URVentures
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TECHNOLOGY REVIEW

The UR Ventures Technology Review is your monthly look at innovation and technology commercialization at the University of Rochester. In this issue, you will learn about a crowdfunding campaign recently launched by UR Ventures. Learn about the project, why we adopted the crowdfunding approach, and what we hope to learn from the experience. Meliora!

Why a Crowdfunding Campaign?

Part I, the need

The University of Rochester is a basic research institution. This means that our world-class scientists ask questions of the universe and then attempt to tease out the answers. They ask questions like: Why do we sleep? Can an object be hidden in plain sight? Or Can a surface be modified to repel water?

The vast majority of research conducted at Rochester – like at every other basic research institution – is funded through grants. That's great news for the early research, but what happens when our research results in an important discovery with commercial potential? Such discoveries are often very early-stage, requiring additional research, data, or a simple demonstration that our assumptions are correct and our solutions efficacious.

Grants don't pay for proof-of-concept follow-up research or prototype development.

They pay only for pure research. Developing discoveries to the point where they are commercially applied and serve the public good is beyond their scope.

Therefore, universities turn to commercial partners to get important discoveries to market. Commercial partners, as a rule, are risk-averse and disinterested in licensing basic research discoveries until those discoveries have been developed and de-risked to the point of a reasonable likelihood of commercial (and financial) success.

Scott Catlin, Associate Vice President for Technology Ventures, uses an apple metaphor to explain this disconnect: Customers want to buy beautiful, juicy apples. We have a handful of seeds. We're pretty sure – but not always 100% confident – that they're apple seeds. A grocer can't sell seeds to her apple-hungry customers, but if we show her a tree laden with beautiful, juicy apples we can do business. There may be an occasional grocer who will take our word on the quality of the fruit if we can, at the very least, prove that our seeds grow into healthy apple trees. It is, therefore, incumbent on us at the University – at UR Ventures – to grow as many seeds as we can into trees.

At the University of Rochester, one of the mechanisms we have to develop our discoveries to the point at which they attract commercial interest is the Technology Development Fund. The TDF is funded by the University, the Medical Center, UR Ventures, and through generous donations, but there is never going to be enough available resources to fund every worthy project. As it is, we manage to fund between 4 and 8 projects annually. This means we need to find alternate means to advance the rest. To this end, UR Ventures is field-testing a crowdfunding campaign to see if this might be a viable option for a few select projects. The project was discussed in the April 2016 issue of UR Ventures Technology Review and the campaign may be viewed here.

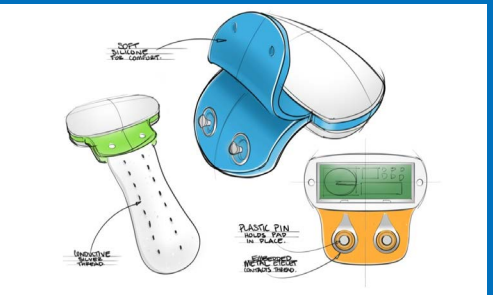
Crowdfunding Technology Development

Recently, UR Ventures launched a crowdfunding campaign in support of a great cause and a project we believe strongly in.

Dan Mruzek, Ph.D., Associate Professor of Neurodevelopmental & Behavioral Pediatrics at the University of Rochester has developed a rewards-based method for toilet training children with autism spectrum disorders. Along with Stephen McAleavey, Ph.D., Associate Professor of Biomedical, Electrical and Computer Engineering, Dr. Mruzek has also designed a system – consisting of a disposable moisture sensor, a reusable transmitter, and an app for a tablet or smart phone – that complements his training method. The device is currently being tested in clinical settings at the University of Rochester, Vanderbilt University, and the Nationwide Children's Hospital. Initial results suggest that study participants using this system and method achieve toilet training success faster and more completely than the control group.

The crowdfunding campaign, on Indiegogo.com, is seeking $32,000 in order to reengineer the system components so that they are more comfortable for the child to wear, more convenient for the caregiver to use, and designed in such a way as to be affordably mass-produced.

To gain a deeper understanding of the project and for more information about the problem it addresses, visit the campaign at https://igg.me/at/quick-trainer-project.



Part II, Lessons to Be Learned

Recently, UR Ventures launched a crowd-funding campaign in support of further technology development for a project that may offer relief to children with autism (and their caregivers) faced with toilet training. We have done this in order to raise money for the project; obviously, but – more importantly – we also hope to test some assumptions.

First of all, are our assumptions about this project correct? We believe in the Quick Trainer System. We know that autism spectrum disorders affected 1 in every 68 children in the United States in 2012. Recent findings put that number at 1 in 45 All of those children need to be toilet trained. Our research indicates that as many as 35% of children with autism are not using the toilet for urination by the age of 5. We believe that frustrations surrounding toilet training – for the children, as well as for the caregivers – contributes to this delay. The developing evidence shows that our system, developed by Dan Mruzek, Ph.D. and Stephen McAleavey, Ph.D., reduces training-induced stress and achieves toilet training success as much as 30% earlier than traditional methods.

We assume that problems surrounding toilet training children with autism are self-evident. We assume that the public will understand those problems and will care as we do. We assume that they will want to help us to alleviate these problems by contributing to our campaign and by spreading the word. We'll never know if we're correct, however, if we don't ask. What better way to test our assumptions than by asking people to give to the cause? If we succeed, we can consider our assumptions to be vindicated. Success can easily be measured by funds raised, by the number of backers, and by web traffic surrounding the campaign.

Second, can we advance the hardware of the Quick Trainer System to a commercializable state? We won't know the answer to this question until the dust settles and we use the funds raised to reengineer/redesign the system components as described in the campaign.

Third, what if we fail to raise the requested amount? Some might consider this possibility a total failure, but we would see a failure to meet the goals of this campaign as a successful outcome. Not the outcome we wish for, of course, but a success nonetheless.

Low traffic to the fundraising page would mean that we have done an inadequate job of promoting the project. This will mean we need to reevaluate our methods of communication.

Heavy traffic, but low donations will give us an answer to our first question: are our assumptions about this project correct? If it turns out that the world at large doesn't recognize a need, or sees the need but fails to consider our solution adequate, then we can focus our efforts elsewhere.

In either case, the outcome is a success in that it will provide us with valuable information.

Fourth, are we successfully getting our message out? We can use this campaign as a very real test of our various communication channels. Which sources will drive traffic to the fundraising page, and which will result in donations? Which message will work best to generate interest? We all have our opinions on these questions, but we will soon have data to support or refute our positions.

Our next post will address other questions raised and soon to be answered by our foray into crowdfunding.

In April, we said good bye to Dan Keeley.
Dan joined High Tech Rochester as Director of Startup Community Development.
Best Wishes, Dan!

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