



Research: An Essential Tool

author of the month: Talbot Presley

Hi everyone,

As this issue of Technology Cross-road's contributing editor, I would like to take the opportunity to discuss my role as PCD Director of Research and the importance of research in the development process.

Just like any mechanic or surgeon, product developers are only as good as the tools with which they work. In our case, the tools are our knowledge and understanding of methods, technologies, and existing devices. Ongoing research and technology scanning acts as a sharpening stone for these tools; without it, the knowledge becomes dull and less effective.

To this end, PCD is dedicated to constantly searching for the newest and best information on technology areas and trends. This effort comes out in multiple forms, from general technology scans of our (and our clients') areas of

interest, to focused research efforts which identify specific solutions and characterize the intellectual property and technical landscapes surrounding specific technologies.

As an example of this effort, we include a few interesting technologies that we come across in our research in each PCD newsletter. These range from innovative concepts and products on the market, to far-out scientific discoveries that are still years away from being implemented.

On the other side of the coin, the tools are only as effective as the hands which hold them, and we are lucky to have some very capable hands at PCD. To that end, we are happy to announce two new members of our team:

Thao Hovanky, B.S.E.E., B.S.M.E. joined us a few months ago, and has brought a great deal of



relevant experience and knowledge to our organization. His world class expertise and experience in motor development, optical systems, mechatronics, and offshore acquisition have greatly extended our in-house capabilities.

Stephen Olson, B.S. Mathematics has also joined recently to help drive the expansion and growth of our research efforts, among other things.



We are also happy to announce that we are moved into and are currently populating our new lab building. The building crew is putting the last finishing touches on a few areas as we speak. The grounds are also now complemented with a new pond, campus wide lighting system, new roads, new higher speed internet connection (TI), and a new fitness room. We encourage one and all to schedule a visit to our campus and a tour of the new

facilities.

On the project side, we have been rapidly expanding our client base, and are starting to see more products that we've had a hand in creating, designing and developing hit the market. We are constantly working to offer all of our current and future clients with ever expanding capabilities and expertise through the addition of qualified personnel, equipment, and on-going training.

In closing we would like to thank all of those who have supported the growth of PCD in one form or another. All of our friends, associates and clients have been essential to where we are today.

Until next time...

Talbot Presley



Shells Purify Water



Some high school students have found an innovative way to clean water by using scallop shells. The shape and chemical makeup of these shells filter out sediment, bacteria, and heavy metals, as well as neutralize the pH level of the water. This investigation was spurred by the story of a Japanese fisherman who threw oyster shells in water to clear the sediment.

http://www.cbc.ca/story/news/national/2002/11/15/water_scallops021115.html
<http://www.newscientist.com/article/mg16121693.000.html>

Flexible Concrete



A combination of advanced coated fibers and silica sand make this concrete up to 500 times more flexible than conventional concrete. This ability to bend without breaking will be especially useful in disaster-prone areas, and could also be useful in designing systems which use a concrete slab as a moving part!

http://www.sciencentral.com/articles/view.php3?type=article&article_id=218392622

<http://www.physorg.com/news3985.html>

Scopes that See Through Walls



This amazing device, straight out of science fiction books and movies, enables a user to “see through walls.” It can identify objects, people, and even breath patterns through rather thick concrete walls. Amazingly, already being deployed in Iraq to ground troops for house-to-house searches.

<http://www.gizmag.com/go/5032/1/>

<http://www.mcnews.info/mcnewsinfo/marines/scuttlebutt/scoepout.shtml>

Ripeness Sticker



These sensors will make determination of fruit ripeness much more accurate, and do so in a cheap and convenient package. The stickers sense ethylene, which fruits produce as they die. This product, which has an interesting story of development, should be ready for the market next year and on store shelves in a few years.

http://www.ocreger.com/ocreger/healthscience/homepage/article_1182446.php

<http://www.ripesense.com/>