Enthuse others about your role as a technical communicator

Improve the accessibility of your online output

Apply user experience principles to your work

Read a review of Adobe RoboHelp 2019

Horace Hockley Award 2018

Toni Byrd-Ressaire talks about her work in artificial intelligence and information design.

It's such an honour to have your contributions recognised by your peers. I'm grateful to have received the Horace Hockley Award and to have been invited as an Honorary Fellow of the ISTC for contributions to the profession and recognised as a 'pioneer' in the field.

I moved from the United States to Europe about 10 years ago, and at the time, I was not aware of the ISTC or Horace Hockley. But one can't live in Europe and work in technical communication without soon understanding that this organisation is one of the most prestigious in Europe and the legacy of Major Hockley, the founder of the Institute of Technical Publicity and Publications (ITPP) in 1964 and the founding President of the ISTC when it was formed in 1972. He received an OBE in 1967 in recognition of his services to technical communication.

I've formed relationships with some extraordinary colleagues in Europe and abroad. In this article, I explain the research that we have been doing to further our shared professions in information development and technical communication.

An evolving information landscape
Curiosity and an interest in new technologies has often led me down non-traditional paths.

Lately, the research and work I've been doing has centred around the advances that are occurring at a rapid pace in artificial intelligence (AI), machine learning (ML), and natural language processing (NLP). Together with some European colleagues (and good friends), I've been asking how information relates to these technological advances.

Technologies without information are just gadgets. Artificially intelligent systems require data. Sure, they apply their complicated algorithms and work their technological magic, but without information, they don't have anything to compute.

User expectations are also evolving. Users access information from smart phones, smart watches, and household

Acceptance speech by Toni Byrd-Ressaire at TCUK

smart devices. All of these require information.

An evolving information model
To deliver information in this new landscape of artificially intelligent devices and evolved user expectations, we started thinking about new requirements for information design. In essence, the old models are not adequate.

Several concepts are key to understanding how information is processed and delivered today and progressively more so in the future.

While there are many elements to consider, I'll introduce three key concepts that can be applied to a new information design model:
▪ Multi-dimensional information
▪ User context
▪ Molecular content.

Multi-dimensional information
The idea of data relationships is not new. In fact, the concepts that we propose applying to a new information model have been borrowed from other vertical markets.

Data relationship models have long been used to analyse the relationships between sets of information. As information delivery and consumption evolves, the concept of multi-dimensional data can be applied to information design.

Let's look at an example. Traditionally, a maintenance operator

accessed a user guide to learn how to make a repair to a specific machine model. Today, in some industries, that same operator is using augmented reality to access information.

Using special glasses, the user sees information virtually; but the information is not linear. The user does not scroll through a virtual guide. Instead, the device recognises the model of the machine and *offers* information based on that model. Using visualisation, the user may select any part of the machine, be offered more information and select only the information they need for the repair. If the user only needs steps 1 to 3, they can skip steps 4 and 5. The user may then select another information offering to see what parts are needed, and then select yet another information offering to order the parts.

If we were to create a visual model of the information relationships, it may look like a mind map in which all information is presented, but relationships between model, instructions, parts and ordering are connected in a user flow. All other information that exists is represented but is not part of the user flow.

Another user, however, may access the same information in a different order, including additional information as needed.

This dimension has been identified as the value to user. To deliver content in this type of scenario, we

also need other dimensions, such as semantics and syntax (José María Díaz Nafría, "What is information? A multidimensional concern." *tripleC* 8(1); 77-108, 2010).

Information in this delivery model is not linear. It is multi-dimensional and based on a variety of elements that can be visualised as a matrix.

User context

Multi-dimensional information may be closely related to user context. The context of a user is not static; it is in a constant state of flux. As user context changes, new information is required (Andy McDonald, "What is Contextualization…?", https://intelligent-information.blog, 8 Aug 2017).

The previous example demonstrates how context may change based on the model of the machine the user needs to repair and the user's previous knowledge. In this example, the user didn't need steps 4 and 5. Another user may need all 5 steps and more.

We also see examples of the context matrix when we look at how users access information around them on a daily basis. Using smart devices, each user selects information based on the user's current needs, geographical environment, existing knowledge, and even current mood.

Information will continue to be delivered in more intelligent ways as machines learn to better detect user context.

Molecular content

It quickly becomes clear that information must be segmented and identified in order to meet the requirements of an intelligent delivery system.

Linear, long-form content won't work in such systems. The content must be minute enough to allow for information to be delivered based on a specific context, re-ordered, and amalgamated into an information flow that meets the user's needs and purpose.

One of the key concepts I've focused on for a new information design model is this idea of molecular content.

It's not as easy as it sounds. Break it down into byte-size pieces (or bite-size, as you prefer).

In training sessions, I've found that seasoned technical writers have more difficulty in applying this concept

References

Corti – Artificial Intelligence that saves lives https://corti.ai (accessed November 2018)

Information 4.0 Consortium https://information4zero.org (accessed November 2018)

Nafría J (2010) "What is information? A multidimensional concern." tripleC 8(1); 77-108, 2010 www.triple-c.at/index.php/tripleC/article/view/76 (accessed November 2018)

McDonald A (2017) 'What is Contextualization all About & Why is it so Important in Information 4.0?' *How to Create and Deliver Intelligent Information* https://intelligent-information.blog/en/blog/2017/08/08/what-is-contextualization-all-about-why-is-it-so-important-in-information-4-0 (accessed November 2018)

than newbies to the profession, and with good reason. We've been trained to write linear, long-form documents throughout our careers.

In certain sectors, specifically in healthcare and manufacturing, regulations require long-form documentation. The PDF delivery method is necessary.

But even in these sectors we are seeing the need for information that is multi-dimensional, contextual and molecular. This is the type of information needed in Corti, an artificially intelligent software that uses deep-learning to help human emergency dispatchers detect cardiac arrests (https://corti.ai).

Information 4.0 Consortium

I worked with a group of colleagues to co-found the Information 4.0 Consortium, a European-based non-profit organisation with the goal of furthering research and discussions around how information fits into the evolving technological landscape.

If you are interested in learning more or becoming involved in research, projects or collaborations, visit the Consortium website at https://information4zero.org. **C**
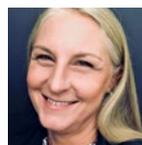
Toni Byrd-Ressaire is owner of Info4Design, a consultancy and information development company that specialises in information for software and evolving technologies. Toni is past president of the Society for Technical Communication-France, co-founder of Tech Writers Without Borders and the Information 4.0 Consortium. She was formerly on faculty at James Madison University in Virginia, USA. She currently teaches Information Design and Development at Cork Institute of Technology.