The Editor's Spotlight: TOCHI Issue 24:2 Extravaganza—Special Issue on End-User Design for the Internet of Things, *and* The TOCHI Best Paper Award 2016

Trumped. Well, so far America has refused to wake up from its dark dream of a pseudo-authoritarian state.

And the United Kingdom appears to be sleepwalking as well. What else could explain the apparent willingness to plunge headlong off the Brexit cliff without so much as a safety net?

Neither of these events will be beneficial to science, nor to humanity at large.

May we live in interesting times, indeed.

And of course, these events affect our communities at every level as well. I know of people who will not attend the annual SIGCHI conference because of the "extreme vetting" at the border, or the very understandable distrust thereof. And others have voiced moral objections to traveling to the United States at this time. In my own social circle, I know of families who cannot visit elderly relatives because they fear being trapped abroad. And even for TOCHI, there are members of the Editorial Board who will not be able to attend our annual meeting because of these xenophobic policies.

I cannot attribute this garroting of the Statue of Liberty (and all that it represents) to anything but sheer idiocy, and greed, and a boundless thirst for the appearance of power. But it belies a moral weakness without compare.

The only thing "extreme" about any of this is our national embarrassment.

We've all been trumped and I am not impressed.

Nonetheless, All Are Welcome. As a brief counterpoint to the above, I wish to stress once again that TOCHI is open to submissions from all nations, faiths, and peoples of the world. Scientists, researchers, practitioners, and designers are united in trying to advance human knowledge.

All are welcome in this great endeavor.

Join us.

To Our Doubly Special Issue. There's really no way to smoothly segue from such events, which are "historic" in the very worst sense of the word, so let me just jump-cut straight to an optimistic viewpoint that is unmoored in current geopolitical events:

You hold in your hands a very special issue of TOCHI indeed.

Of course, this is our long-awaited *Special Issue*—the first of my tenure—on *End-User Design for the Internet of Things*.

But in another important sense, it is also a very "special" issue of the journal because this is the edition where will unveil the inaugural. . .

ACM Transactions on Computer-Human Interaction
Best Paper Award

— 2016 —

So sit back, grab some popcorn (and perhaps a beverage of your choice), and enjoy the festivities.

With the Full Red Carpet Treatment. Of course, on such a celebratory occasion, we must roll out a luxuriant red promenade.

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For a fleeting moment, we even considered a military parade for this inaugural occasion. But budgets being what they are, the best we could afford turned out to be a brigade of "Reviewer 2's" armed with sharp red pens. To be brutally honest, we feared this would not go over well, to say the least, and so all such plans were scrapped forthwith.

And with the reality of the publishing industry (as of early 2017) being what it is, our "red" carpet, I am afraid, must be printed solely in black and white.

Furthermore, rather than a plush walkway, the substrate upon which we must strut our stuff is much more akin to recycled newsprint.

But what a venue it is!

Okay, enough fun for now.

So let me set the stage for the award, and in so doing, switch to what my wife calls, my *serious voice*:

Because it takes incredibly hard work to get into TOCHI, and many notable HCI researchers have published their work in our pages. Even more important, I think, is the wave of up-and-comers in the field who are constantly breaking new ground. We are honored to have played a small role in building their careers, and publication credentials, as well.

TOCHI plays a vital role in the HCI community because it offers a forum for results that sprawl beyond the tidy boxes, tied up with neat satin bows that can sometimes come to dominate typical conference papers. I've certainly written my fair share of those (only without the neatness, and often with some loose ends in those bows as well...). And of course, there is nothing wrong with the "typical" conference-paper type of contribution, but by the same token it's really important that the field has venues for results that are "out of the box" in a sense—and indeed, that span multiple boxes in the form of cross-discipline work, as well.

In that regard, the article we've selected for our 2016 Best Paper award is a great representative of the field. It reports on an interdisciplinary effort that advances the needs of a particular user community, but in so doing pushes on boundaries of interaction design and computer science as well. In order to build the system the authors embarked upon, the research had to upend some conventional wisdom regarding image navigation and innovate new interaction techniques along the way.

So (drum roll please), without further ado...

The recipient of the *2016 TOCHI Best Paper Award* is:

The Design and Evaluation of Interfaces for Navigating Gigapixel Images in Digital Pathology

Roy A. Ruddle	School of Computing, University of Leeds, Leeds, UK
Rhys G. Thomas	School of Computing, University of Leeds, Leeds, UK
Rebecca Randell	School of Healthcare, University of Leeds, UK
Philip Quirke	Leeds Institute of Cancer and Pathology, University of Leeds, UK
Darren Treanor	St James' University Hospital, Leeds, UK, and Leeds Institute of Cancer and Pathology, University of Leeds, UK

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And just to pique your interest in this fine work just a bit further, the following abstract characterizes the work in the authors' own words:

This article describes the design and evaluation of two generations of an interface for navigating datasets of gigapixel images that pathologists use to diagnose cancer.

The interface design is innovative because users panned with an overview:detail view scale difference that was up to 57 times larger than established guidelines, and 1 million pixel "thumbnail" overviews that leveraged the real estate of high-resolution workstation displays.

The research involved experts performing real work (pathologists diagnosing cancer), using datasets that were up to 3,150 times larger than those used in previous studies that involved navigating images. The evaluation provides evidence about the effectiveness of the interfaces and characterizes how experts navigate gigapixel images when performing real work. Similar interfaces could be adopted in applications that use other types of high-resolution images (e.g., remote sensing or high-throughput microscopy).

Check it out. You'll be glad you did. By the time you read this, the article should be available in the ACM Digital Library for open-access—sporting a spiffy new award badge no less—at:
http://dx.doi.org/10.1145/2834117

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IN THE SPOTLIGHT: END-USER DESIGN FOR THE INTERNET OF THINGS, A SPECIAL ISSUE

Because the Guest Editorial (Introduction to the Special Issue on End User Development for the Internet of Things) that immediately follows my comments here gives an illuminating article-by-article overview of this issue's contents—by topic experts, no less—instead of my usual format in these Spotlight editorials, I wanted to offer a bit of perspective on the general topic.

I think of End-User Design as an emerging (or re-emerging?) and perhaps-underused tool in the designer's toolbox to help people harness the potential of "The Internet of Things." This term, often abbreviated as "IoT," gets bandied about so often that it kind of loses its meaning, but as this special issue makes apparent, what is fascinating about this space from an HCI perspective is that, essentially, every instance of a dynamically interconnected network of sensors, actuators, and information-appliances comprises a system *sui generis*:

There is no other deployment like it on the planet.

Such instances, therefore, are highly personal and highly contextual. The people who use them need to tailor and customize a dynamic set of cooperating devices to meet the demands of their one-off (and often constantly changing) situations. As I see it, the vision is that the devices must become a society of interconnected devices and technologies that complement and mutually reinforce one another, rather than adding exponentially more complexity to our lives.

One reason that End-User Design is a particularly interesting way to get on top of this complexity is because when people invest their own efforts in devising solutions, it helps to spin up a flywheel where the entire system accrues more value, rather than becoming a loosely bound "Internet of (throw-away) Things". One article refers to this as an "IKEA effect," because when people build their own solutions (much like IKEA furniture) they come to understand and emotionally attach to them more deeply. The effort devoted to the object's construction imbues greater value to it as a "thing" with subjective worth.

Furthermore, if successful, the End-User Design approach to IoT can empower people to design their own solutions to local challenges, in ways that work for the community

and the individual. This is important because it shifts the power dynamic: corporations (or governments) are unlikely to take an interest in such one-off configurations with limited (or non-existent) "markets" to drive them. Yet in sum, they may be a substantial proportion of all IoT deployments. Indeed, yielding design decisions—and the power and control that come along with them—to the hands of the individuals most invested in the deployment of such a distributed system may offer many carry-on benefits. To my ears at least, this is reminiscent of the approach advocated by a special issue that is just now entering TOCHI's pipeline: Re-Imagining Participatory Design (see https://tochi.acm.org/re-imagining-participatory-design/), currently slated to publish in early 2018.

In that sense (and many others), this current special issue on *End-User Design for the Internet of Things* begins a conversation in the literature that will continue to resonate for some time to come.

Ken Hinckley

Editor-in-Chief

Redmond, Washington
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