera records the action. A carousel in the bottom of the device can be loaded with cat treats to be dispensed when playtime is over.

<http://www.gizmag.com/kittyo-cat-toy/31728/pictures#5>



## The CORTIÇA Coffee Mug



Regular coffee mugs available in the market are plastic or metal which can affect the taste of the coffee and cause health risk associated with plastics and hot liquids. Regular porcelain mugs are perfect for coffee and unfortunately it can't be carried outside safely. Designer Robert Knox built the CORTIÇA Coffee Mug is a porcelain travel mug wrapped and insulated with cork. Cork is a perfect material to insulate and protect a porcelain mug and it keeps the coffee or tea hot, serves as a built-in coaster so you never have to worry about harming your furniture, and is impact resistant. You can order one of these from Kickstarter.

<http://www.spicytec.com/2014/06/the-cortica-coffee-mug.html>

14

## 15 Heineken Energy-Saving Beer Tapper

Heineken has unveiled an innovative and simple new draft beer-dispensing design that uses less energy while also reducing greenhouse emissions. According to the company, the David XL Green draft system will consume 50 percent less energy than current systems and will keep the tapped beer fresh for one month. The increase in efficiency and freshness-capabilities are all due to a simple change—moving the keg closer to the tap. The chill unit and kegs of the David XL Green system are placed beneath the counter and the serving tap, significantly reducing the length of tubing usually required to draw a beer from the keg to the tap. This reduction in tubing means the keg does not have to be as chilled as usual. Additionally, the lines are disposable, so they are not at as much of a risk of contamination due to improper cleaning.

<http://www.gizmag.com/heineken-david-xl-green-draught-beer-system/31635/>

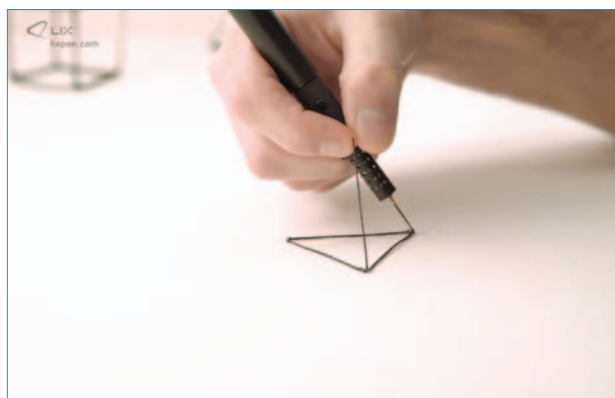


16

## LIX Pen Lets Users Doodle in the Air

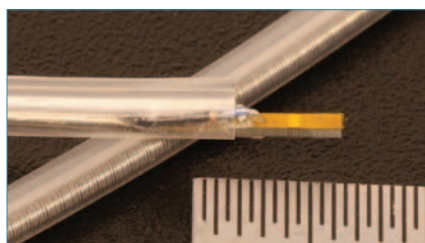
Hailed as the world's smallest 3D printing pen, the LIX Pen lets users draw complex designs in midair. Designed to be comfortable to hold and easy to use, the LIX Pen can be powered by a USB port and takes only a moment to heat up. The plastic filament used to create the 3D object is inserted into the pen's upper end, where it moves through a mechanism patented by the company to reach the hot-end nozzle. The nozzle both melts the filament and cools it down, allowing the user to draw complicated, 3D structures in the air.

<http://www.thisiscolossal.com/2014/04/lix-the-worlds-smallest-3d-printing-pen-lets-you-draw-in-the-air/>



## Dual-Frequency Ultrasound Could Help Predict Strokes

17



Researchers have developed a dual-frequency ultrasound device able to determine when arterial plaque is in danger of breaking off, providing an earlier diagnosis of people at a high risk of stroke or heart attack. Current methods of detecting this vulnerable plaque rely on the use of a contrast agent, which is drawn to the areas of vulnerable plaque and highlights them in ultrasound images. However, the intravascular ultrasound devices

that have been being used in this method are not very good at detecting the contrast agents. To improve the technique, the team created a dual-frequency intravascular ultrasound transducer, which operates on two frequencies to transmit and receive signals.

<http://www.gizmag.com/ultrasound-device-detection-heart-attack/31810/>

18

## UV LightBoard Bacteria-Resistant Keyboard Concept

Designed in response to the amount of germs found on the average smartphone, the UV LightBoard concept combines keyboard illumination with germ-killing capabilities. An entrant in the 2014 iF Design Awards, the UV LightBoard features a transparent body and a UV light source positioned at the keyboard's rear. The UV light is refracted and scattered throughout the keyboard, killing any bacteria on its surface while also providing backlight for the keys.

<http://www.yankodesign.com/2014/04/22/ultimate-transparency/>





# BEEN THERE DONE THAT

COVER STORY

**LAWRENCE UDELL:  
MAN OF MANY  
VENTURES**

# BEEN THERE, DONE THAT

BY MATTHEW WYNN

In a career spanning more than 50 years, Lawrence (Larry) Udell has assisted numerous inventors and organizations around the world to commercialize innovations. Recently, we caught up with Larry to get an outline of his long and productive career.

Larry got his start in the late 40's and early 50's, commercializing two household innovations of his father's. He was a Professor of Entrepreneurship at California State University for a decade. He also has worked with new venture teams at Stanford, UC Berkeley, UC Davis and other schools in helping the teams recognize opportunities. In his career, he has founded or co-founded more than fifty new ventures.

Today, Larry spends his days lecturing at universities, organizations and federal labs on the subject of how to turn ideas into commercial products. He focuses on the choices between starting a new company or licensing the technology and the various avenues of opportunities. He also works closely with a great many angel investors and venture capital firms in assisting in the decision making about new products.

As he always says, "I have more fun than anyone I know!" Over the last many decades, the new ventures have included:

- Toys
- Aerospace Technologies
- Medical Products
- Electronics
- Solar Power
- Nano Technology

He tells people right up front, "I am not an expert on anything, I know a little bit about a lot of things. I have over 50 colleagues around the world that are experts from nuclear power to space and ocean exploration."

His consulting clients have ranged from Mattel Toys to Siemens and from the Governor of Alaska to various federal agencies, including, DOC, DOE, NIST, NSF, USPTO. He created the California Inventors Association in San Francisco in 1956, which produced a major invention exhibition there in 1957. Larry also

staged invention & new product exhibitions at the California State Fair attracting over a million attendees. Larry has been written up in the Wall Street Journal, Time magazine, New York Times, USA Today, Forbes and other publications.

He plans his days, weeks and months far in advance, but can get an email or call from an inventor that often disrupts his planning and he meets the caller to see if the invention has the potential he was told. Over the decades his corporate consulting paid for the time he devoted to garage inventors who could not afford his rates. He loves to tell people, "I have not had a boss since 1964 when I quit the corporate world, except for my wife of 55 years."

In 1995, while at California State University he created the California Invention Center, with a grant of \$100,000 from NIST, DOC and the USPTO to establish an inventor assistance and educational center on the campus. It grew over the next few years by producing inventor conventions, conferences and classes on teaching innovation and entrepreneurship. After leaving CSU he personally maintained the CIC with his own funds and earlier this year incorporated it as a not-for-profit 501C-3. ([www.CaliforniaInventionCenter.org](http://www.CaliforniaInventionCenter.org))

CIC is a storehouse of all his published articles and resource center that is free to the viewer and has offices in downtown San Francisco. Since then he established a very impressive list of Advisory Board members who together are planning on making the CIC the most productive and creative inventor assistance program in America.

In 2000, after being a member of the Licensing Executive Society ([www.les.org](http://www.les.org)) since 1982, he created the Silicon Valley Chapter, which today is one of the most successful chapters of 13,000 members in 97 countries. It is the primary source of information about the big-wide-world of the \$150 billion licensing industry. He works closely with many of the top technology companies in the Silicon Valley and beyond, both as an advisor and consultant. He has also established a close working relationship with

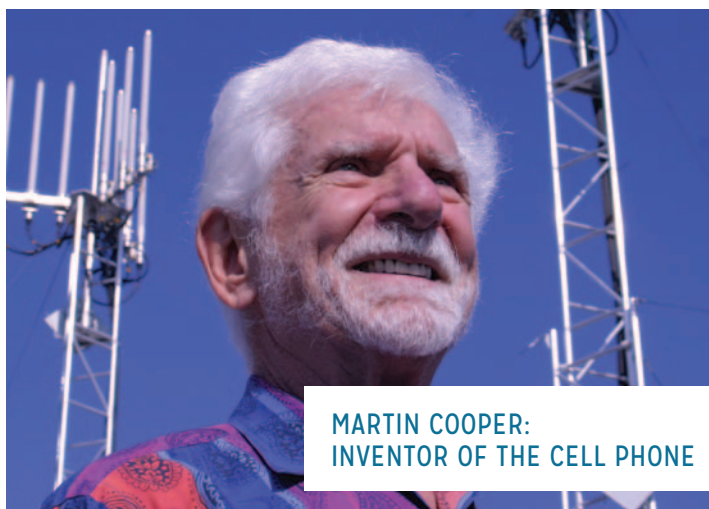




**DR. FORREST BIRD & PRESIDENT OBAMA**



**LARRY UDELL WITH DR. BILL TORCH, DR. FORREST BIRD AND HIS WIFE PAM BIRD**



**MARTIN COOPER:  
INVENTOR OF THE CELL PHONE**

Photo Credit  
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—venture capital firms and angel investors, sitting on the boards of many companies.

Larry started lecturing about inventors and their vital contributions to America and the world's economy back in the early 1960's. He is a vibrant exponent on the tremendous value of inventors and how they helped built this great nation and still doing so. A brief review of America's history shows the earliest inventors and how they made the dramatic

positive changes that established the USA as the primary creative force of innovation for the entire world.

Some of his success stories include; JumpSport, Inc., IPCOA, Napa Valley Wine Train, Eyefluence, and Oakland Packaging. Over the years he has helped inventors to stay out of trouble and helped others to get out of trouble. He says, "Inventors are very gullible and oftentimes easy to take advantage of." There are numerous invention promotion companies around the US that promise everything from a quick fast patent to millions of dollars as they "steal" the hard-earned money out of the pockets of inventors with a dream.

"I wonder," he said, "how many great potential products are sitting on the shelves of garages and basements across America that could be successful except for the fact their money was stolen by the invention promotion firms and the inventor becomes discouraged, and their spouse to say, 'I told you so.'"

He is a proponent of preparing a new invention or product for licensing rather than start a new business and realize a heavy financial burden on attempting to commercialize their "brain-child". In one of his many lectures he shows the difference, both in preparation and expense in starting a new venture compared to licensing. He will be presenting at the annual USPTO Inventors Conference on August 15 and 16 in Alexandria, Virginia.

He points out the various positives and negatives of both, with detailed explanations about those famous inventors he has worked with over the decades and how and why the decision was made to pursue either a new venture or licensing.

As he puts it, "I have had the unique pleasure of working with such illustrious creative individuals as; the famous, Alexander M. Poniatoff, founder of AMPEX; Bob Parker, inventor of the Mood Ring and Duracell battery tester; Mark Publicover, inventor of Jump Sport the safety net around trampolines; James Kovach, former 49er, doctor and lawyer on sports injuries technologies; Jim Ferguson, the father of (LCD) Liquid Crystal Display



with over 130 US patents and 300 foreign patents.

Larry was responsible for his induction into the Inventors Hall of Fame and winner of the MIT-Lemelson \$500,000 inventor award, which he very graciously donated to various children's hospitals. Larry also worked with the world-famous Dr. Forrest Bird who has been honored by both President Bush and President Obama for his respirator in every hospital in the world and the countless infant lives that have been saved. Dr. Bird also happens to be the oldest licensed helicopter pilot in the world at 93.

Then there is Curtis Landi, inventor of flexible honeycomb with over 120 US patents. His products are used in the new Boeing Dreamliner, hospitals, hotels and numerous other uses. Then you have Martin Cooper, inventor of the cell phone and Don Evans who began his inventor career on the kitchen table when he got out of the Navy in 1945 and created a world-wide billion dollar (privately owned) corporation that manufactures injection molded products from artificial finger nails to hypodermic needles.

Larry spoke about the time he met the famous Henry J. Kaiser, one of America's great industrialists who helped win the Second World War with his hundreds of Liberty Ships, his automobiles and his famous Kaiser Permanente Hospitals providing health care to millions of patients. He was at Kaiser World Headquarters in Oakland California presenting an inventor who built, by hand, a micrometer that measured to one-millionth of an inch, long before electronics and computers.

I asked if he had ever met Steve Jobs. His he attended Steve's 30th birthday party in Los Angeles that was hosted by their mutual friend Arthur Lipper, publisher of Venture magazine. Larry said he rode down the elevator with Steve and will never forget that he had on a white shirt and tie and they spoke about the future and creativity. They followed up briefly over the next few years, but as he puts it, "I should have maintained a closer relationship since we both were following a path of invention."

He went on to express his opinion about inventors and inventing. He said that inventors are the backbone of America since it is one of only a few ways to become independently wealthy today, unless you win the lottery or have a rich relative that lists you in their will. If you walk the aisles of any major retailer, you will see new products today that were not there last week. Over 28,000 new products are introduced every year to American consumers.

Not necessarily inventions turned into products, but lots of improvements on existing products. If you watch closely and devote some time to the internet you will easily see some great new innovations transformed into new products.

One of the biggest obstacles facing an inventor is the sales and marketing. Where and how do you introduce them to the market? The shelves are full and if you are going to compete with established companies you are going to have to pay for quality shelf space. An independent inventor has to finance the production and if they don't sell, will be obligated to take them back. And, in many cases not getting paid for three or four months after delivery.

Photo Credit  
Bottom Image:  
Wikipedia



STEVE JOBS:  
CO-FOUNDER OF APPLE INC.

Can individual inventors finance that? Almost always the answer is no, so they go out looking for investment capital. When you are seeking funding, be very careful who you take it from. If it is friends and family, you may wind up never being invited to Thanksgiving again. Obtaining capital usually means you have to sign over certain personal assets or equity as collateral. There is also the (SBA) Small Business Administration that has a budget of about two billion a year, which guarantees the funds to a bank. It can be complicated so be careful.

Larry constantly hears inventors say they will get venture capital to fund their idea. It's unlikely, since VC's will not even talk to you without credentials or a referral. In most cases, they're not interested unless you can justify at least a \$5 million dollar investment. Investment means they are buying equity in your corporation, not in you as an individual. Besides if you are a one-person company, they will want to see a team comprised of not only previously successful entrepreneurs or team members with credentials like Ph.D. or M.D.

We asked Larry about raising capital and as he phrased it, you have "Angel Investors" and venture capital groups. The angels are comprised of individuals with the personal wealth that allows them to invest and not be financially ruined if it is a failure. He has read that in the US there is approximately \$100 billion available investment capital in both venture and angel communities. From his experience, there is no shortage of investment monies, but you need to have done your elaborate homework and prepared numerous documents and presentations that justify the investment you are asking for.

Generally, they will be asking for at least a five-fold over their investment within 3-5 years. There are many great books available on how to prepare for fund raising. These include "Crowd-Funding," which he is still not convinced is the way to go, especially since the SEC has not quite finalized all the rules and requirements.

He'd also like to add that capital is not the only issue to your business launch or

success. You and your family need to be in on the decisions made committing your life and resources to your dream. Remember if you lose or go bankrupt, they also suffer from your fruitless endeavor. You cannot afford to be wrong when you are betting your future and that of those you love. I once knew an inventor who went so far as to quit his job, borrow against his home and lost not only his home and his wife and children.

When Larry traveled to foreign countries for WIPO (United Nations) and lectured on creating economic diversity, he was constantly barraged by inventors who pleaded with him to take their idea back to America and make them rich. They thought that ours was the automatic land of opportunity. It can be, but he wants us to remember that they are not handed to you.

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"Personally, as long as I have breath and perseverance, I will continue to help the inventors of the world. But it has to start with you helping yourself first to make sure you are prepared for success and/or failure."

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"The one thing we have today, that did not exist in most of my 83 years, was computers and the internet. With the limitless boundaries at your fingertips there is no excuse for not being properly prepared. Do your very extensive research on competitive products, markets, distribution and all of the other obvious ingredients to turn your idea into a winning product."

Constantly trying to help, learn and grow, you can contact Larry for opinions and comments at: [larryjudell@gmail.com](mailto:larryjudell@gmail.com).

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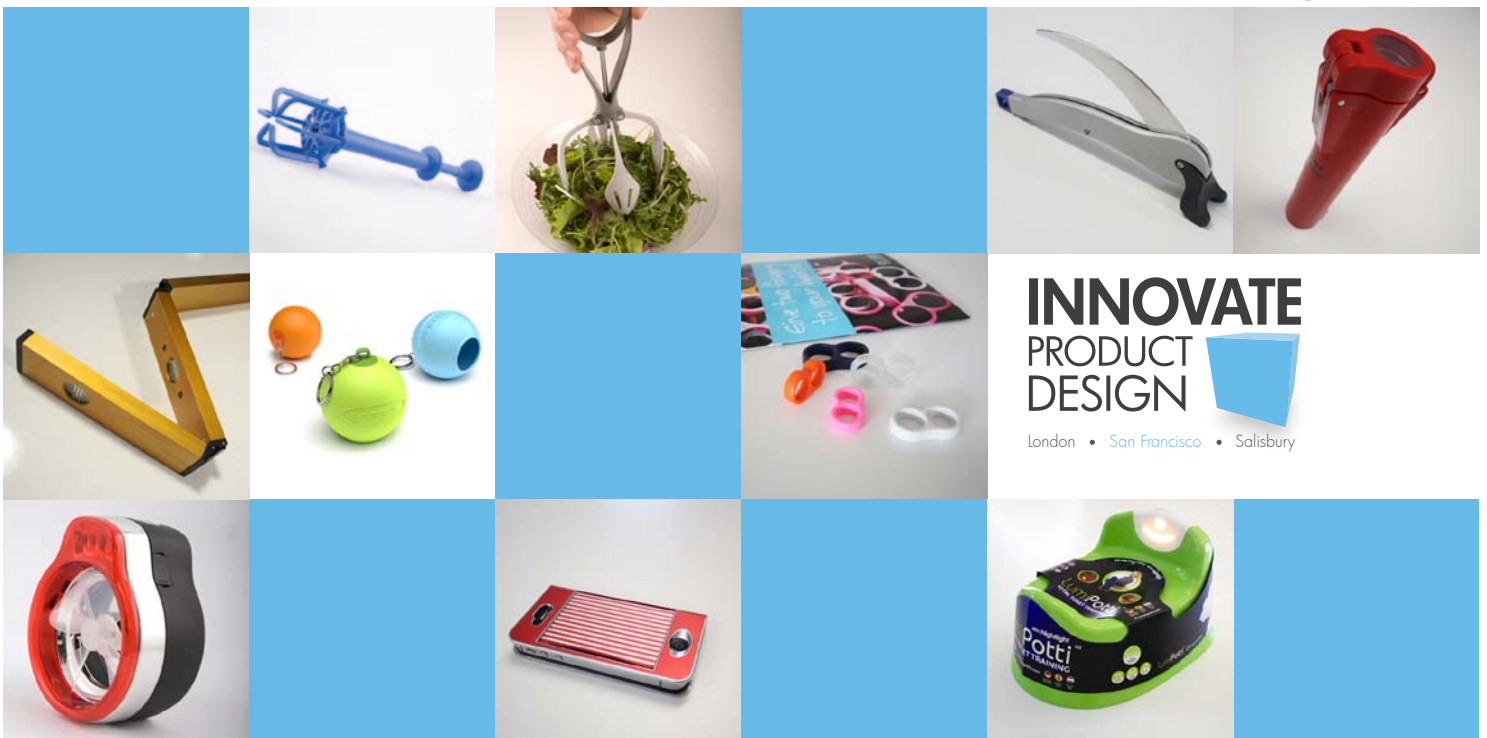
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# protoTYPING

By Jeremy Losaw

## Racing Ahead for Science

When middle and high school education hits the news, it is typically in the form of debates over standardized testing, or stories about how American students are falling behind in math and science.

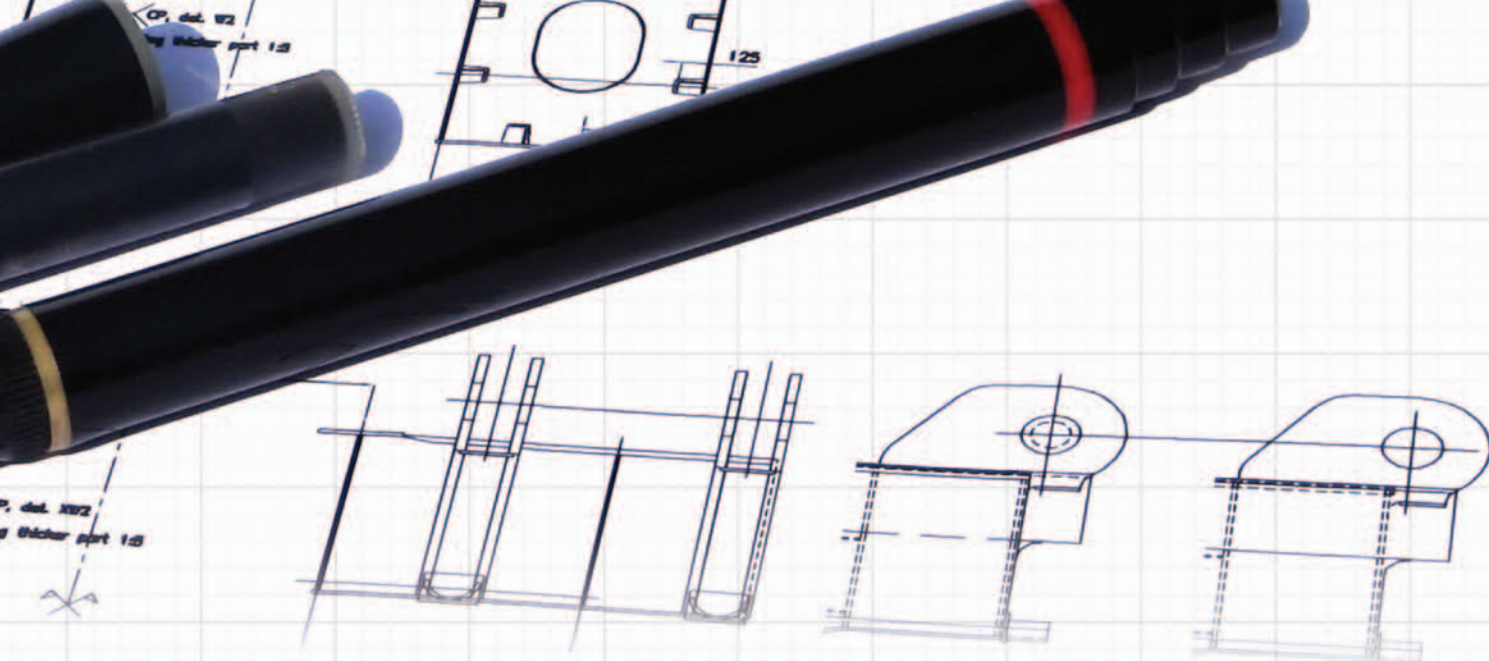


The pit stop event at the STEM League Racing Challenge.

While that may be true from a macro view, there are plenty of programs that stimulate free thinking and foster innovation. One that I have been involved with for the last six years is the National Stem League Racing Challenge, which uses R/C cars to teach math, science, engineering and marketing skills. Each year they host a national final event for the top teams in the program to go head to head in on-track races, as well as in static science fair-style events. This year's final event was held at the NC Research Campus in Kannapolis, NC and I attended to see what innovations the students had developed this year.

The National Stem League Racing Challenge was started by Beverly Simmons and Jeff Thompson, and its roots go back to the 1980s. As edu-





cators they realized that something was missing from the science and math curriculum. "Something I learned ... was that students need to practice math and science on their way to STEM [science, technology, engineering, and math] careers; just as children practice baseball or basketball on their way to the MLB or the NBA.

The National Stem League Racing Challenge builds on students' love of racing, cars, design and competition," says Beverly. Since then, the program has grown from just a handful of schools to a nationwide program with more than 400 schools taking part each year. The U.S. Army, the Harris Foundation, NSBE, Boy Scouts of America, SolidWorks, Spark Fun and other tech companies have partnered to help bring high tech software, equipment, and practices into the classroom to help prepare the students for college and beyond.

The 2014 finals were contested by 36 schools from as far away as California and Massachusetts.



SolidWorks designed and 3D printed car chassis.



While there was plenty of action on-track, I was particularly interested in the creative engineering event where the students presented their innovative projects. Here is a sample of the best projects from this year's event.

Additive manufacturing in the form of 3D printing is as hot a topic in the Stem League as it is in the wider world. The most interesting execution of 3D printing was from the AMSA school from Marlboro, MA. They made their own car body from a desktop printer. They designed the body in SolidWorks, and used ABS filament to make the body in 8 pieces. Then they glued the pieces together and gave it a tidy silver paint job.

Once of the most over-stated mantras in racing is that "the race is won in the pits". This is just as true in R/C cars as it is in full scale auto racing, so assessing car performance in a scientific way was a hot topic amongst the teams. There were two notable test rigs that caught my eye; wind tunnels and chassis dy-



Chassis dynamometer by East Technical Career Academy.



Wind tunnel by the team at Pleasant Hill Middle School.

namometers. Many teams built wind tunnels, but one of the best was done by the Pleasant Hill Middle School in Lexington, SC. They made a wooden wind tunnel with a standard 18 inch box fan that sucks air through the front of the wind tunnel. The car is placed on a platform in front of a postal scale that measures the drag of the car. It was well made with a locking door and was painted in the team's colors.

Motor performance is just as important as aerodynamics, and the East Technical Career Academy from Las Vegas, NV developed their own chassis dynamometer to get the most from their motor. They scavenged a chassis from an R/C monster truck and mounted it to a wooden frame. Then they mounted their racecar on top of the monster truck so that the rear tires would turn the monster truck tires. The monster truck chassis provided the load to the motor, and they added a speed sensor and a data acquisition system to record data.





The TERRA school wind turbine generator.

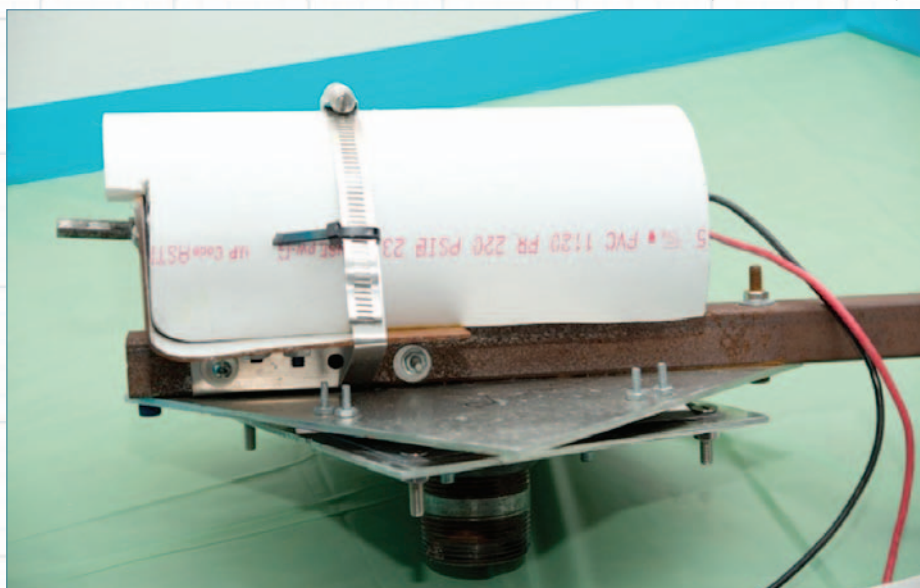
Green energy was also hot topic at the event. Many teams had variations on using solar panels to charge their car batteries, but a couple of teams had some more unique ways to harvest green energy. The TERRA school from Miami, FL developed a wind turbine generator to charge their batteries. They built their own propeller unit and married it to an electric motor to generate electricity.

Boulder City High School from Colorado developed a way to use solar energy to generate electricity in a unique way. They used a solar collector mounted to a small Sterling Engine to spin a fly wheel. The solar collector would heat the air on one side of the piston, which would expand the gas and push the piston to get it moving. Then the energy stored in the flywheel and the air slightly cooling in the cylinder would drive the piston back down to finish the cycle, and inducing a constant rotation of the flywheel. The flywheel was mounted to an electric motor working as a generator to create an electric current.

When the day was done it was the AMSA team from Marlboro, MA who took home the national title for

the second year in a row and kudos are in order for their students and advisors. However, there is surely plenty of praise left for the rest of the teams who worked so hard and used the STEM League program as a launching pad for them to develop innovative ways to solve the problems of making their cars perform better and have less of a carbon foot print.

It is programs like this that will help students to practice the art as well as the science of engineering that will fuel the innovations of the future.



Boulder City High School solar collector.

# Innovation, Disruption, and Teleaudiology

By Gregg D. Givens, Jianchu Jason Yao, and Daoyuan Yao

**D**isruptive innovation often allows a new population of consumers to have access to a product or service that previously could not access the product or service (2). However, the dilemma of disruptive innovation frequently lies within the inventors who know there is a place for their vision yet the industry and/or profession may not realize it. This can occur in business, manufacturing, and even health care. The innovation projects that the authors have developed in the Teleaudiology and Engineering laboratory at East Carolina University for the past 15 years have resulted in such disruptions. Our goal has been to provide hearing health care to individuals who do not have access to an audiology professional because of geography, lack of technology, or monetary reasons. Telepractice in the field of audiology exists in a relatively primitive fashion. Currently, telepractice techniques exist with storing and forwarding of patient information as well as limited remote observation of ongoing audiological evaluation or treatment. It is estimated that less than 50 audiologists use some form of telepractice within the US. This low occurrence exists even though teleaudiology has the potential to meet the great need to serve those without hearing health care. This further serves as motivation to those in our laboratory to solve this issue.

## Need For Teleaudiology

Many groups are underserved regarding their hearing health care; among them are individuals in rural areas, underdeveloped countries, senior citizens with no transportation, military personnel, and prisoners. Most recently, statistics indicate that approximately a third of the US military personnel returned from the Middle East with some level of hearing loss due to unavoidable blast exposure. Although periodic hearing assessment is usually scheduled for these troop members, their services are often backlogged as a result of insufficient access to audiology specialists and facilities. Furthermore, according to the National Institutes of Health, roughly one third of Americans over 60 years of age and 50% of those over 75 years of age have hearing loss in the US. It is estimated that by the year 2030 there will be 73 million individuals with hearing impairment in this country alone. These numbers will cause a tremendous demand in related hearing health care. The increased attention to telehealth and the advances in technology have led to an evolution of novel approaches toward the development and implementation of teleaudiology systems.

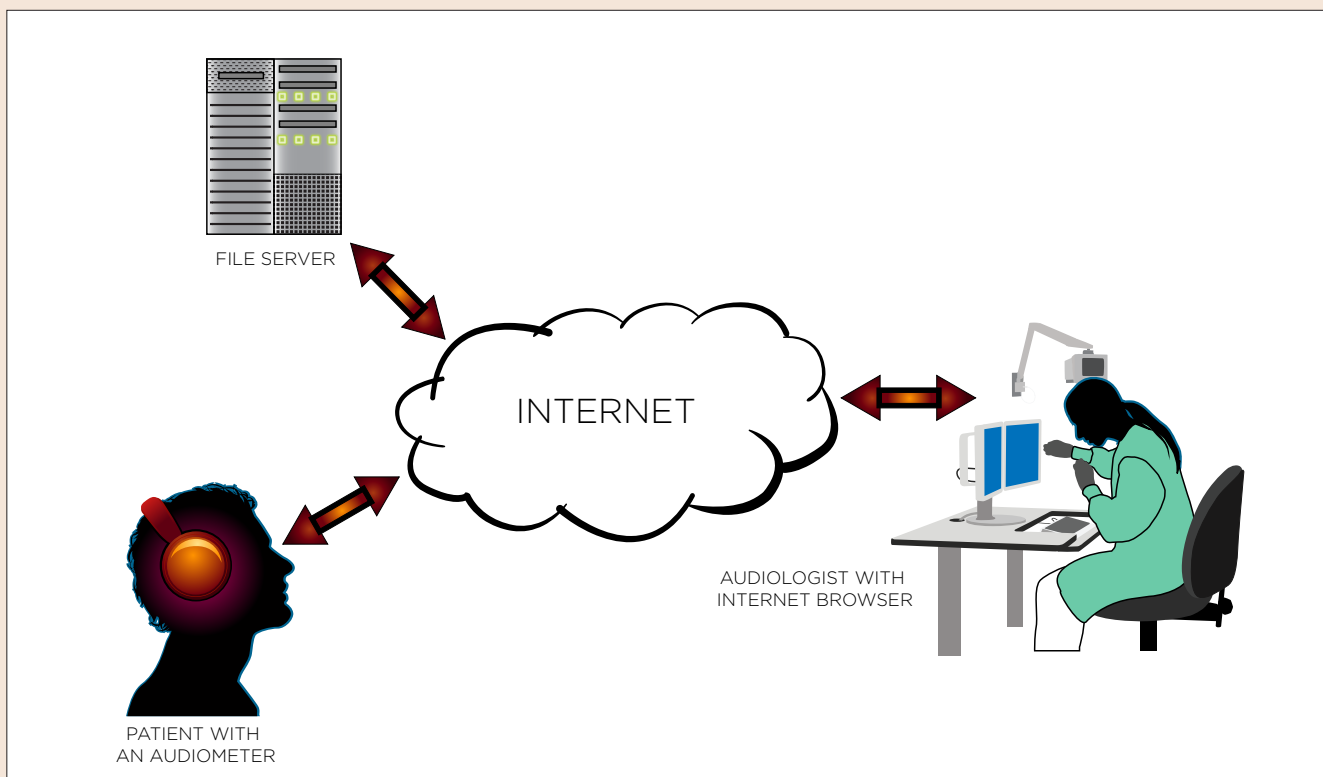
## Teleaudiology System Development

At East Carolina University, we have proposed a new approach using a cloud-based, distributed system to support remote hearing testing and diagnosis. The system network follows browser–server architecture. The system consists of three sites: A server hosting the database and the application software that coordinates all the data exchange, storage, and information display. The patient and the audiologist both connect to the server via the Internet. The patient uses a provided audiometer, which connects to the Internet with a computer or other gateway device. The audiologist logs into the server using an Internet browsing device. Since all the required software is hosted by the application server, the resulted “thin” client minimizes hardware and software requirements on the audiologist’s Internet browsing device.

Software maintenance and data management are therefore separated from the clinic settings, thus bringing great convenience to the audiology professionals. Due to the minimal bandwidth requirement, regular data service subscription from commercial Internet server providers is sufficient for the remote hearing test with the proposed system. Thanks to the three-tier software design paradigm, the system is scalable to include pure tone audiometry, speech audiometry, tympanometry, and otoacoustic emissions (OAE). Since testing data are stored in a database on the server, they can be potentially integrated into existing electronic medical records, meeting the standards established for today’s medical informatics.

With the proposed system, an audiologist can perform pure tone and speech tests by selecting corresponding tabs on a webpage. Through this page, the audiologist can also choose the type of transducer (air or bone conduction) as well as which ear to administer the sound. Stimulus can be selected between continuous and pulsed tones. By activating the “Stimulus” button, the audiologist sends the testing command to the patient audiometer. The system server then relays the response of the patient as the result of a button push or verbal response. The audiologist and the patient can talk to each other via the video interface embedded in the system.

Experimental results have demonstrated that the remote hearing assessment is equivalent to its traditional counterparts and more efficient than other remote systems currently developed. Neither the audiologist nor the patient is limited by their geographical



location because of the distributed nature of the system. This unique system does not involve complicated patient interference and makes hearing test services more accessible to traditionally underserved patient groups.

### Expanse Of Disruption/Solutions

While evaluation results from our pilot tests are positive, the system created at the Teleaudiology and Engineering laboratory at East Carolina University has been slow in acceptance, possibly due to several barriers of interruption. The disruption that has occurred is reflected in a broad spectrum of challenges in areas of technology, clinical practice, reimbursement, and licensure.

### Technology

While “disruptive innovation” typically refers to the eventual disturbing impact on the intended business, interesting technological “disruptions” were observed during the course of our design and test.

When the authors’ group was pilot testing the system at a local ear, nose, and throat (ENT) medical facility, the Bluetooth gateway device utilized in the prototype, instead of connecting to the assigned teleaudiometer, actively established telemetry to a hearing aid programming device that existed in the medical facility. This resulted in a disruption to their regular clinical services. This incidence was resolved by reconfiguring the gateway device to prevent future connection to unintended Bluetooth addresses.

Another area of technical challenge is related to the speed of the system. In order to create a useful system, the technology must present the auditory stimulus to the patient and return the patient responses to the examiner in as close to real time as possible; anything less than this would produce disruptions to the standard audiology testing procedure. In remote hearing tests, where data are transmitted over the Internet and routing and switching are involved, the geographically separated audiologist and patient may unfortunately experience some level of uncertainty in their signal exchanges. Carefully designed interactions between the server and the remote gateway and audiometer can usually minimize the delays within an acceptable level of human perception.

Producing appropriate encryption of all signals relevant to the patients’ personal health information provided another system challenge that can potentially prevent innovation acceptance. Security of patient and audiologist information and personal health records is vital to any healthcare system. When services are provided in a remote manner, where data travel via the In-



ternet, people are naturally more cautious and hesitate to adopt the new technology, despite the potential benefits the inventions can bring. In order to ease this concern, designers should use the right protocols for the webserver access, appropriately encrypt transmitted data, and properly define privileges assigned to individuals who need to access to the system.

### Clinical Practice

On the practice side, this approach to hearing assessment is new to the professional of audiology. Traditionally audiologists see a patient in person; thus, the remote viewing of a patient is foreign to the normal routine. Audiologists have also had difficulty with the use of new technology. We have identified the need of educating our colleagues as to the new system and the benefits this may present to their offices. Some professionals have had difficulty envisioning how they could apply this system to their practice. While some practices will not need such technology, others could benefit from it greatly with regard to the saving of the professionals' travel time to a better access to a greater population. Broens et al. noted that successful telemedicine is critically dependent on the attitudes, perceived usefulness, and acceptance of the technology by healthcare professionals and other key stakeholders such as patients and healthcare administrators. Singh et al. concluded from a survey of professionals that the majority of respondents indicated that teleaudiology is likely to have a minimal effect on the quality of hearing health care, even though many respondents indicated that teleaudiology would have a positive effect on accessibility to service. Clearly, there is much educating to do in order for the current professionals to realize the benefit of these new systems to their patients and practice.

### Reimbursement

A third area of interruption is with regard to reimbursement. This new system has interrupted the usual reimbursement system. Until recently, insurance companies and federal programs have been slow to adopt this technique as a qualified approach to hearing assessment. More than 120 pieces of legislation were introduced last year in state legislatures across the country pertaining to telehealth, indicating new efforts to show the benefits and cost savings of this approach to health care. These legislative bills are focused on mandating reimbursement of tele-health procedures in insurance and federal programs such as Medicaid. The premise is that telepractice is not a different procedure but a new tool from which standard procedures may be administered.

### Licensure

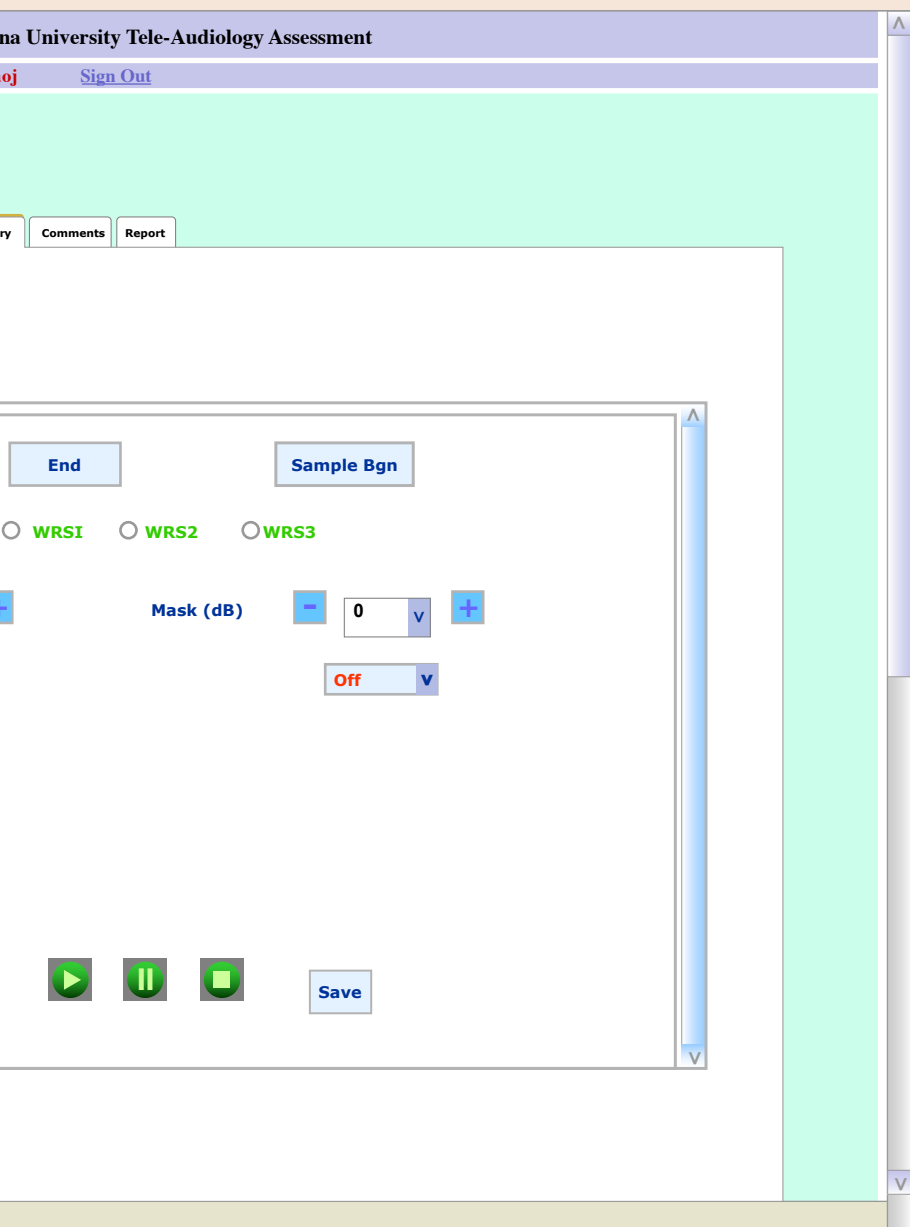
A fourth and significant interruption is in the area of healthcare licensure. Because of the remote access ability with our new system and others within telepractice, state and national borders can become blurred if not eliminated. The professional licensure

structure in this country is based on state laws. State and national meetings are discussing these issues with little solutions at this time. An example of the issue is as follows: if a professional is licensed to practice in the state of North Carolina and remotely evaluates someone in North Dakota, then the professional must meet the licensure standards in both states including any continuing education requirements associated with the standards. This presents added cost for the professional and in some cases differing state licensure requirements. The disruption caused by advancing technology has created a dilemma between consumer protection regarding legal issues versus being able to provide health care to those who do not receive such

care. Currently, the National Council of State Boards of Examiners in Speech–Language Pathology and Audiology, the American Telemedicine Association, and the American Speech–Language–Hearing Association are involved with efforts to address this issue.

All four of these areas of disruption are critical to the success of this new system and must be addressed; therefore, strategies have been created to reduce these barriers. Toward this effort, we have made a concerted effort to present new development and data at the state, regional, national, and international meetings. Additional efforts are focused on publishing as much as possible to place documented positive outcomes into the professional literature. Increased activity and advocacy within professional organizations is ongoing to educate colleagues as to the value of such a new approach to hearing loss assessment and management.

We have achieved an innovative development of a teleaudiology system to bring hearing health care to populations of individuals with little to no access. Yet interruptions in technology, traditional healthcare practice in the audiology field, reimbursement, and licensure have led to slow acceptance and implementation. This is consistent with what Christensen discusses in his book, *The Innovator's Dilemma*, where he notes that the progress achieved by new technology is often restricted by how it is useful today and not the recognition of the developing needs for tomorrow. Companies may recognize the developing needs, yet their market analysis indicates the product may not have realistic value at the present time. Established systems in reimbursement and licensure



may not react in a significant fashion until demands from the consumer and educational efforts by professional and related organizations. These are all formidable barriers, yet the innovator must remain focused on efforts to educate all involved to the benefit of the society. This strategy applies to other innovators who continue to present innovation to our professions and lives.

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# Woodstock at 50

## Reinventing the Beatles

Many of our loyal readers who have subscribed to *Inventors Digest* for many years may remember that five years ago I covered a story about how the Woodstock festival of 1969 was reinvented 40 years later, on the original site in Bethel, NY. Bethel Woods Center for the Arts is a spectacular performing arts center and technologically-advanced museum to commemorate those unforgettable three days of peace and love, and the history of the turbulent and remarkable sixties.

From April 5th through August 17th, 2014, the Museum at Bethel Woods has reinvented The Beatles in an outstanding exhibit to commemorate the 50th anniversary of their arrival in the United States, called America Meets the Beatles! You will find never before seen photos of the Fab Four by the late Bill Epbridge (LIFE Magazine photographer) and a vast assortment of Beatlemania memorabilia from the Rod Mandeville Collection. Additions to the social media age include the

ability to take a "selfie" with the Beatles, and a large Twitter board where visitors can post their comments about this dazzling exhibit. See a genuine suit worn by Paul McCartney during his visit to America, a selection of actual Beatles albums, pins and posters among many other items. You can follow the Beatles' visit to America in the historic photos by Bill Epbridge, from their arrival at New York's JFK airport, through scenes from the Ed Sullivan show, their train ride to Washington D.C. and performance at New York's Carnegie Hall.

Here below, for your enjoyment, are some photos taken at Bethel Wood's Media Day (sneak preview) for journalists. Soon you'll be singing "All You Need is Love"! For more information, please take a look at [www.bethelwoodscenter.org](http://www.bethelwoodscenter.org).



## Decisions, Decisions: How a Weighted Decision Matrix Can Help the Dazed Inventor

"It's a numbers game." Rookie salesmen hear this from bosses when told what their weekly sales call volumes should be. Persistent basketball players hear this from their coaches while practicing their foul shots. Aspiring musicians hear this from experienced performers when booking their calendars with gigs. Without exception, the same principle applies across all these examples.

The more you do something, the more likely you are to have success at it.

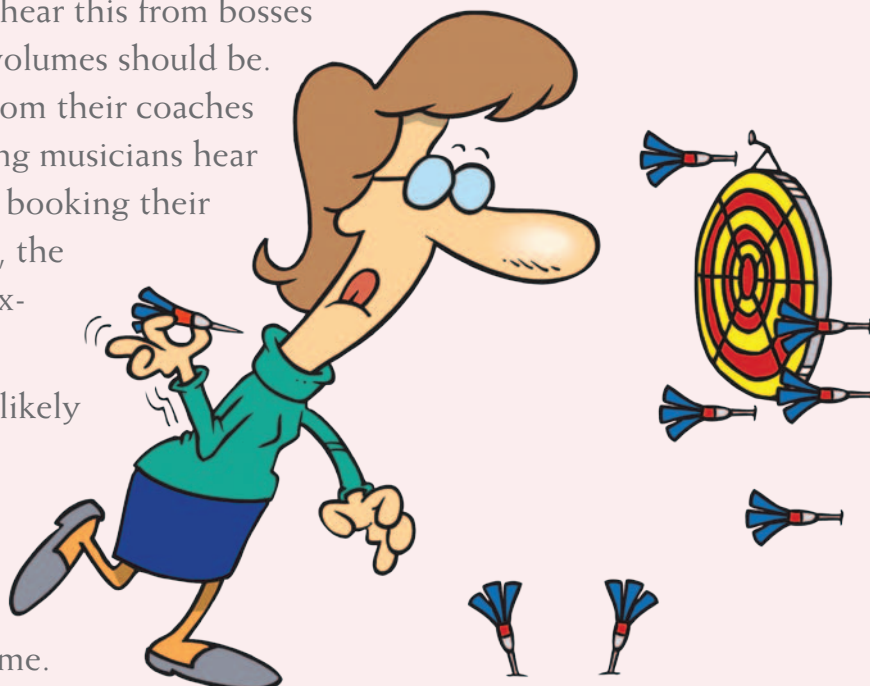
Not surprisingly, the conventional wisdom for inventors who seek to license their product ideas to companies for financial gain is the same.

The more inventions submitted, the greater your chances of success at obtaining licensing agreements. Additionally, in order to make the greatest gains possible, having multiple streams of licensing income from multiple products is the ultimate goal.

Once inventors get on a roll of looking for solutions to everyday problems, they begin to freely see potential remedies all around them almost as naturally as one breathes. The inventor mind-set may take some years to develop but inventors can easily hit a threshold where ideas begin to come fast and furiously (another article topic). So having multiple ideas to work on is not the issue for the enthused yet bewildered inventor. Suddenly, the issue at hand is which idea to work on first and which ones could present the biggest pay-off. The answer to this dilemma is in the application of the weighted decision matrix. Here's how it works!

### Background Checks:

First, when an idea pops into your head while taking a shower or browsing the aisles, it should pass some rudimentary tests before being moved to the matrix. In order to not carelessly waste time and resources, the idea should be put to the test much like a person who potentially could be hired is given a background check. Is the idea truly novel? Has some-



one else already done this? How is your idea addressing the problem differently? Research and dig around on the internet and in local stores. What about the patent literature? Is your idea clearly already outlined in someone else's patent or claims? Research Google Patents or USPTO. Can it be made for a profit? Research Alibaba. At this stage, if your idea gets past "Go", it can be added to the matrix.

### **Developing the Matrix:**

When developing your decision matrix, you are developing a tool that helps you see which project ideas when worked on first will have the largest potential pay-off for you. You are trying to let the potential winners float to the top of your project list. First, describe the five most important factors you believe are involved in influencing your selection of the project. Think about describing the ideal. A fantasy world is temporarily created. Limits need not apply. What would make any invention the easiest, fastest success you ever imagined? For instance, you develop a product for a very large mass market that makes a unique selling proposition versus all the competition, can be easily prototyped, easily protected with patents and you already have a relationship with the company that would love to license this baby! The closer your idea is to your ideal, the more that it is the kind of idea you want to be working on.

Some potential Project Selection Criteria are:

- Presents a Unique Selling Proposition
- Has a Large Potential Market
- A Prototype Can be Easily Made
- Has Intellectual Property Potential
- Licensee Contacts are Established in This Market.

No doubt, there are others that you might brainstorm and decide upon.

Once the factors are selected, they need to be weighted in importance using a scale of 1 to 10 (1 = not very important, 10 = very important). The best results are yielded when each selection criterion is given a weight different than the others.

### **The Fun Begins:**

Next, rate your project ideas on how well they meet each Project Selection Criteria using a scale of 1 to 10 (1 = does not meet, 10 = meets). This is the Rating.

Now determine the Value by multiplying the Weight X Rating. Add up the Values for each Project Selection Criteria to get the total score for each of your invention ideas. The Total Values will allow you to clearly see a score for each idea you have.



## Powerful Example:

Here is how your Weighted Decision Matrix could look:

Project Selection Criteria for an Inventor	Weight	Project 1		Project 2		Project 3		Project 4	
		Rating	Value	Rating	Value	Rating	Value	Rating	Value
❶ Presents a Unique Selling Proposition	8	5	40	8	64	10	80	7	56
❷ Has a Large Market	5	6	30	9	45	9	45	6	30
❸ A Prototype Can Be Made Easily	9	9	81	5	45	7	63	6	30
❹ Has Intellectual Property Potential	6	9	54	6	36	9	54	5	30
❺ Licensee Contacts Exist Already	4	4	16	9	36	9	36	10	40
TOTAL VALUE			221		226		278		210

Looking at the data from the matrix, it is apparent that Project 3 would be the best project to get started on and that Project 4 is the one that quickly falls to the bottom of your list. The weighting and rating scores that you give each criterion are subjective but this method is an improvement over the dart-board approach to decision making or the "I feel like working on this today" approach for the inventor. Used judiciously, the weighted decision matrix is a powerful tool.

## Decisions are Made, Goals Achieved:

Independent inventors are typically squeezing time into their week to work on their invention ideas, perhaps while working a full-time job or running a family's schedule. Time is precious and not to be wasted. With the weighted decision matrix, inventors can more easily set priorities for their allotted project time. Inventors may find that their matrix needs some re-working over time as they change or add Project Selection Criteria. That's ok. This tool is meant to focus and give the serial inventor an alternative to a dazed, frenzied approach when attempting to valiantly reach their goals for licensing their inventions.

Colleen Costello is an independent product developer who owns Simple Living Innovations, LLC. Working on several invention projects at one time and speaking to youth about inventing and entrepreneurship are two of her passions. Dangerous to those in the room, she has never been that good at darts. However, she enjoys systematic approaches to life when they are available.



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## Innovation Divaz Melinda Knight & Dhana Cohen from the Women Inventor Network

Dhana Cohen is the co-founder of [www.inventorznetwork.com](http://www.inventorznetwork.com) the only connection platform in the inventor industry. From Media to Pitch sessions, to Industry Experts and Buyers, Dhana & Melinda have created an amazing network for all to get involved in!

### Counting Sheep, does it really work?

I'll admit it. I am a double troubled sleeper. I have the most sensitive hearing, so any car driving by, dog breathing, door opening – you name it, I can hear it. So I take a little sleeping aid to nudge myself to sleep at night. It's has worked for years until my husband decided to become a snorer. Of course he claims he can't hear himself, so he just laughs when I play the video to prove it! It's our little joke, so a pillow over my head has been my additional savior. Now thankfully, a doctor and her husband who truly believe in a great night sleep might save me. And maybe I can ditch the pillow and perhaps, even the pill.



Let me introduce, Dr. Wen Shin a former family doctor who knows all to well about needing a good night sleep. She couldn't fall back to sleep when she was on call and knew she couldn't take medications. She knew there had to be a better solution for her. It never occurred to her she would be solving a problem for the rest of us.

After a new sewing machine, a ton of materials and speakers to test it, the final product Acoustic Sheep is now available for those of us who could really use a good night sleep. The Acoustic Sheep is a headband with built in speaker for blue tooth and a cord connection to any MP3 player. They have done a grass root marketing approach to selling; Ebay, Amazon and Google Ad words and their big break, Hudson News. These

efforts have given Dr. Wen and her husband a chance to focus 100% on their business and how lucky is it for us.

Sourcing beyond their living room was an easy decisions to make; Where to manufacture them was not. They decided they had to take the manufacturing overseas despite preferring to make them in the US. They also knew the pricing demands of the retailers were a critical piece of their success. With the right design and pricing to take their product to the next level, they were able to hire employees here in the US. So in the end that dream to keep jobs here worked for them.

Don't be fooled that every invention has it this easy. Most times it takes more effort and persistence. Use this story of Dr. Wen and keep your wishes alive. Dreams can come true from a great idea and perhaps counting sheep isn't such a bad idea as you are dreaming up your next invention.

You can find them at <http://www.acousticsheep.com/>



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# 10 Reasons Why Your Invention Got Rejected



Many Inventors trying to bring their product ideas to market are totally crushed by rejection. So, I thought I would post this list below. It does not cover every reason you could get rejected, but hopefully it will give you something to think about.

You need to realize that inventing is fundamentally a numbers game, and many marketable ideas are rejected all the time. Sometimes it just doesn't make sense to you why they would reject an idea that they agree would be profitable. Here are some common reasons why even marketable ideas are rejected.

1. The company may already have a full line.
2. The product is outside their target market.
3. You sent your submission to the wrong person in the company – don't assume they'll automatically send it to the right one.
4. You sent the idea without contacting the company first, and they rejected it solely on that basis.
5. You did not have proper contact information on your submission. (That is one of the most common mistakes inventors make. The company will not bother to track you down.)
6. They have too many similar products and that market is flooded enough.
7. Your idea appeals to a very small niche and they want mass market items.
8. The cost to manufacture versus return on investment is too high.
9. Your sales sheet did not WOW them, lacked consumer benefits information or was overloaded with too much information to sort through.
10. Your product has already been patented by someone else and they don't want to see if they can go around it or risk infringement issues.



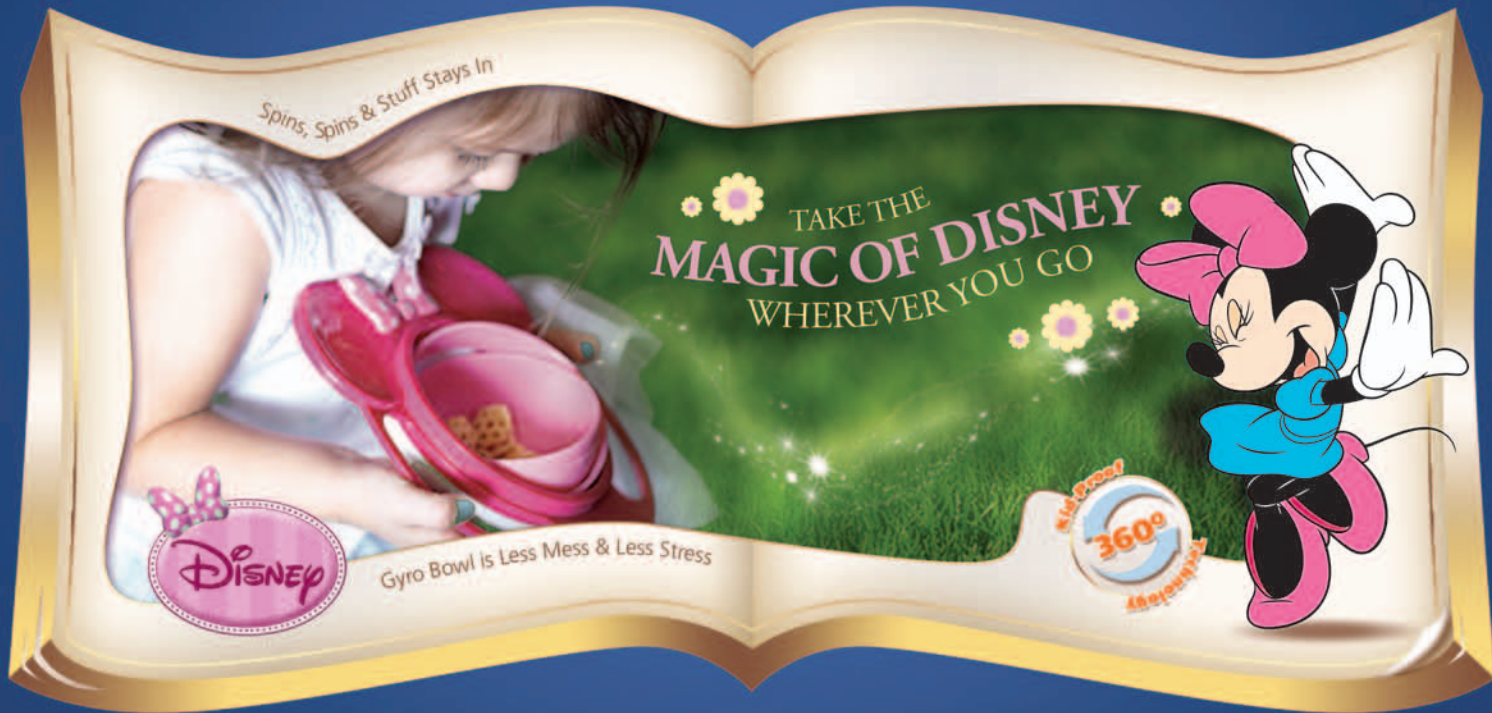
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# SWEATING THE SMALL STUFF



**BY JACK LANDER**

**S**mall stuff. Who needs it? We do. For most of our inventions, we take pride in the “great idea” – the single outstanding, novel feature that was overlooked by inventors of the past. But less impressive features also have their place in our successes. The small stuff is found in two categories:

- Improvements to existing products that others have invented.
- Minor features of a product that we have invented.

Adding useful features to an existing product is a great way to create a successful invention, because we know that the product has demand and a market channel through which to reach buyers. We also know that our potential customers recognize the existing product, and need only a short introduction to its new feature.

Inventing a novel product means that we have to convince potential licensees that a waiting market really exists – usually, a difficult goal to achieve unless we produce and sell before attempting to license. Such strategy is usually expensive, time consuming and risky.

An example of a very useful feature that was added to an invention that most of us use every day is the dimming feature on our car’s rear-view mirror. The rear-view mirror was invented by Dorothy Levitt in 1906, and remained substantially unimproved until a number of inventors, in the early 1960s, began thinking of ways to dim the blinding high-beam reflections from discourteous drivers behind them.

It is interesting to note that at least two patented methods of linking the mirror dimmer to floor switches have not been commercialized. Instead, we reach for the tab located on the mirror—a lesson in the KISS principle: “keep it simple, stupid.”

By adding a feature to an existing product for which any early patents had expired, the inventor of the dimmer mirror achieved patent protection that functionally covered the mirror, even though the mirror alone was not eligible for a patent. In other words, the mirror, by itself, became an essential component of a novel device that was adopted by all car manufacturers as “the mirror.” And, no doubt,

the inventor of the dimmer mirror made a lot more money than Dorothy Levitt.

Of course, the dimming feature on the rear-view mirror is not “small stuff.” In fact, it became big stuff. But the principle of adding to an existing product having popular demand is sound, whether the addition is seemingly trivial or monumental.

Here’s an example of a patent on a trivial feature of a product that I had a part in developing. My partner in a women’s product ([www.braballs.com](http://www.braballs.com)) insisted on patenting a means of preventing the product’s hinge pin from migrating out of the hinge. Even though I had invented the feature, I favored using the patenting money for other purposes. (There’s never enough money in a startup.) That was four years ago. I now see at least one significant advantage in owning the patent on this minor feature:

When the main patent expires in 12 years, we will still have the advantage of a current patent. No competitor can copy our product exactly without the threat of being sued. The copycat will have to go through the delaying development of a new process for keeping the hinge pin in place. And his method, almost certainly, will be more costly than ours.

We also will maintain the consumer advertising value of the statement: “This product is protected by one or more patents in force.”

Many inventors overlook the value of simple, yet functional, features in their inventions. These features generally arise from extensive testing in the prototype and the pilot run phases. One common example is that of component assembling. Designing parts that snap together as a way to avoid more time-consuming assembly sometimes is overlooked in the first production designs. By patenting these trivial features, you may prevent future competitors from using them, and thereby requiring more costly means of producing the competing product.

Whether we plan to license our invention, or produce and market it, determines how serious we get about the small stuff. A “deep-pockets” corporation may patent anything that seems to have some value. This is referred to as building a “patent fence” around the product – a fence so impenetrable that it will discourage even the biggest and best of competitors





Photo Credit  
Groupon.com

—from attempting to work through it. Litigation is expensive and time-wasting.

An individual, or small company, is typically conservative about filing successive patents on its products, even though it finds new features that improve its design. That's why it's important to "work out the bugs" before filing, and include the debugged small stuff in your initial patent application. If you can't afford a small "pilot run" before attempting to license, at least test your invention in its prototype state under the most realistic conditions available.

A pilot run is some small quantity – perhaps 25 to 50 pieces -- that is almost always produced at a substantial loss, with little or no volume-production tooling. Its objective is to determine market reaction, and discover any bugs or missing features, not to make money. The down side to waiting until your design is more or less perfect is that another inventor, unaware of your invention, might file first and legally obtain the patent, even though you began your development work first.

The trend today – at least for inventions that aren't complicated -- is to avoid a show-and-tell physical prototype altogether, and prepare a good sell-sheet that acts as a virtual prototype. This scheme

shifts the cost of market assessment and final design to the prospective licensee. However, some of the small features may escape you until you create a working physical prototype. Whether the sell-sheet (virtual prototype) approach is right for you depends on the amount of money you have to invest in your project, and whether you can spend a year or two visiting trade shows and corporations in order to land a licensing agreement.

An invention is like a shoe. The person who wears a pair can walk farther and more safely with them than without them. The small stuff is like a tiny pebble in your competitor's shoe. It doesn't stop him from walking, but he can't go as far or fast as you can.



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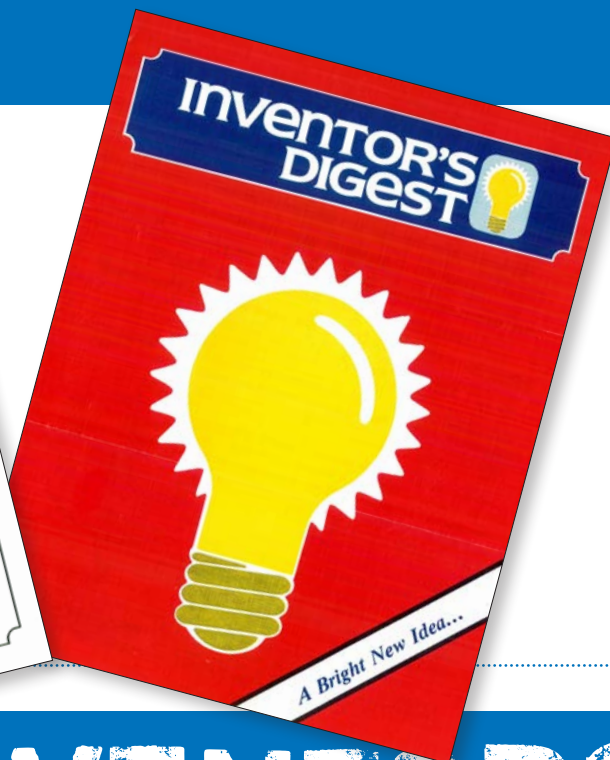
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