

Haverhill Hardware Horizons Challenge

Energy Harvesters www.energyharvesters.com is commercializing a personal electronics mobile power source called the Walking Charger. This off-the-grid device will charge portable electronic device batteries as you walk or directly power applications such as footwear heaters and GPS locators without the need for batteries. The Walking Charger™ is a small device that will be embedded within footwear for OEM branded products, serving; military, recreation, work boot and consumer end users.

The **Mobile Password Vault** is a small USB device that stores and encrypts your web login information. A single touch logs you into the current web site. It could optionally store credit card information. The first version will be USB and PC based. The next iteration will be for cell phones and wireless.

Rotary Robotics www.rotaryrobotics.com - Drones for Peace. Our first product, which is currently under development, is an extremely low-cost aerial surveillance tool. It is as easy to use as a point-and-shoot camera, will cost around the same price, and will allow anyone to gather aerial photos or videos. The buttons on the left will guide you to more information on our product and its applications.

Bounce Imaging www.bounceimaging.com is developing low-cost, throwable imaging and sensor platforms for first responders. Every day we ask brave men and women at home and abroad to enter hazardous unseen spaces because the technology that could be deployed to protect them is too costly, classified, and complex. We're working to change that through a system anyone can use and that is low-cost enough that sensor units are essentially disposable if the risk of retrieval is too high.

Dynamo is developing a 10kW class gas generator (genset) that will significantly reduce the levelized cost of energy (LCOE) for the upstream oil and gas market. By implementing a novel ultra-microturbine, we will displace conventional reciprocating engines by leveraging our intrinsic strengths of fuel flexibility, reduced total cost of ownership (TCO), and superior emissions. Our novel architecture enables us to build an engine that will be cost competitive with existing reciprocating engines.

Voice Control System – Have you ever imagined being able to control your home, your car, or your toys – with just your voice? Now you can with the use of the Voice Control System (VCS). This low power and easy to use device is available for use with English with other languages in development. The product, under most circumstances, will require little to no training before use. This product will be especially useful for disadvantaged persons (military or civilian).

Neumitra develops wearable and mobile technologies to measure and manage acute and chronic stress for improved health, productivity, and happiness.

The Synthesis Project is a set of microcomputer peripherals, programs and activities that are designed to challenge the young mind. They are appropriate for the budding artist and roboticist alike in high-school activities, short programs and summer camps. There are those who say that creativity is not taught – it is recognized and nurtured. We have the products and programs to help a child explore his/her creativity early.

Loci Controls, Inc. is developing a control system to optimize the extraction of methane gas from landfills. Our WellWatcher product consists of a wireless sensor package, a remotely controllable valve, and a proprietary model of landfill gas production. By enabling real time, automated control of the vacuum system, we can increase methane extraction by compensating for environmental changes like temperature, pressure, and rainfall.

SoundFest www.soundfestinc.com – Untreated hearing loss is a large and growing problem worldwide. Traditional hearing devices fail to address the cost, cosmetic, convenience and clarity needs of people with hearing problems. Embedding signal processing technology for hearing assistance into smartphones, tablets, and other consumer products creates a new paradigm. Without a need for special equipment, hearing assistance will become a feature in many familiar devices.

Disposable Heart Monitor – Imagine being able to monitor your heart rate with a disposable, low cost, and wireless patch that sends information to your watch. The information can be stored for later retrieval or forwarded to a medical facility or call center in real time! How many lives could be saved or improved with such a system?

Our **Mobydecks** <http://mobydecks.com> platform is designed to move large “props” around the stage effortlessly using low cost robotic solutions and tablet computers. Our goal is to be a recognized leader in robotic property management. Our wireless, smart, caster system was specifically created for the entertainment industry. Mobydecks reduces set up time and hazards to crew workers by eliminating a ‘rats nest’ of cables. We combine computer and robotics expertise with lighting and stage production experience.

Delta Health Monitoring – The growing number of patients with heart failure have the highest hospital readmission rate of any disease. Heart failure readmissions, costing roughly \$12 billion annually, are theoretically preventable through monitoring of patients and intervening when necessary before conditions worsen. Delta Health Monitoring is developing a simple, wearable device to monitor signs of decreased cardiac function through off the shelf electronic and sensor components.