

magazine for international information management

# tcworld

May 2016

## A new horizon for information delivery

Augmented Reality offers innovative and intuitive ways to present content

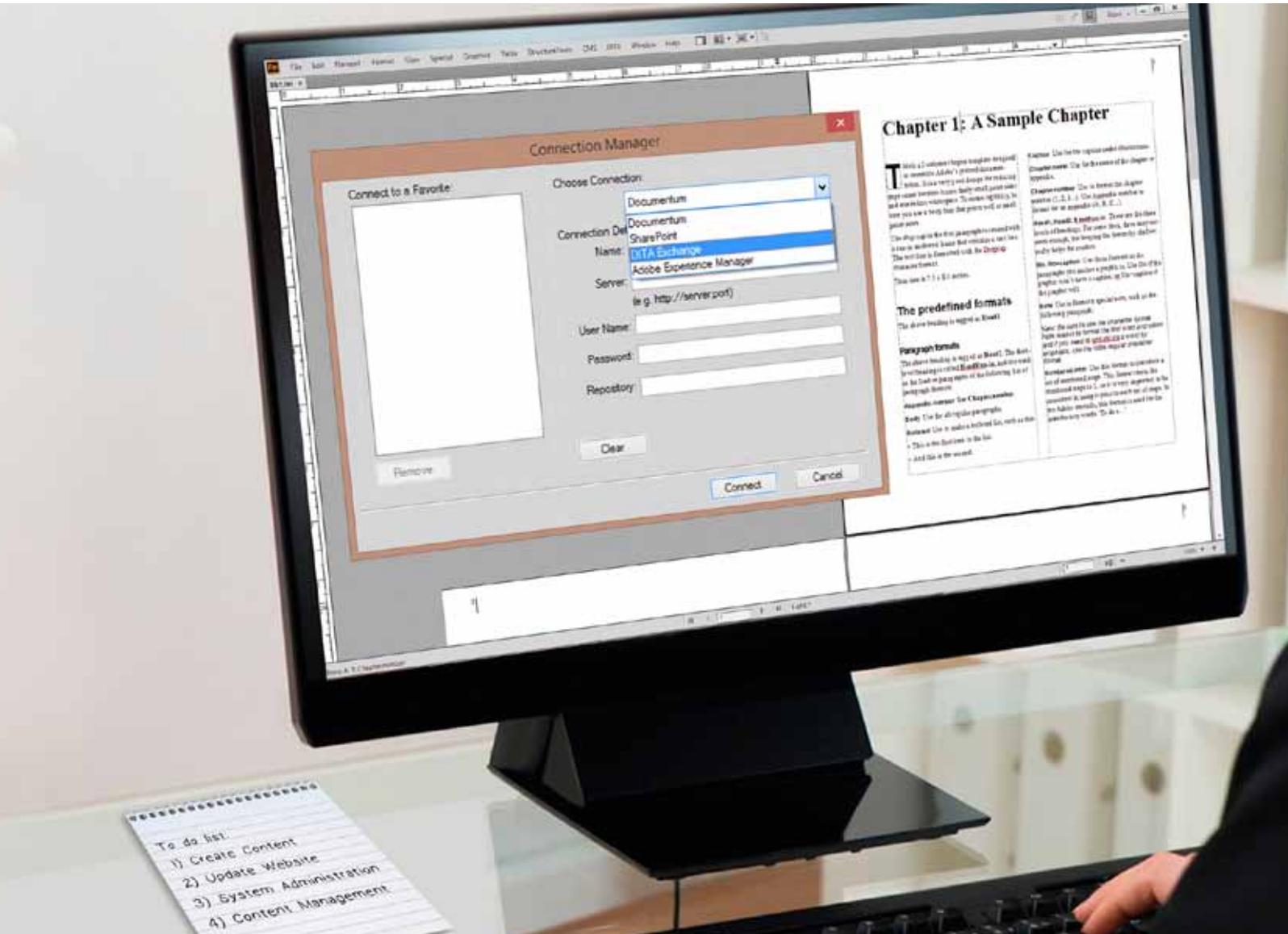
### Digital convergence opens new career choices for localization experts

Wanted: Professionals with experience in managing complex content

### Reviewing the review process

How XML documents revolutionize a rusty, ancient paradigm





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# tcworld

magazine for international information management



### **From the editor**

It is late on a mid-December night and you are wandering through a department store, searching the shelves for some last-minute Christmas presents. But something is missing: There are no crowds, you didn't struggle for a parking lot and you certainly won't catch the shop attendant's cold. That's because you're actually sitting on your cozy sofa, staring into a virtual reality headset while sipping a hot cup of tea.

This is not your usual e-commerce experience, which so far has been characterized by static search fields, product descriptions and 2D images. Instead, you can navigate through aisles gleaming with glitzy products waiting to be discovered, view items from any angle, and even socialize with friends and staff.

Sounds amazing? Futuristic? Even scary? Well, it might be all of that, but first and foremost, it is a successful new business concept that is set to revolutionize the online shopping experience. And what does it have to do with content creators, localizers and customer experience professionals? A lot, I believe.

Technical writers and content developers have a thorough experience in bringing down the barrier between end users and technical content, between customers and devices. New technologies such as Virtual Reality (VR) and Augmented Reality (AR) inspire us to literally think outside the box and bring our content into the real world. They offer a wealth of opportunity and innovation for those who embrace them. And, a lot of

authoring solutions for creating Augmented Reality experiences are already available and ready for use, as author Christine Perey illustrates in the focus theme of this issue (starting on page 12).

Whether guiding drivers in performing basic maintenance on their cars (as Audi does) or taking passengers on a virtual dive of the Great Barrier Reef (as Qantas does), VR and AR allow us to create amazing, intuitive customer experiences like nothing else before. And as content creators, we have the privilege of being at the forefront of this revolution and playing a decisive role in leveraging the new technologies to create new, innovative ways of presenting our content.

**Corinna Melville**



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## A new horizon for information delivery

Augmented Reality presents us with an unprecedented number of innovative and intuitive ways to deliver content. And, many tools for authoring AR experiences already exist, waiting to be implemented.

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## Reviewing the review process

Working with web-based XML documents not only allows us to deliver content more quickly, it also enables a much smoother reviewing process compared with the traditional PDF-based approach.

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## Digital convergence opens new career choices for localization experts

A shift in the digital marketing world and a stronger focus on content provides attractive opportunities for professionals with experience in managing complex content.

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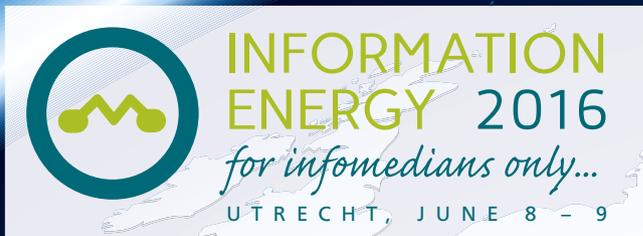
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# Almost half of all organizations will use the Internet of Things in 2016

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The Internet of Things (IoT) will move toward mainstream adoption in 2016 for many industries, according to the findings of a recent survey by Gartner, Inc. The online survey was conducted in November 2015 among Gartner Research Circle Members and included responses from 465 IT and business professionals spanning 18 business sectors in North America, EMEA, Asia/Pacific and Latin America.

Although less than a third (29 percent) of responding organizations are currently using the IoT, an additional 14 percent are planning to implement the IoT in the coming twelve months, with an additional 21 percent planning to implement after 2016. In other words, the number of organizations adopting the IoT will grow 50 percent in 2016, reaching 43 percent of organizations overall. In the aggregate, the majority of organizations (64 percent) plan to eventually implement the IoT.

However, it is also important to note that another 38 percent have no plans to implement the IoT, including nine percent that see no relevance whatsoever in the technologies.

"While there is near universal acceptance of the importance of the IoT, less than a third of organizations surveyed were actively exploiting it," said Chet Geschickter, research director at Gartner. "This is largely because of two reasons. The first set of hurdles are business-related. Many organizations have yet to establish a clear picture of what benefits the IoT can deliver, or have not yet invested the time to develop ideas for how to apply IoT to their business. The second set of hurdles are the organizations themselves. Many of the survey participants have insufficient expertise and staffing for the IoT and lack clear leadership."

Industry adoption also varies widely, with heavy industries such as utilities, oil and gas, and manu-

facturing leading adoption, and service-oriented light or "weightless" industries lagging. Gartner estimates that slightly more than half (56 percent) of businesses in asset-intensive "heavy" industries will have implemented the IoT by the end of 2016, and approximately one-third (36 percent) of "light" or "weightless" will do so.

For those organizations that have already implemented the IoT, the focus has been on internal operational improvements over external customer-facing objectives. To date, the primary business case for the IoT is internally focused, namely improved efficiencies, cost savings and enhanced asset utilization (52 percent of total) versus the externally facing IoT benefits of enhancing customer experience or increasing revenue (40 percent).

"However, we are poised for a marked shift in focus toward customer-facing benefits for planned IoT implementations, positioning the IoT as a key competitive marketplace weapon going forward," said Jim Tully, vice president and distinguished analyst at Gartner. "The survey shows a dramatic jump in focus on customer experience, doubling in nominal terms from 18 percent to 34 percent. This indicates that we can expect a much higher IoT focus on end customers during the next twelve months. In effect, IoT programs and processes will become competitive marketplace weapons starting in 2016."

The survey found that the biggest IoT technology challenges for those that have already implemented IoT are cybersecurity, integration and managing business requirements. However, orchestration of workflows and processes looms as a major concern for those planning to implement the IoT.

"2016 will be a very big year for IoT adoption. We are starting to see a wide range of IoT use cases across virtually all industries. But, the big challenge now is demonstrating return on investment. Executives need to validate the contribution that IoT can make in order to justify large-scale rollouts," said Mr. Geschickter.

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[www.gartner.com](http://www.gartner.com)

## SMARTLING ACQUIRES JARGON

Smartling has acquired Jargon, a technology company that helps global brands to localize their mobile applications. The acquisition augments Smartling's Global Fluency Platform, enabling the company to empower global brands with instant, over-the-air localization of mobile apps and on-device quality assurance (QA) testing.

[www.smartling.com](http://www.smartling.com)

## DQF TOOLS UPDATED

TAUS has released a new version of its DQF Tools, which is now fully supporting the harmonized DQF-MQM error typology model. DQF Tools is a vendor-independent environment for evaluating translated content. With the previous version, users of DQF Tools could already perform MT comparison, productivity evaluation and error review tasks. With the new release, users will be compliant with the DQF-MQM metric, which is more and more considered a standard industry reference for translation quality management.

[www.taus.net](http://www.taus.net)

## LIONBRIDGE AND TRANSIFEX PARTNER

Lionbridge Technologies, Inc. has announced a joint solution that combines Lionbridge on-Demand, a Translation as a Service (TaaS), with Transifex, a software for continuous translation. The integrated solution provides agile developers with a streamlined solution for multilingual web apps, mobile apps, websites, help centers, video subtitles and other global content.

[www.lionbridge.com](http://www.lionbridge.com)

## SDL APPOINTS NEW CEO

SDL has appointed Adolfo Hernandez as the new CEO. Effective April 18, 2016, Hernandez brings over 25 years of experience in leadership and a proven record of global business transformation to the organization. Appointed by the SDL Board of Directors, Hernandez will lead the executive team to continue to expand SDL's language and global content technology footprint globally.

[www.sdl.com](http://www.sdl.com)

# Market for wearable devices continues to grow strongly

Worldwide shipments of wearable devices are expected to reach 110 million by the end of 2016 with 38.2 percent growth over the previous year. According to the International Data Corporation (IDC) Worldwide Quarterly Wearable Device Tracker, an expanding lineup of vendors combined with fast-growing consumer awareness and demand will generate double-digit growth throughout the 2015-2020 forecast period, culminating in shipments of 237.1 million wearable devices in 2020.

The market will also be driven forward by the proliferation of new and different wearable products. Watch and wristband shipments will reach a combined total of 100 million shipments in 2016, up from 72.2 million in 2015. Other form factors, such as clothing, eyewear, and hearables, are expected to reach 9.8 million units in 2016 and will more than double their share by 2020. This will open the door for new experiences, use cases, and applications going forward. Still, the primary focus of the wearables market will be on smartwatches.

"Although smartwatches like the Apple Watch or Android Wear devices capture the spotlight, they will only account for a quarter of all wearables in 2016 and will grow to about a third by 2020," said Jitesh Ubrani, senior research analyst for IDC Mobile Device Trackers. "It's time to start thinking about smarter watches – traditional watches with some sort of fitness or sleep tracking but unable to run apps – built by classic watchmakers. These devices have the potential of making the technology invisible while still integrating themselves within day-to-day activities."

"By creating smarter watches, vendors also stand to sidestep some of the typical challenges that smartwatch platforms face," added Ubrani. "There's no need to create a developer or app ecosystem for one thing, and there's plenty of room for simpler devices that appeal to the average user while smartwatches continue catering to the technophiles."

Meanwhile, smartwatches with an app ecosystem – like Apple's watchOS and Google's Android



Wear – are expected to gain further salience in the market as both products and experiences evolve. “With few exceptions, this part of the smartwatch market is still in its initial stages,” said Ramon Llamas, research manager for IDC’s Wearables team. “We expect to see major changes, with smartwatches that actually look like watches, user interfaces that are easier than swipes and gestures, applications that rival those on our smartphones, and connections to networks, systems, and other devices. This puts pressure on smartwatch platforms to develop further from where they are today.”

**Top five smartwatch platform highlights**

Apple’s watchOS is likely to see some slowdown in the early part of 2016 as anticipation builds for the second generation device. However, with newer hardware and an evolving ecosystem, Apple will remain the smartwatch leader through the majority of the forecast. Android Wear remains in second place as its list of partners grows and the platform further integrates into Google’s larger ecosystem. Google’s decision to limit UI differentiation will stifle further growth (unlike its success in smartphones), but this may have the positive side effect of forcing brands to compete on design and price, appealing to the fashion-conscious, the budget-conscious, or both. Adding Android-based smartwatches to Android Wear would push the category into first place in 2020. However, Android smartwatches are expected to remain a small portion of the overall market and will likely be relegated to emerging regions as local vendors attempt to differentiate themselves. Real-Time Operating System (RTOS) – primarily used as a proprietary operating system but capable of running third-party apps – will become the third largest smartwatch OS, largely driven by gains in emerg-



## tekoma finds Hungarian country organization

A year ago, a round table was held in Budapest in order to explore opportunities for establishing a Hungarian country organization within tekoma Europe. Since then, a group of volunteers has been working on approaching professionals and winning them over to the initiative to advance the technical communication profession in Hungary with the support of a strong association. At the beginning of 2016, ten tekoma Europe members from Hungary signed a founding proposal, which was then approved by the Executive Board of tekoma Europe. One member was then invited as a guest to the Assembly of Delegates in March, the association’s highest decision-making body. The founding event marked the final step in the process of becoming part of the tekoma Europe family and thus the ninth country organization.

tekoma Magyarország (Hungary) is the name of the newest tekoma Europe family member, which was officially founded on March 31 in Budapest, Hungary. Jürgen Muthig, chairperson of tekoma Europe, and Anke Neytchev, staff member responsible for country organizations and university relations, attended the founding event, which was organized by the Hungarian community of technical communication professionals.

[www.technical-communication.org](http://www.technical-communication.org)

ing markets and its use by Chinese ODMs. Appealing to consumers looking for a cheap alternative, RTOS devices will likely see relatively high adoption, though the experience will be sub-par. Tizen’s limited app ecosystem makes it a tough sell as a smartwatch, though this underdog has the potential to pose a serious threat to Android Wear if Samsung is able to provide some synergy between its lineup of Gear S watches and the rest of its consumer electronics portfolio. Linux-based smartwatches will have an appeal similar to RTOS-based devices. The focus will be low-cost and adoption will be mainly in the Asia/Pacific region, excluding Japan. Pebble’s avid fan base and unique hardware/software platform will enjoy modest growth in the short term. However, competitive pressures will cause it to gradually lose share to giants like watchOS and Android Wear.

[www.idc.com](http://www.idc.com)

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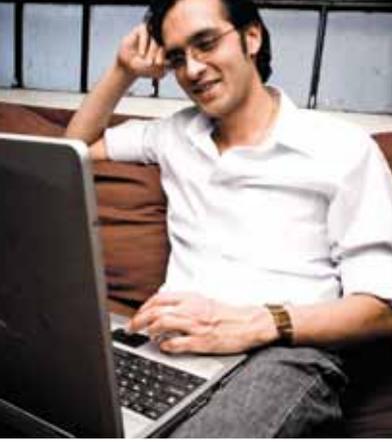
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# Forget the fads: Let's use some common sense!

By Leah Guren

I have a confession to make: I am not a fan of methodology trends. Whether it is manufacturing's Six Sigma, the software world's Agile development, human resources' Personal Orientation Profiles, time management's Pomodoro Technique, or career growth books like *Who Moved My Cheese?*, all take commonsense ideas and cloak them in a mystique of jargon and pseudo-science.

For example, the Myers-Briggs Type Indicator has been around for years. Based on the theories of Carl Jung, it attempts to classify every human being into one of 16 possible personality profiles, each made up of a combination of four out of eight possible traits. Clearly, trying to pigeonhole a unique person into one of these predefined profiles requires some oversimplification, and Myers-Briggs has been justifiably criticized as useless for the business world. But that is only one of many attempts to classify personalities. Someone decided to repackage the classification system of the ancient Greeks and attempt to fit everyone into one of only four temperaments: sanguine (optimistic and social), choleric (short-tempered or irritable), melancholic (analytical and quiet), and phlegmatic (relaxed and peaceful). Can you believe that there are people making hiring decisions based on the 2500-year-old theories of Hippocrates? Then came the Four Business Types (Dominant, Expressive, Introverts, and Relational), and then came something else. I can't keep track.



Image: © Brian Jackson:123rf.com.jpg

None of these fads are very damaging on their own. It is not as if they preach bizarre behavior or dangerous activity. Rather, the damage comes from the changeable nature of management. When business leaders are more concerned with appearing knowledgeable about the latest trend than what is best for their company, we end up with cumulative damage from wasted time and frustrated employees. Because every few years someone comes out with another methodology to ensure quality, manage teams, handle projects, improve productivity, or whatever. They write a book, do the talk show circuit, get some organization to endorse or support their methodology, and try to convince everyone that it is the next best thing since... well, since the previous methodology.

Close on the heels of this fanfare comes a string of consulting firms that suddenly offer training and "expertise" in this new methodology. Sometimes, software companies develop stand-alone applications for it, or add features into their existing applications to support the concept. And hundreds of thousands of mid-level managers rush to embrace this new miracle, often triggering massive upheavals for all who work for them. Meetings, training, long presentations, extra overhead, new jargon, and a new way of reporting all take their toll on project managers, team leaders, and their employees. Everyone has to adapt to the new system (which may be flawed or a poor match for their work environment).

Then, within 24 months, a new favorite appears, and they have to go through this absurd process all over again.

The irony is that all of these fads come down to these same basic commonsense rules:

1. Get to know your employees and your customers. This is basic audience analysis and good management. All of the personality tests are merely tools to help understand our employees. But the truth is that all normal adults

should be able to work and interact with others no matter what "personality type" they are. Let's just behave decently, yes? It is no more acceptable to publicly yell at someone of one personality type than another!

2. Communicate clearly. Explain things simply, clearly, and unambiguously. Provide the right information for the right people. Make your expectations clear. Make your product documentation clear.
3. Plan projects carefully. Think about timelines, resources, and deliverables. Determine what is worthwhile to do. Figure out what you can realistically do without overworking your team. Track progress and stay on top of things.
4. Resolve problems and don't repeat them. Fix things. Make each project a bit better. Learn from your mistakes.

Sensible management will find some tools to help, not hinder. The methodology should not add paperwork and complexity, but should simplify processes and assist the employee. Do you have another story about a management trend? I'd love to hear from you.

## ABOUT THE AUTHOR

### Leah Guren

is the owner/operator of Cow TC. She has been active in the field of technical communication since 1980 as a writer, manager, Help author, and usability consultant. She now devotes her time to consulting and teaching courses and seminars in technical communication, primarily in Israel and Europe.



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# A new horizon for



# information delivery

A person wearing AR glasses in a factory setting. The person is wearing a dark blue long-sleeved shirt and is looking down at their hands. The background is a blurred industrial environment with blue and grey tones.

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## The future of Augmented Reality in the workplace

Augmented Reality (AR) and the Internet of Things (IoT) are well on their way to revolutionizing not only the way we work, but also what we – as technical communicators – deliver to customers. Coupled with improved wearable devices for hands-free work, these technologies have the power to increase productivity, efficiency and work quality.

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By Rhonda Truitt and Christine Perey

It is the year 2022. Many products are built to order and to specification using 3D printing and advanced materials. When Joe arrives at the ACME workplace, he learns that the team responsible for the assembly of a new section of the latest wind turbine (that his company must deliver on time to a customer) has been summoned to repair another mission-critical system damaged in an overnight storm. Assembling the new section will now be Joe's job. However, he has been working on other components and although he is familiar with the equipment, he is untrained for this delicate task.

After putting on his protective boots and garments, he puts his thumb on the fingerprint recognition pad and looks straight into the camera. A green light appears showing that he has been recognized and is cleared to choose a pair of form-fitting, transparent safety glasses with AR support from a rack. He receives a three-minute training video on the features of this new model of display and answers a few questions to configure the system to his level of training. As Joe enters the facility door, the system detects his position and directs him to the part of the

factory where he can see the materials clearly identified with a shimmering halo and the tools he needs to perform the assembly. Joe then receives step-by-step audiovisual instructions for the tasks. He documents that the assembly is continuing according to schedule. He uses both hands, and his attention is focused entirely on his work. Although Joe has no prior experience with the process, he is able to rely on technology to assess his progress. If Joe encounters any problems or has questions that are not part of the documentation, he can establish a remote-assistance session with off-site experts to resolve the issue without delay.

### The workplace of the future

Compared with today, in the workplace of the future our technologies will have matured considerably. While today some "intelligent machines" are being introduced, 99 percent of equipment remains unconnected. In the future, most physical objects will be connected to and communi-

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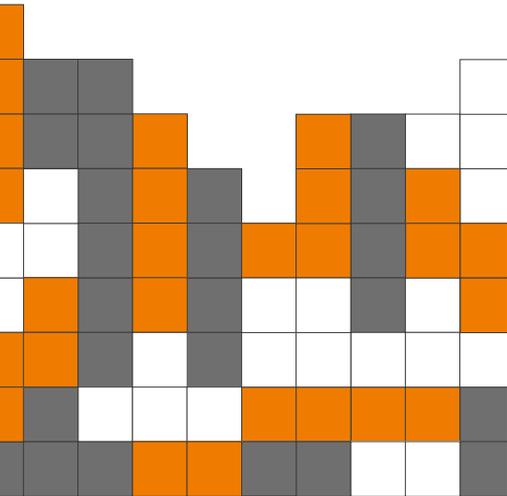
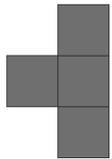
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cating with one another. People will no longer just be programming, configuring and supervising machines. Instead, the worker will be an integral part of the dynamic “fabric” of sophisticated processes in connected environments. Sensors in garments, buildings, and objects will rapidly send information about current conditions that aids decision-makers and management. Humans will be able to respond to and perform new or complex procedures.

As a component of this future workplace, AR has many promising benefits for the enterprise user. As illustrated in the scenario above, by using new hardware and software, AR-enabled systems promise to provide individualized information in context at the level best suited for the worker, thus helping him to perform new and unfamiliar tasks quickly and without errors. This is more than theoretical. As reported in a research study conducted by Boeing and Iowa State University (ISU), users of AR can complete job tasks faster when they view instructions on a tablet via an AR experience, compared to when they view traditional instructions on a tablet or another type of screen. The study also reported that AR users had a 94 percent reduction in quality errors. The data proved that by employing AR, users remained more focused on their task with less bouncing back and forth between the task and the documentation.

By detecting changes in the workplace, identifying risks and reducing exposure of employees to those risks, AR will make the workplace of the future safer and more efficient, and help to deploy people in an optimized manner. Workers will not be limited by their years of experience and certifications, but will be supported at any time by those who have experience.

## Meanwhile, down on planet Earth

While this technology is still in the early stages of introduction, Augmented Reality is on the technical writer’s radar today. This article is dedicated to the topic because technical communicators are at the forefront of developing the raw information that could one day be delivered in Joe’s smart glasses. Without people to develop and code the content, there is no point in wearing the new hardware. Without technical communicators developing task flows and ensuring the integration of IT systems to deliver the right content,

at the right level, at the right time, Joe’s day will be far less productive and the assembly of the turbines delayed.

We believe that the emergence of AR delivery systems will affect the field of technical communication. Not only will this technology influence technical documentation user requirements and the deliverables we provide to our customers, it will also impact processes, tools, and skills used during information development. Coupled with improved wearables for hands-free work, Augmented Reality and the Internet of Things will increase the productivity, efficiency and work quality of those who embrace it.

## The role of technical communicators

Many, if not most, of the first wave of enterprise AR experiences are task-based procedures or instructions. The person who knows the most about user requirements, user work environments, user product experience and lingo is the technical communicator. Technical writers are also experts on user task analysis. They are often the bridge that connects product design with customers. It seems only logical, then, that technical communication departments should be involved in creating AR experiences. Unfortunately, this is not the case, as found by the research of the OASIS Committee for Augmented Reality in Information Products. If technical communicators do not embrace this opportunity to use AR technology to deliver task-based content, then someone else in their company will, and in some cases, they already have.

At Mobile World Congress in February, providers of wearable head-mounted displays (HMD) described scenarios that could potentially increase the productivity of technical communicators, reduce the time requirements of subject matter experts (SMEs), and improve the user experience.

### Scenario 1

A head-mounted display allows an expert technician to record his correct performance of a complex procedure hands-free. While he is performing the procedure, he verbally describes the steps he is taking to accompany the video recordings. Once the process is captured and completed, the project is tagged with the agreed-upon project metadata and saved to the cloud.

A technical communicator finds the video he read about in the last product introduction meeting minutes. The AR application running on both the HMD and the tablet has an object recognition feature. This allows the technical communicator to find any content stored on the cloud related to the piece of equipment he is looking at through the tablet camera. The technical communicator locates and views the video created by the expert. He adds textual step-by-step instructions and some GUI features following the corporate style guide to create task-based procedures for his customers.

In another scenario, an instructional designer takes the same video created by the expert, and circles some components while the expert is talking. The AR 3D overlay serves to draw attention to the components. She adds some related images stored by the documentation team on the cloud. The original video created by the expert will now become a tutorial as part of a self-paced, e-learning course and a live webinar. The expert's time is reduced from talking through the steps he performs with each of the two technical communicators, and he may not need to participate in the content review.

### Scenario 2

A customer technician is wearing a HMD and comes across some corrosive-looking material on his equipment. He decides to make a call to technical support. He can do this via his head-mounted display because it has all of the functionality of a smartphone. The engineer who takes his call asks him to send a photo of the corrosive material. The customer takes the photo using his HMD and sends it to the technical support engineer who views it on his computer. He immediately recognizes it, as he has seen it many times before. He tells the customer technician that the corrosion is quite common and sends him some images of different occurrences as well as some documentation explaining the cause of it and how to address it. The customer immediately views the explanations through his HMD.

AR also has the potential to increase user-generated content (UGC). UGC has the potential to improve customer relationships while enhancing the documentation suite. It can provide source content that is difficult to come by, such as information on customer configurations that are not supported in the corporate lab or trouble-

shooting procedures for a fairly new software release. This can easily be captured with the HMD capabilities described above.

The digital revolution has already opened up opportunities for technical communicators and customers to interact. User forums and other social media allow customers to contribute their own content, which can be curated and formalized by the technical communicator. The customer relationship has become a two-way conversation with some companies such as Huawei, who have enabled their customers to email feedback directly to the authors of the content and to give the content a rating from one to five stars. AR takes this one step further. The user can employ an AR-enabled device and software to call technical support as described above, and share photos and videos back and forth with the engineer as they collaborate to resolve an actual fault at the customer site. This UGC can then be saved to the CCMS as trouble-shooting source content... an information developer's dream!

In the example above, the frequency of support calls could potentially be collected by fault type and by customer site. A cross comparison analysis of different data points collected through the remote support AR feature could help find the root cause of certain problems when different data points are captured and analyzed with other data points over time. Another possible metric to collect is the duration of a task. This data could be captured using a hands-free display and used in customer documentation to set expectations. Data cross points collected and analyzed from the Internet of Things over a period of time will give technical communicators important statistics to make content strategy and investment decisions.

Let's flash forward again, to 2022. As the leader of the technical communication department at ACME, Helene has seen her share of technology, organizational culture, and process changes in the past six years. She is proud of the skills her team has acquired and the change management they have worked through. Helene smiles to herself as she looks over her annual metric report. The year-over-year figures for customer errors and also for her team's delivery release cycle have decreased for the third year in a row. The AR implementation strategy that she slowly rolled out across a five-year plan has really been a success with ACME's customers, and also internally with her technical communication team and funders. But, now is not the time for a mini-celebration,

Helene realizes as she taps on the AR projected keyboard on her desk. For now, she must finish up the ACME five-year rollout for an automated IoT and AI content strategy due tomorrow.

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# The new frame of our enterprise information

With Augmented Reality, information is no longer restricted to a paper or screen. The focus of the future of information design will be on presenting information to users in context and using AR technologies. But what are its limitations and how can we exploit its opportunities?

By Christine Perey and Giuseppe Scavo

Augmented Reality (AR), the delivery of information synchronized with the real world surrounding a user, provides an emerging alternative for providing information. By being able to access crucial information in context and in real time, the user can perform complex tasks more quickly and with fewer errors, even with no prior training or experience. By addressing only the current needs of the user, AR-assisted

systems will evolve to offer other organizational benefits when implemented in enterprise knowledge products.

AR is the result of combining content, software, hardware and the physical world. When developing AR experiences for enterprise users, the designer must consider the strengths and limitations of the presentation systems available to the user.

## AR presentation systems

AR experiences can be delivered through different devices and technologies. When choosing the best system, the user's needs, device costs and complexity as well as the environment must be taken into consideration. The devices currently available for enterprise AR can be classified according to their position in relation to the user's senses. The three categories in such a classification system are:

1. Handheld displays such as smartphones and tablets, which must be positioned between the user's senses and the real world target.
2. Head-mounted displays such as smart glasses and camera-equipped visors are already positioned near the user's senses and the user only needs to turn his gaze at the real world for the system to be aligned. Both hands are free.
3. Stationary projectors using beams of light directed on real-world objects remain in the user's field of view as long as the object and user are correctly positioned with respect to the projector and camera.



Image: @ www.microsoft.com

Another important and equally valid approach to classifying AR presentation systems is based on the presentation technology. In this case, we make distinctions between:

- 1. Video see-through:** The environment is captured by the system's sensors (e.g. a camera) and, using computer graphics, the elements of the AR experience are blended together before being rendered on the display. This is the AR technology used on tablet screens, smartphones and some types of head-mounted displays.
- 2. Optical see-through:** The environment is detected by the system's sensors, but only the augmentations are rendered while being displayed using systems of semi-transparent prisms and small projectors, so that the user's optical system integrates the images. Many smart glasses fall into this category.
- 3. Projection AR:** a projector displays illuminated text, images and instructional symbols directly onto real objects in the user's environment.

When designing technical documentation for AR delivery, the developer must take into account the strengths and limitations of the systems in each of these categories.

Let's take an example to illustrate this: Augmented Reality devices are particularly efficient in providing spatially registered multimodal information. However, given their limited field of view (FOV), small screen size and low resolution, it is not convenient, and thus difficult for the user, to read text blocks. Also, in order for the user to be able to read the text using a hands-free AR display, the font must be significantly larger than on a tablet or laptop (precisely how much depends on the resolution and FOV). Text also needs to be formatted to be digested quickly, as the user does not have a mouse with which to scroll.

Another important and new design consideration is depth perception and sensing. The depth perception of a user is based on millions of years of evolution using two eyes (stereo vision) and a dense system of optical nerves wired in the brain. It is fundamental to how users experience the real world. In order for digital annotations (augmentations) to appear "correctly" in the user's context, these systems must also sense and use depth information.

Augmented Reality presentation systems manage depth in different ways. Due to the stationary nature of the light source, projection AR does

not support depth. However, when using optical see-through displays to blend text, graphics or even a 3D object into a user's environment, depth is critical to rapidly understanding the purpose of the experience with a low cognitive load. Some optical see-through displays have limitations if they lack stereo "vision" or alternatives to capture depth. Those devices with only one camera ("monocular systems") are unable to accommodate differences in depth as the digital content appears in only one plane while the real environment is perceived on a wide range of different focal planes. Hence, despite other drawbacks, using video see-through technology where the user's perception is already adjusted to looking at a 2D image is recommended in cases where the perception of the spatial position of technical annotations and 3D objects is of crucial importance. Consider the impact when an arrow or annotation that is intended for a real-world target is hidden. Or the user's confusion when it seems that the annotation is intended for another object in the scene. Using systems with depth sensing and "mapping" enables more natural AR experiences, which are able to convey to the user the relative position and distance of the target with respect to the annotation.

Additional considerations that one must take into account when designing for different presentation systems include the expected frame and refresh rates of the user system and a variety of fully mobile technology constraints. For example, when designing for hands-free presentation systems, the user has limited power and memory and, if the system is required to use a network connection for offloading content and computational tasks, the designer will need to assure continuous connectivity between the device and the network servers.

Table 1 compares the features of existing information delivery systems with regard to interactivity, depth support and other modalities for the three categories of AR presentation systems.

## Providing multimodal information

When we want to provide information assets today, there's usually a link or a page. The content is designed to accommodate many different linear or non-linear modes of consumption and exploration. There are many links on a page and the technical writer doesn't control when

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Feature	Paper delivery	PDF	With video see-through AR (handheld AR devices)	With optical see-through AR (hands-free AR, smart glasses)	Projection AR
Mobile	Mobile	Mobile	Mobile	Mobile	Not mobile
Interactive content	No	No	High	Low	Low
Support for depth	No	No	Yes	Yes	No
Support for large text	Yes	Yes	Yes	No	No
Power limitations	No	Depends	Yes	Yes	No
Memory limitations	No	No	Depends	Yes	No
Mobile connectivity	No	No	Depends	Yes	No

Table 1: Features of information delivery systems

Feature	Paper (no AR)	PDF	With video see-through AR (handheld AR devices)	With optical see-through AR (hands-free AR, smart glasses)	Projection AR
Multimodal presentation	No	No	Yes	Yes	Yes/no
Background sensitivity	No	No	No	Yes	Yes
Interactive color management	No	No	Yes	Yes	Yes

Table 2: AR presentation systems of information delivery systems

or how the user looks or reads. Is he gathering information from top to bottom, from side to side, or from bottom to top?

In contrast to paper and PDFs, with Augmented Reality systems, the information provided to users is designed to be “consumed” only when it is needed and in a manner that’s closely tied with a specific real-world object. This presents a new set of challenges that designers of technical documentation will need to overcome. Systems must provide users with an intuitive way to see or use complementary information that may be of value – other than the AR experience. The system may detect when a user wants to change modes (no longer in AR view) or offer a way for the user to put the AR experience on “pause” while focusing on the interactive digital content.

There are other important differences between how we deliver information today and how AR works. It is widely recognized that combining text with audio, images, videos and 3D animations reduces the time to process informa-

tion and improves knowledge acquisition and memory recall. Augmented Reality authoring and presentation systems allow multimodal information to be seamlessly integrated with the object of the worker’s attention. An animated 3D model can float right above the real-world object to illustrate the movement the user should perform, while a side-by-side image can help a technician with quality assurance.

### Background sensitivity

When designing technical documentation for Augmented Reality, it’s important to remember that the user has the full world as the “background”. There are many sources of distraction and conflicts that can reduce the effectiveness of the information delivered. For example, color design is an important consideration.

The choice of colors in labels and 3D content can draw attention to particular details. In addition, since AR overlays are spatially positioned in the real environment, a designer must con-

sider the contrast of the augmentation (the overlay) with respect to the background (e.g., white text on a white background is invisible). In Table 2, we compare the features of existing information delivery systems with the three categories of AR presentation systems.

### Content arrangement

One of the advantages of AR technology in respect to traditional ways of delivering technical documentation is that content can be placed in the environment around the user and registered to the specific objects it is referring to. This has the potential to make the documentation much clearer and more intuitive. However, it also requires a profound level of rethinking of the use of screen real estate. How much information can we expect to put on an AR-assisted display without filling the entire field of view or obscuring the target? The answer is: not very much.

When visual overlays are displayed in a spatially registered manner with respect to the real world, the designer needs to make sure that the annotations and virtual objects do not overlap – undermining their visibility – and do not hide relevant surrounding objects. In general, content elements can be placed selectively around the real-world target or displayed on the screen of the device where the AR is not available (e.g., bottom and sides of the visible area).

### Interactivity

Today, user interactivity with digital content is limited to a few simple concepts. These include clicking to access another page, scrolling down to continue reading or to view a graphic/drawing, double-clicking to open a digital asset in a different application, clicking the red button or “x” to close, and looking away when you need to pay attention to your colleague.

In hands-free Augmented Reality presentation systems, the user doesn’t have a touch screen, mouse or a keyboard. So how will the user be able to interact with information?

There are a number of interaction modalities with AR interfaces and content:

- Tap, pinch and slide (handheld devices)
- Mid-air hand gestures (smart glasses)
- Stare-gaze navigation
- Eye movement
- Speech recognition
- External controllers

The choice of interaction modalities is not trivial. In order to decide what technologies to adopt, a designer needs to consider:

- The task the user will perform
- The environment of the user
- The capabilities of the delivery/presentation system(s)

In conclusion, if the tasks are manual and the user's hands are busy, it is best to offer hands-free interaction such as speech, head gestures and even eye movements.

## Size

As pointed out before, as the frame and context for information changes with AR, so will the units of information users expect and use. Content needs to be more specific. The more specific the content, the more condensed it needs to be presented. It is important for the information designer to consider what the user can see, but also the amount the user can digest. Overloading the user with information, even if it is relevant, is detrimental and can lead to misunderstanding.

## Recommendations and guidelines

Humans and their ancestors have been interacting with the real world for millions of years and, for a few decades, with information in the digital world. We've come a long way towards making the digital world relevant to the physical world, but implementing AR with information products will take this trend several orders of magnitude further.

Augmented Reality opens many possibilities for improvement of the performance and skill training of workers who have been consuming technical documentation in books and on tablets. Technical communicators are not currently trained to use these new modes or "frames" for information when preparing content. We need to become aware of the constraints of this technology in order to overcome its limitations and exploit the new opportunities it offers.

This article highlights the differences of AR compared to current tools when preparing and delivering technical documentation. In conclusion, we offer a short list of guidelines that the information designer needs to bear in mind

while producing content for AR presentation systems:

- Consider the technology but don't forget the purpose: The same content needs to be presented in different ways in order to adapt to different technologies (i.e. smart glasses vs. projectors). The same information needs to be accessible from tablets and other delivery platforms.
- Lighting conditions: In poor/low light conditions, don't use gesture interaction, as a camera might not be able to capture hand movements.
- Noise: In a noisy (or highly variable) environment, speech will have poor usability.
- Background color: For readability, design bright text on dark backgrounds.
- Content presentation: Transform text into graphics as often as possible or combine the two modalities.
- Take space into account: AR permits content to be positioned relative to the user in 3D space, but depth needs to be perceived correctly in order to assure correct interpretation by the user.
- Consistency of interaction modes through an experience: a user will become accustomed more easily to some modalities. It is disruptive to change the modality.
- Use already known interactions: On tablets, stop or pause the augmentation and permit the user to interact with the 3D content aside from the real world by pinching, swiping and tapping.

Of course, these guidelines are still very preliminary. In the future, there will be many more tools, manuals and sites dedicated to the best practices of preparing content for use in Augmented Reality. And who knows? Maybe those reading this issue of *tcworld* will be inspired and become leaders in the emerging field of information design for Augmented Reality-assisted technical documentation.

### ABOUT THE AUTHOR

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Christine Perey's partnership with leading firms, universities, experts and users brings a total view of the landscape in which products and services will compete and be combined for the best customer outcomes. These partnerships and collaborations led to the establishment of the AR for Enterprise Alliance, the only global, member-driven industry organization focusing on accelerating AR adoption in enterprise.

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<http://theAREA.org>

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# Augmented Reality authoring tools for technical communicators

Although still a nascent field, there are over 30 purpose-built tools and platforms for authoring Augmented Reality (AR) experiences. Which tool is most suitable will depend on your existing authoring workflows and the use cases for which you aim to create AR support.

Here is an overview of the options currently available.

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Image: © rawpixel/123rf.com

By Christine Perey

## How AR works

All AR authoring platforms produce outputs composed of trigger data, presentation data and interactions – sometimes referred to as “scenes”. When projects are published, the group of scenes will provide users with the AR experiences. When turned on, the software client extracts features in the user’s environment (captured on video through a camera or sensors) and recognizes one or more targets. Once the target is recognized, an event is triggered and the client software (also known as the “execution engine”) retrieves presentation data from a media service interface and presents it in real time and in context to the user.

Depending on the choice of authoring system, the developer will be able to publish individual projects (e.g. a mobile app) or enable content retrieval in a manner that will provide on-demand AR experiences from an enterprise CMS. Regardless of whether the content is stored locally in the app or in a CMS, the AR software client that interfaces with user device sensors and renders experiences must be on the local system.

Augmented Reality authoring platforms produce experiences in one or more formats. The options might include:

- A stand-alone mobile app customized for a particular use case or project and device
- An AR browser that can support any experience encoded in the publisher’s format
- A plug-in running within a third-party application designed for another purpose (e.g., learning, project management, service management)
- A normal web browser with WebGL and WebRTC

## Authoring tools designed for B2C communication

At least ten of the commercial AR authoring systems are designed for use by agencies and creative professionals who seek to increase consumer engagement with brands, to support purchasing decisions (retail), accelerate learning on the primary and secondary education levels, explore cultural heritage or for entertainment purposes. These include:

- ARmedia Hyperspaces
- Augment
- Blippar (Layar)
- Catchoom CraftAR
- HP Aurasma

- Marxent
- MAXST Image AR
- PendAR+
- Vidinot
- WOWSOME

The experiences produced by these platforms are generally suitable for consumers to download from the Apple AppStore or the Google Play Store.

It’s entirely possible to create proof of concepts and preliminary enterprise AR experiences with these tools. However, they are not designed for enterprise deployment. The publishers of these platforms and tools do not state clearly if (or to which degree) the tools and publishing engines can be considered “enterprise-ready.”

## Authoring tools designed to enrich mobile app development

Another group of tools are unspecialized software development kits (SDKs) designed for Augmented Reality. These can be used in part or exclusively to develop any type of AR project, including those that require robust enterprise performance. Examples of SDKs for AR include:

- ARmedia SDK
- ARToolkit SDK
- EasyAR
- EON Reality
- Kudan AR SDK
- Vuforia SDK
- WakingApp Entiti Creator
- Wikitude SDK

Some of the companies that publish AR SDKs also offer AR execution engines and real-world tracking libraries that can be combined with other design or content management tools.

In combination with these SDKs, which require varying levels of programming skill, some developers create AR experiences using programming tools that are directly available in the mobile application development environments (IDE) with which they are already working (e.g. Xcode for iOS or Eclipse for Android).

Many, if not most, professional AR experience developers use a game engine developer environment for designing the interaction, then add AR plug-ins for target detection and tracking. The most popular mobile device-optimized game development environments for developing AR experiences are Unity 3D and Epic’s Unreal Engine.



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## Authoring tools designed for enterprise AR

Recognizing that technical communicators have different requirements than game designers or developers of consumer engagement campaigns (e.g. agencies working for brands), some tools have been designed particularly for enterprise AR deployment.

Software publishers that target the developers of AR experiences in industrial use cases include:

- Atheer
- Bitstars
- Bosch  
(in partnership with RE'FLEKT)
- CN2 Technology
- DAQRI
- Diginext
- DIOTA
- NGRAIN
- PTC (Vuforia)
- Seabery
- ViewAR

The platforms and services of these companies differ from the other tools by virtue of their focus on the enterprise requirements: for example, the need for precise tracking, seamless integration with existing

enterprise IT services (e.g., security, authentication) and support for hands-free displays. Within the products and platforms these companies offer, there are also differences in their approach to authoring and support for different software architectures.

In addition, there are other providers of customized experiences that publish portions of their technologies. For example, ScopeAR provides RemoteAR. There are over 20 companies of providers focusing on remote assistance with varying levels of AR-rendered graphics sent by an expert in a different location.

### Extensions for existing enterprise IT tools

There is a growing number of engineering platforms that include – or will soon offer users – AR support capabilities without leaving a workflow. For example, NGRAIN and Seabery offer optimized platforms that can be easily adopted by designers of training programs and content.

Publishers of tools for construction and engineering project management, maintenance/repair/operation

and manufacturing management segments (as well as service providers in these industries) are increasingly aware of how their customers could benefit from the extension of their existing platforms out of the office and into the real world.

For example, Bentley's extensive suite of tools for construction and engineering procurement professionals has a new feature. The Navigator product, an extension of the MicroStation platform for the purpose of 3D-model viewing and collaboration, has recently been made into an AR authoring and viewing system.

Using Navigator AR, the models stored in MicroStation are associated with trigger data and can be seen in context using a tablet. The system uses marker-assisted tracking and has support for the use of edge tracking. It can also connect and obtain more accurate positioning data from professional surveying tools. Users can annotate the models in the real world and collaborate with remote colleagues who are viewing the model in the digital world.

Another example of a company that is adding AR features to its professional tool suite is Autodesk. The company partnered with Microsoft and demonstrated the use of HoloLens with Fusion 360, its cloud-based software platform for 3D CAD, CAM and computer-aided engineering management. The project continued and has been expanded but no commercial release date has been given yet.

Another Microsoft HoloLens partner with very deep ties to the construction and engineering fields is Trimble. Trimble currently offers select customers an AR extension for the SketchUp 3D modeling software and the Trimble Connect collaboration platform. This extension allows the creation of 3D models that are accessible for presentation via the Project Tango tablet and the HoloLens.

Finally, a project may need to deliver AR experiences on multiple platforms, some of which are not directly supported in the authoring environment. The providers of hands-free displays also offer authoring or customization tools that can be companions to solutions named previously. Some, such as Vuzix, permit the developer to extend an Android-compatible output for AR-assisted viewing. Others, such as Atheer, Epson, Sony and ODG, also use Android development tools and offer proprietary tools for developers who join their ecosystem.

### Taking a deeper approach

In 2010, a group of Fraunhofer researchers studying the field of enterprise AR for technical documentation expressed their concerns about the risks of continuing or expanding the use of isolated technology silos for AR experiences. In addition to risks due to maintenance time and costs incurred by duplication of efforts, another major obstacle anticipated by these researchers was a divergence of semantics. One semantic would be adopted for use in text and illustration media and another in Augmented Reality experiences.

In order to avoid creating a parallel authoring process and the costs of all associated technologies, the researchers recommended steps to be taken to overhaul the technical documentation process. They suggested placing the authoring of interactive media, including AR, in the center of the documentation process and generating traditional media only as a byproduct. They also recommended developing and adopting a restricted vocabulary of controlled natural language terms. We are unaware of any projects that pursued this avenue. However, there are now some tools available that introduce AR directly into the enterprise CMS

Type	Examples
AR engineering environments (programming required)	ARmedia AR SDK, AR Toolkit, Kudan AR SDK, Wikitude SDK
Android or iOS IDE (programming required)	Eclipse for Android, Xcode for iOS
Game engines (programming required)	Epic Unreal Engine, Unity 3D
Stand-alone AR authoring platform	Bitstars Holobuilder, DAQRI 4D Studio, DigiNext Inscape3D, NGRAIN Vergence, PTC ThingBuilder
Web-based platform	ARmedia Hyperspaces, Wikitude Creator
Supported in 3rd party tools	Autodesk, Bentley MicroStation, Trimble
Integrated in enterprise CMS (programming required)	Bosch CAP, DIOTA Diota Player and Connect

Table 1: Examples of the different types of authoring tools supporting AR

and PLM systems as an alternative to having parallel authoring processes and tools.

Public documentation to support the promises of these vendors is scant to nonexistent. However, DIOTA and Bosch (in collaboration with RE'FLEKT GmbH) have made public statements suggesting that they are taking a deeper approach to AR authoring that does not create an entirely separate database or alternate management system for experiences (scenes) once published.

In these cases, the architecture appears to be that of a proprietary mobile client composed of an AR execution engine including the vendor's feature extraction and tracking technologies for natural feature-based and marker-assisted tracking. In the enterprise CMS, the scenes are stored for immediate retrieval when the targets are detected in the real world.

These systems appear to be quite closely related to those developed by Bentley and Trimble (mentioned above), focused, however, on a more general set of experiences including but not limited to instruction and guidance of procedural tasks.

### It's still the early days

Augmented Reality is a new field in enterprise communications. This article can serve as a map of the new types of AR authoring tools from which communicators can choose.

As with any new technology introduction and innovation process, early adopters must get familiar with the lay of the land. While technical communicators can start exploring the use of AR with tools designed for producing brand engagement campaigns or K-12 learning apps, there are several other types of authoring tools to consider. For those who have prior experience with mobile application development, there are AR SDKs that may be an attractive place to begin. If an enterprise technical communications group is thinking of a deeper integration with content authoring workflows, there are alternatives that merit further study.

Hands-on testing is an important step in the education process. Install a trial software package or sign up for a subscription on a hosted service for a few AR projects. Along the way, the tools

may need to change as project requirements become clearer or change. It's also safe to say that the tools for AR authoring will evolve rapidly as publishers receive feedback from experienced technical communication professionals. So, stay tuned and visit the Augmented Reality vendors' booths at shows or check their websites for the latest developments.

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# Five tips for creating documentation that focuses on the user

Software documentation is not about describing each toolbar button and menu option. Smart technical writers help users.

Here are some practical tips that let you zoom in on the people you write for, increase the quality of your user assistance and prove your value to the company.

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Image: ©Diogo Ferreira/123rf.com



By Karina Lehrner-Mayer

As a technical writer with more than 15 years of experience, I still hesitate when people ask me what I do for a living. From experience, I know that a short answer conjures up a picture that is far from the truth. Still, I usually start with something along the lines of “I work in software documentation” or “I’m a technical writer”. This usually entails a long pause and a questioning stare. Then I fire away, covering all the exciting aspects of the job, from researching the software to designing diagrams, taking screenshots, writing style guides and preparing storyboards. “OK,” the questioner goes, “so you describe all the menus and buttons?” Uh, no.

What I actually meant to say is: My job in technical writing is to help users do their job. I am a technical communicator.

And describing all of a program’s buttons and menus rarely helps users. In fact, you can produce lots of pages of manuals and help topics without providing any benefit to the user, because this kind of documentation may not provide users with the clues they are looking for. Users don’t look for descriptions of software features: they have a job to do, they need the software to do it, and sometimes they need assistance to do it.

While knowledge of the software solutions that we as technical writers are describing is an essential prerequisite, it is only one aspect of our work. Without knowing the people who use the program to do their work and achieve their goals, we cannot produce documentation that serves the user.

## What do technical writers do?

Why we still think about technical writing more in terms of documentation than in terms of communication is perhaps due to traditional job descriptions such as this:

*Technical writers use their language and information-development skills to document a piece of software for a defined audience. They know the software well because they played*

*with it and interviewed the SMEs, while applying writing standards and mastering their Help authoring tool.*

The description is not wrong as such and mentions users in the term “defined audience”. But the focus is on the product and not on the users, thus missing the most important point: We shouldn’t document, we should assist.

## What should technical writers do?

Keeping your audience and its needs and goals in mind during the whole documentation creation process is what makes the difference.

The hard thing is to identify the users’ needs and goals and what serves them best. Just looking at the program and documenting its functions won’t do the trick. Sometimes we need to provide extensive information in the form of detailed examples. Sometimes we need to give short step-by-step instruction. Sometimes a video helps the most.

So, how do we find out what the users need? By communicating. From my experience I know that with the daily routine of work, the tight deadlines and demanding tools, it is easy to lose track of what technical writing is really about. But still, this is what we should aim for.

## Getting closer to your users

At a time when everyone has to prove their value to the company, technical writers must do more than document the software. And let’s face it: Everyone thinks they can write, anyway, so you must stand out by showing what else you can offer.

In this article, I have summarized some tips that have helped our documentation team to get to know our users better and, as a consequence, produce user assistance that better helps our users do their job.

It’s not about adding another skill to your toolbox but about having an attitude that influences eve-

rything you do. It’s about having a conversation: Listen to your users and find out what they need. Talk to users in a respectful way and give them the assistance they need.

## How to focus on users

Here are five practical tips that help you focus on the people you write for:

### 1. Listen to your users and design personas.

This is the most important tip.

Use every opportunity to meet your users and try to engage them in a conversation about how they work with user assistance. For example, in a product workshop for our customers that took place at our headquarters, I was able to talk to participants and ask them how they liked to search for information in our PDF guides. Surprisingly, they told me that they use the index of the user guide. And this happened exactly at a time when the documentation team was seriously considering getting rid of the index in our documents.

Unfortunately, the documentation department is often far away from those who actually use the software in the real world. And this is why personas are so important: With a well-defined set of personas, you can keep user perspectives in mind when creating documentation for them.

#### Personas in software documentation

If you haven’t thought about using personas in software documentation so far, start now.

Turn to the marketing department or the user experience team to receive relevant user information. If personas are based on customer surveys, marketing information, or other helpful data, they can give you a lot of insight into your readers’ minds.

Personas are fictitious users based on valuable user research, usually consisting of a name and a motto, a picture, or a short bio with the most important goals. Information relevant to documentation should be included as well – for example, if

<h2>IRIS</h2> <h3>Insurance Clerk</h3> <p>I help customers in insurance-related situations.</p>	
<b>AGE</b> 43 <b>EDUCATION</b> Business School <b>SKILLS</b> Insurance-related topics, Claims Management, Microsoft Word	 <small>Image: ©imagesbavaria/123rf.com</small>
<b>JOB DESCRIPTION</b> I work in the Claims Management department of a leading insurance company. In my daily work, I answer phone calls and emails, informing people about our products and sending them offers.	
<b>DOCUMENTATION</b> I don't want to read lengthy sections and documents. I like to have step-by-step instructions that can be followed easily and show me quickly how to do something with the program. I am not interested in technical background information. I like to find answers to business-related questions in the documentation. I am familiar with Microsoft Office programs.	<ul style="list-style-type: none"> <li>• Short topics</li> <li>• Step-by-step instructions</li> <li>• Screenshots</li> <li>• Non-technical language</li> <li>• Examples</li> </ul>

Image: Example of a persona for user documentation

a single topic will meet the goals of all users, or what kind of language (e.g. non-technical) should be used.

#### Benefits of having personas

With distinct personas you may find out that you need to split up your documents, each addressing different user groups. Or you'll decide to include more examples, step-by-step instructions or more reference information. Once you know the goals of your users, you are ready to provide goal-oriented documentation. We have been working with personas for quite some time, and we find it very helpful to sort out arguments and come to a decision by asking: What would Iris want?

## 2. Listen to co-workers who talk to your users, for example, the support team

Even when you use personas, you need to stay in contact with the real users to find out what the most urgent challenges with the product are. And who is better connected

to the users than those who answer the phone or reply to emails sent by them?

Turn to the support team and ask them what makes up their daily work. This information may come as a surprise to you. Sometimes even looking at the number of support cases according to topics helps you find out where you need to act.

Use this information to update your personas, brush up the troubleshooting sections or to add specific topics to your documents that you had never thought of before.

#### Example:

In a recent project, we had meetings with the support team to discuss questions that came up frequently by users and how to address them. As a result, I investigated over 100 support cases in order to:

- Find out if the relevant information was available in the documentation at all, and to make it easier to find and understand.
- Re-design and extend the troubleshooting section to reflect what users actually needed.

- Cut lengthy text and leave only what was really important to lighten the reading load.
- Find out if there was a need to improve the communication between product and user (see my last practical advice).

I was surprised to learn about aspects that were completely new to me, especially the kind of problems users have and how little text they are willing to absorb. Communication with the support team should be high on your agenda.

## 3. Speak to your readers in a clear language

Users want to do something, and you help them do it. Write as if you're talking to a real person standing next to you. Don't prepare a scientific abstract or create a marketing piece showing off buzzwords.

Use simple, clear, informal, direct, unambiguous language. Leave out everything that won't be of interest to the user but is in the document for other reasons (for example, be-

cause the engineer told you to include it).

Be precise. And learn how to cut a text until it contains only what is really important.

#### Example:

In close cooperation with the support team, we were able to cut the text of a standard email that is sent to customers by 50 percent. It's important to bear in mind that no one wants to read. Everyone wants a quick answer.

#### Typical pitfalls

Watch out for phrases such as "it is recommended that". These are often an indicator that you yourself don't exactly know what to say – because if you knew, you wouldn't recommend but say clearly why the user should do this or shouldn't do that. Look out for passive constructions and rewrite them. Why say "the usage of this feature is not possible" when you can say "you cannot use this feature"?

## 4. Respect your users by applying a style guide

It should be only natural to respect your users by giving them consistency and standards in your assistance. Don't underestimate the irritation that ambiguous terminology or inconsistent formatting can cause for readers.

In your in-house style guide, address style issues in connection with the very specific users of your products. Don't forget to cover aspects such as screenshots and videos.

#### Apply the style guide, but be flexible

I am a firm believer in style guides. However, guidelines are a means to an end. And the bottom line is to write documentation that helps the reader. So, if your documentation style guide says, for example,

that instructions shouldn't have more than seven steps, and you need more steps to assist the user in a specific task, add more. Helping your reader is more important than following the style guide. If you find that some rules must be bent more frequently, adapt the style guide rules.

When developing and maintaining a style guide, also keep the bigger picture in mind. The documentation you produce is part of a much larger package that users get from your company, such as the corporate website, newsletters, marketing brochures, and software.

## 5. Know when to suggest changes to the software

In some cases, helping the user by providing the right documentation becomes particularly hard. Sometimes the way the software communicates with the user is confusing, unexpected, inconsistent, or unnecessarily complex. As a technical writer, you know these situations.

This is the time when you need to take a deep breath and stop what you're doing. Remember the users (think "what would Iris do"), and compile a summary of your findings. Give your feedback to the developers, user experience team, or others who are in a position to improve the conversation of the software with the user.

Sometimes you are the first person in the development process to see a new function in context and not as an isolated feature. You might be tempted to try and solve the situation with your documentation skills: Giving more examples, extensive troubleshooting, and more Help topics. But do not give in. Respect your users by making their lives easier while they are actively using the software, before they have to consult the documentation or turn to the Help desk.

## Conclusion

Yes, I may still call myself a technical writer and my work in software documentation still consists, to some extent, of writing or creating content.

However, software documentation is not about documenting the software, but about getting to know your users and helping them do their job.

Before you begin to design a new document or topic, before you start to write the first word, before you even sit down to discuss the latest features and functions of a program with an SME, think about the person who will be turning to your document or online Help. Think about how you can help this person. And then don't stop thinking about the person until you've finished your work.

### ABOUT THE AUTHOR

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# Reviewing the review process

How “live XML documents” revolutionize a rusty, ancient paradigm

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Image: © stokkete/123rf.com

By Jang Graat

## The disclaimer fallacy

*"Although the utmost care was taken in putting together this publication, human error is always possible. We do not accept any liability for inaccuracies or omissions in the article and cannot be held responsible for any damages resulting from such errors."*

Does this statement ring a bell? You will find this type of disclaimer in almost every machine manual on this planet. It is so common that most people never even notice it. But if you really think about it, this all-too-common disclaimer points at a serious problem that most companies choose to ignore rather than solve.

As a self-employed technical author, I have been arguing against this disclaimer from the very start, telling my customers that 1) they are offending my credibility as a professional, 2) the disclaimer will never hold up in a court of law and 3) it is very bad marketing, as the statement basically tells customers to not trust the manual or the product, for that matter.

What if the first paragraph in a machine manual read something like this instead:

*"The utmost care was taken in putting together this publication and we believe it to be complete and correct. Therefore, we take full responsibility for any errors that may have been overlooked, and will reimburse any damage that may result from such errors."*

Would you be more inclined to buy and use the product? I am taking a wild guess that your answer will be "Yes".

So why are all those companies still using a disclaimer that sabotages their marketing efforts and hurts their credibility? The answer is that their reviewing process is fundamentally broken. That process, and how to fix it, is the subject of this article.

## What is wrong with reviewing?

Ever since my early years in technical authoring, I have been stunned by the slowness and awkward-

ness of the review process. In those early years, common practice was to print the content, hand the paper copies to your subject matter experts (SMEs), chase them for weeks to get their notes, chase them for another week to get them to decipher their horrible handwriting or cryptic notes, make the changes in your source documents and possibly restart the entire cycle once more to get everything right.

And, of course, the above scenario only worked for a small minority of my customers. In most cases, the SMEs were not even allotted any review time, as they had much more important work to do and were always running late on their current projects. Handing them a printed manual for review was fundamentally the same as throwing the manual into the garbage and ticking the box "review done".

Later, much later, PDF comments were introduced and things improved – but just a little. Instead of having to decipher notes scribbled on the margin, I received PDF comments, from which I could sometimes even copy/paste the requested changes or additions into the source documents. Still, comments were often placed haphazardly across the pages and a lot of searching was involved to figure out where all the requested changes were necessary.

Also, many SMEs did not have a clue how to handle the PDF commenting features and scribbled their notes on paper anyway. Asking them to provide the notes electronically sometimes resulted in a huge file containing a scanned image of a printed PDF with notes scribbled on the margins. I am not making this up. In fact, this exact scenario happened to me only last year. I politely told the reviewer to redo the comments in a PDF reader or get someone else to type them up before sending them back to me. But the opposite also poses a problem. I did speak to several authors who have been swamped with comments from all their reviewers, creating an intricate puzzle of comments to be figured out, as every reviewer had been commenting on almost every part of the content, each in their own wording and from their own background. Although at first sight you might think this is wonderful and shows true engagement with the documentation by the entire company, it is not the most efficient way of running a business.

Adding the option to reply to reviewers' comments (and allow reviewers to comment on each

other's comments) only adds to the complexity of the author's task to get it all right in the end. It also increases the work pressure on reviewers, as an entire discussion might evolve, all stored in the source document, which becomes more and more of a puzzle with each cycle.

These two extremes on the review spectrum (from zero response to being swamped with comments) indicate that today's reviewing tools are inadequate. It is not the subject matter expert's fault that reviewing tools are clumsy, slow, or not specific enough. This insight inspired me to develop a new approach to reviewing, which is explained in the remainder of this article.

## Reviewing in the browser

The first step in redesigning the review process tackles the clumsiness of most available review tools. It is based on the change in focus of most technical documentation: Nowadays documentation is published on the Web rather than as a PDF. And even if a PDF is still produced, it is created from the same sources that result in an online version of the same piece of content.

Having content available online opens possibilities that we did not have in PDF-based reviewing. One of those is based on a standard feature of HTML5 that most web developers do not even know about. By setting the "contenteditable" attribute of a paragraph to "yes", you turn your browser into a simple text editor. And the good news is that it works on any device, as long as the browser is modern enough to support HTML5. Any computer, tablet or smartphone will do.

The best thing about this method is that the SMEs do not need to learn the use of a review tool. They do not even need to download or install any software (many users do not have sufficient privileges to do so, anyway). Just open the page in the browser and enter the changes right there. It also means that the information to be reviewed is shown in context, as it appears in the exact same way that it would to a customer.

The tricky part is to catch these changes and feed them back to the server. This requires a small piece of Javascript and an equally small piece of code on the server. Not much more complicated than creating a form and processing the entries when

the user hits the “Submit” button. Of course, you have to know where the changes were made, but that’s not rocket science either.

By the way, I am consciously ignoring the commenting features that can easily be added to this setup. Commenting via a feedback button is easy. Editing content in context is harder to do and therefore more interesting to write about. In a true review process, I would of course add the commenting feature to the editing options.

## Precision reviewing

I can already hear your objection: “But wait, this does not solve the issue of swamping the author with comments.” And of course you are right. Making reviewing so much easier for all subject matter experts will in fact increase the danger of getting bombarded with edits. This leads me to the true meaning of the subtitle for my article, about having XML on the server.

In my article “Faster than agile – live XML documents”, published in *tcworld* magazine in November 2015, I explained a new approach to online publishing, which postpones the transformation from the XML source to the HTML5 output to the moment when a page is requested from the web server. This technique is the key to what I refer to as “precision reviewing”.

As I explained in that article, we know a lot about the person who is viewing the page from the parameters that accompany every http request. And if we add a login shell around our review content, we know even more. This knowledge can be used as a parameter in the transformation, so that only specific portions of the content become editable in the browser. Which portions are to be editable for which SME can easily be defined in attributes that are set in the XML source itself.

This optimizes the review process greatly. The author sets attributes in the XML source, specifying which parts of the content are to be reviewed by each subject matter expert. For instance: The engineer is authorized to change measurements and other reference materials, marketing staff can only touch the introduction and the systems designer is allowed to change procedural steps. The XML source, enriched with the review-related attributes, is saved directly on the web server. Note that this would normally be a special staging server, which is only accessible from the intranet or via a login. In both cases, the server knows who is requesting the page and passes

that information to the transformation script. The script uses the information to only make those paragraphs editable that match the review settings in the XML attributes.

With this type of tooling, having multiple SMEs review the same content at the same time is not a problem anymore, as each expert can only edit sections that he is authorized to edit. Similar techniques can be used to show comment buttons, allowing the expert to make more elaborate comments or to forward rationales for changes to the author.

## Processing the review edits

The final piece of the puzzle is feeding the edits back to the author. This will not come as a big surprise: As the XML sources are available on the server, a fairly simple method can be used to integrate the changed content into those sources. The exact format in which they are integrated depends on the XML standard that is being used. This is where the true power of XSLT becomes clearly visible. We are not only using it to transform XML to HTML5 for the browser, but also to transform one type of XML (the standard that is used to store all content and incorporate all edits on the server) to another variation of XML (the standard that is used by the authors in their particular authoring software tools). This is especially useful when it comes to reviewing, as each authoring software uses its own method for representing tracked changes and comments. Converting review edits into tracked changes of the type that can be handled by a particular authoring tool is a piece of cake for XSLT.

And there are even more advanced options. If very experienced engineers review particular pieces of content, why would these changes not be accepted immediately, instead of passing through the technical author’s desk? The author probably needs to confirm the changes with the exact same engineer who made the changes in the first place. On the other hand, if a novice engineer makes the same change to the same piece of content, it might be a good idea to run it by the author, just to make sure no mistakes were made. These differences in handling browser-based edits can easily be modeled on the server, using the same login information that was required to make the right portion of content reviewable in the first place.

## A new era for reviewing is here

The basic approach of placing XML sources on the server and postponing the transformation to HTML5 to the moment the material is requested has not only given us the chance to be “faster than agile”. In combination with the “contenteditable” feature of HTML5, it also allows us to create a revolutionary approach to a review process that was fundamentally broken.

Instead of producing yet another review software, we brought down the level of required reviewing skills to editing a piece of text in your preferred browser. At the same time, the author receives much more control over the review process by assigning precise review tasks to people in various business domains.

Note that having the XML on the server does not mean that PDF creation has left the stage completely. In many cases, the review process will run on a staging server, from which the sources are passed to the publicly available server when the review is done and the product is released. At that time, those same sources can also be used to create the PDFs for release. In another situation, on-demand PDF creation might be added to the server’s capabilities.

With this new review process readily available, no company should ever again feel the need to put useless disclaimers on the first page of their manuals.

### ABOUT THE AUTHOR

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# Flare 12: A stronger focus on multilingual output and responsive content

MadCap released its 12th version of Flare in March, just ahead of the 2016 MadWorld conference that was held earlier in April. Here is a summary of the most important new features.

By Denise Kadilak

The new iteration of Flare includes a number of new features that mostly improve upon existing functionality. While, in Flare 11, MadCap introduced the game-changing Top Navigation feature, Flare 12 introduces new tools that allow users to take this content to another level by simplifying the responsive design process and allowing for more granular control of output through expanded conditioning and advanced stylesheet management options.

## Multilingual targets

Flare 12 makes some nice improvements to better accommodate multilingual outputs. In version 12, HTML5 and PDF targets allow users to list all languages they want to include in a build and link each language to its translated Flare project. For example, if users use MadCap's Lingo with a source file translated into several different languages, and they want to include all the languages in one output, this is possible in Flare 12. When the build runs, each language's output is packaged into one output project. Users of the Help system can then toggle between the different language options using the new language picker.

To make this process work, select a default language from the redesigned Language tab in the target. Then, select additional languages – in the order you want the other languages to display in the language picker – and link each to a translated project. When a user opens the Help system, the system detects the user's system locale and opens the Help in the appropriate language. If no language is found, the Help opens in the default language.

Users can also sync the content to a localized skin. If a localized skin is not available for all languages, Flare 12 makes adding a new language skin much easier. This can now be done through the UI, using the same process used to add other files to the project: Project > New > Advanced > Add new language skin.

To include the language picker option in the output, make sure to select the "SelectLanguage" button option located in the Topic Toolbar skin. The multilingual enhancements work for both Top Navigation and Tripane outputs.

## Responsive layout

One of my favorite new features simplifies creating responsive content. It allows users to select and design a responsive layout medium using the new user-friendly Responsive Layout pane.

To access this new pane, select the Responsive Layout option in the Styles section of the Home tab. From this new pane, users can create single-row grids. The benefit of the grid structure is that it allows content to shift and respond to various screen sizes. The feature's simple design allows users with limited CSS skills to still take advantage of advanced formatting options. Along with this feature, MadCap added three new mediums – Web, tablet, and mobile – and removed the old non-print me-

dium. Break point settings for responsive outputs are still handled from the Skin tab in the target.

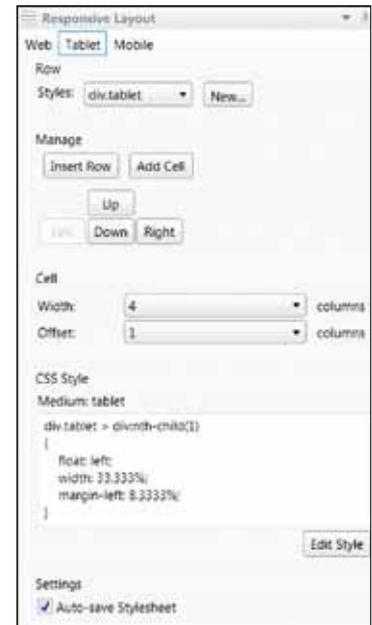


Image 2: Stylesheet management

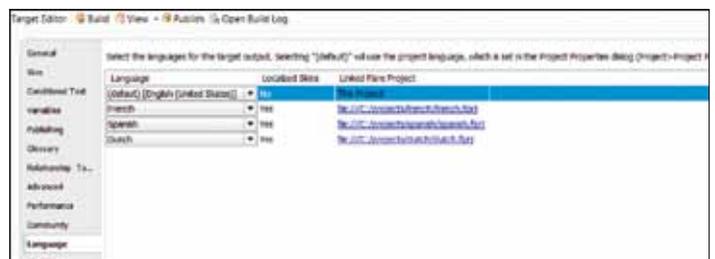


Image 1: Redesigned Language tab

In Flare 12, MadCap improves the process for managing local and master stylesheets housed in a single project. As with previous versions of the software, stylesheets assigned at the topic level have precedence over any master stylesheets, and a stylesheet at the target level has precedence over a master stylesheet at the project level. What's different in version 12 are new options at each level that provide more control when using multiple stylesheets. The new options break down as follows:

- Local stylesheets assigned at the topic level: If users select the new "Disable project and target stylesheets" option in the topic properties, Flare uses the local topic CSS formatting first, and the target and project formatting on any styles not defined in the local topic CSS file.
- Local stylesheets assigned at the master page level – process improved in v12: Through the master page Properties dialog, users can now associate a master page with a stylesheet. Previously, users had to use the Stylesheet Links dialog.
- Master stylesheets assigned at the target level: If users select the new "Allow local stylesheets" option on the General tab of the target, they can set stylesheets locally on topics, snippets, and master pages. The master stylesheet is used on any items that do not have styles set locally, so long as users don't disable them from the topic's Properties dialog. If users do not select the "Allow local stylesheets" check box, only the master stylesheet is used for the build.
- Master stylesheets assigned at the project level: If users select the new "Allow local stylesheets" option on the Defaults tab of the project properties dialog, they can set stylesheets locally on topics, snippets, and master pages. The master stylesheet is used on any items that do not have styles set locally, so long as users don't disable them from the topic's Properties dialog. If users do not select the "Allow local stylesheets" check box, only the master stylesheet is used for the build.

### Stylesheet editor

A number of improvements are included in the "Advanced" view stylesheet editor. The new general design is much easier to read and work with. A header bar displays the medium and style class currently being worked on. Those of us who have wasted hours editing and testing the wrong medium should find this addition helpful. Version 12 also improves the overall display with larger, cleaner, and easier-to-read fonts and field layouts. The new stylesheet editor also allows the following:

- View multiple mediums/media queries at the same time
- Show inheritance
- Add a media query from UI by selecting the Options dropdown and Add Medium
- Add new Selectors (Class, ID, Pseudo Class, Pseudo Element, and Comments)
- Change views using a new toggle button
- Associate conditions with a style
- Hover over inherited properties to see origins

### Snippets

Using the new "Group" and "Pin" features added to snippets, users can now better organize and access snippets. Through the dialog screen, from a group of recently used snippets, users can "pin" their favorite snippets, creating a group that can then be accessed from the Insert snippet button in a topic. In addition, users can apply snippet conditions to their content and enable the conditions at the snippet level, rather than at the topic level. This allows users to use different versions of the same snippet in a single topic, improving the single-sourcing capabilities of the snippet content by preventing duplicated content and multiple snippets. Note: Snippet conditions applied to individual snippets override snippet conditions applied at the topic level.

### Variables

Users can now override definitions for variables in snippets at the topic level or the snippet level, improving their ability to customize snippets. This is also beneficial for single-sourcing; users do not need to create multiple versions of the same content or convert content to text.

### Glossary

Version 12 allows users to control case-sensitivity and variants in glossary-term links. In addition, users can do the following:

- Choose a glossary term for any highlighted text when creating a link
- Sort glossary terms
- Apply conditions to terms in the Glossary Editor
- Use variables in glossary terms and definitions

### Track changes

To improve the internal review process, in Flare 12 users can preserve tracked changes in PDF and Word outputs and use change bars in conjunction with tracked changes as a visual indicator of where changes exist in a document. With the change bar, a vertical line appears on the left margin, alerting

readers to a change in that line. Change bars appear in both the XML Editor and PDF outputs. In addition, if users change condition tags, they can preserve the tracked changes when building Word output.

### Other Flare 12 additions

- 64-bit support: Improves performance
- Equation Editor: Added flexibility as well as support for LaTeX and MathML
- Master Page: Easier to associate with a topic
- Source Control:
  - Bind Detection added
  - Work in offline mode
  - Modify network settings (Subversion and Git)
  - Source control publishing added
  - SSH repository support added for Git
- Tables: Advanced sorting options added
- XML Editor:
  - Layout views for tablet and mobile added
  - Style ID selection options available

### Closing thoughts

My key takeaway from Flare 12 is MadCap's renewed dedication to the power of single-sourcing and the importance of the authoring environment. The additional condition options and stylesheet management settings offer users a new level of granularity for controlling outputs, and the improvements to the stylesheet editor in conjunction with the addition of the Responsive Layout pane invite users of all skill levels to investigate the endless possibilities awaiting them in the CSS.

### ABOUT THE AUTHOR

**Denise Kadilak** is an information architect and team manager with Blackbaud. She has worked with Flare for over six years and led her team's move from Adobe FrameMaker to topic-based authoring and Flare. Denise is also a regular presenter at international conferences and a part-time college instructor.



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# Digital convergence opens new career choices for localization experts

As content continues to gain importance as a business asset, organizations are slowly transforming into global content factories. This trend offers an attractive career opportunity to localization professionals who – with their rich experience in managing complex and diverse content types – hold important skills for new leadership positions.

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By Benjamin B. Sargent

In the evolving world of digital marketing, there is a shift happening that can benefit the careers of localization professionals with content backgrounds – and content experts with localization experience. The shift comes about as companies gather the strands of digital marketing, such as email, landing pages, SEO, apps, blogging, click advertising, social, and paid social, into coordinated or integrated campaigns. Each of these activities originates in separate teams, which we call marketing silos. The teams may be internal or external, or a combination, further amplifying the coordination challenge. The localization requirement adds even more complexity.

## Today's marketing silos

Campaigns run from a single marketing silo require little coordination, and most teams have built up their process and technology without considering the activities of other silos. Today, companies recognize the importance of orchestrating content launches across multiple online channels. Sales and marketing funnels – the sequences of touches, pages, and transactional screens that capture leads and sales – see improved results from integrated campaigns. Coordinated content deployment

1. maximizes both stickiness and virality;
2. creates a straighter path, or series of paths from each piece of content to a relevant conversion funnel; and
3. proliferates localized assets and funnels for international markets.

Because global campaign management benefits from many practices developed for software development and localization, localization process knowledge provides a critical element for marketing success. In interviews for Common Sense Advisory's (CSA Research) report "Digital Campaign Management and Localization" (November 2015), practitioners told us that marketing silos were created for a reason and won't disappear anytime soon. These reasons include development of best practices, training, and resource management.

### Online and mobile advertising

When pay-per-click (PPC) advertising became important for marketing management, few people understood how it worked. Companies trained

specialists who operated independently because executives lacked the hands-on experience to understand what was going on. They created a silo to manage the function, but all of that is different today. Executives that came up through the ranks understand PPC in a visceral way – and not just click-based ads, but also display and pay-for-engagement and in-app ads. The practice is now engrained in business culture.

### Search engine optimization

SEO and its younger cousin ASO (app store optimization) have long been seen as dark arts, because the search and platform companies keep dodging ahead of the professional agencies whose job it is to rig the game for their clients. For more than ten years, Google has driven marketers to build better content, refresh at a faster pace, and be mobile-friendly. Meanwhile, Facebook rewards better engagement with audiences. SEO is still part of the content being delivered, but the content itself is its own best SEO. It sounds confusing, but in fact the need for SEO/ASO as separate practices has almost ceased to exist. All digital content should be designed with SEO/ASO as the goal. It's not a separate discipline – like PPC, it has become engrained.

### Blogging and micro-blogging

Blogging and tweeting have moved beyond the experimental stage to become normal activities that the marketing team must globally influence, direct, or produce. Whether driven via daily or weekly talking point memos, or ghostwritten by copywriters on the marketing team, or anything in between, blogging cannot be a random practice. CSA Research contends that companies must coordinate the themes, links, phrases used (SEO), and the offers referenced either directly or obliquely as part of a content marketing program.

### Mobile-optimized websites

The visible, navigable portion of a website is well understood by both marketing and localization teams. Landing pages bring the dynamic nature of campaign management into web operations. A flotilla of extra URLs surrounds a website today, accessible via links embedded in PPC, blogs, and email, as a natural part of campaign management and tracking. The content on those pages must correlate closely to PPC, SEO, blogging, video/interactive, and email copy. It's all one push, so if all

the content is pushing together, metrics improve for all the components, which are still measured separately. To capture the full benefit of a content program, a company's website evolves in step with the campaigns as products, audience definition, and branding change.

### Appification of core functions

Any task that prospects or customers perform regularly can be turned into an app. Moving that function onto their personal mobile device means they don't have to navigate to the website every time. The same CRM backbone underpins web and app data, so the content experience is still unified, regardless of their access point. Again, coordination is critical to keep the app experience consistent with campaign-driven SEO/ASO and PPC, as determined by performance metrics on keywords.

### Video

Video production has gone from a fringe, highly siloed work process to a routine and formalized process that lives in the corporate marketing mainstream. Videos are no longer special skunkworks projects, but essential core deliverables within a campaign or launch framework. As such, the spoken and visual text and its metadata must be managed as a fully supported content type and workflow in the production queue for marketing – and for localization.

### Email marketing

One of the biggest silos has been the email marketing group. These people manage customer data lists as well as copy production. Direct marketing copywriting is another dark art with its own set of specialists. But close coordination with PPC, blogging and micro-blogging, landing pages, SEO/ASO, appification, and video provide a compelling way to improve results in the oldest and most thoroughly measured e-marketing practice.

Together, the competition for audience attention and the prevalence of tracking outcomes via analytics creates momentum for heightened coordination. This new confluence of e-marketing practices begs for a centrally coordinated set of activities, steered from the center via daily or weekly talking points for all copywriters. However, it must also be driven from the field by product marketing activities coordinated as an ongoing

flow of launches and campaigns. The feedback loop from analytics – showing which content is working best – provides input on keywords (SEO/ASO) and on the pricing-features mix for offers. In broader organizational terms, heightened levels of coordination create a push toward centralization. Localization teams benefit by opening up the entire set of e-marketing practices to formal automated language management processes. These organizational changes also create new career opportunities – it’s a transition that allows localization managers to grow responsibilities, add staff, address content source issues upstream, and obtain a seat at the decision-making table. Language teams can step up and help deliver sales growth, competitive differential, improved customer experience, and strategic leadership. Bringing a coordinated global content program to success will generate sales growth, im-

proved marketing metrics, and higher-scoring customer experience. Adding localization best practices to digital marketing – in a comprehensive way rather than the siloed, piecemeal approach of the past – will benefit localization managers who proactively assert themselves into the path of the convergence by helping to globalize “the content factory” (see graphic). Over the past few decades, localization professionals – aided by tool-makers – have built the skills, knowledge, and teams required to manage diverse inputs and outputs in an agile work environment, across multiple platforms and devices, in dozens of languages. Few executives have training in any process as complicated and as global as a language supply chain. In the context of integrated digital campaign management, localization managers gain an important opportunity to transfer those capabilities directly to other groups. This organization moment can

be an opportunity to contribute from a current position – or it can be a chance to move into a new job, in marketing or web operations.

## Building onto the skill set

To take advantage of this opportunity, localization practitioners, managers, and directors must:

**1. Increase knowledge of digital marketing, in theory and in practice.** The names and boundaries of existing silos vary in each company. Learn the lay of the land in your organization and sketch the general flow (starting with the framework outlined in the graphic). Convergence may have already started, but it probably has a long way to go. Current assets may include:

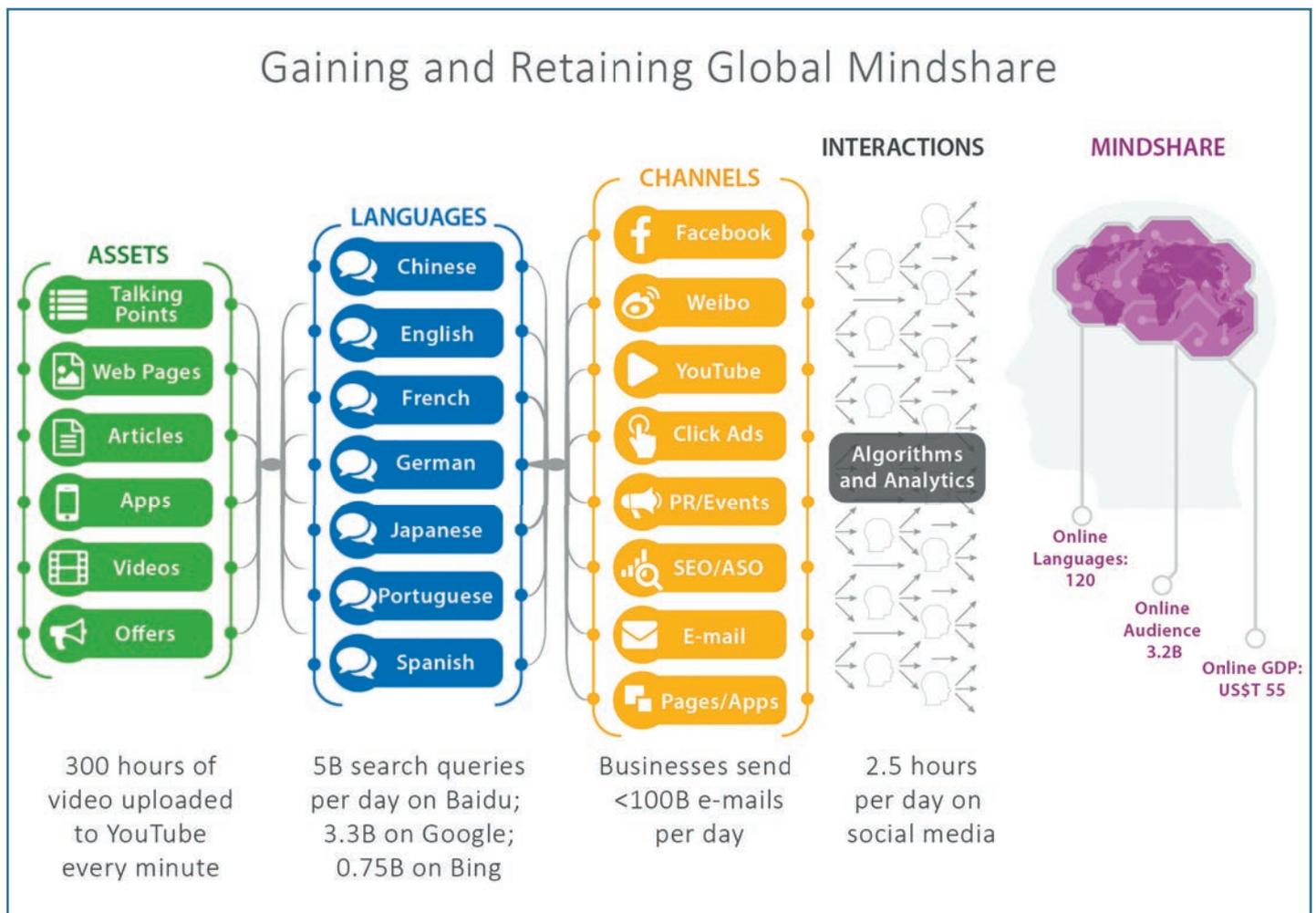


Image 1: "Digital Campaign Management and Localization", November 2015

Source: Common Sense Advisory

- a. "Talking points" documents (PR and back-grounders with pre-written articles, creative briefs for international teams, tweet fodder, and keyword research)
- b. Video
- c. Offers
- d. Pitches
- e. Lots and lots of stories – narratives about products, employees, partners, customers, and cycling through topics of interest for prospects and customers

**2. Prepare plans and recommendations.**

Once you've created your own map of teams, assets, channels, and audiences, the next step is to visualize the workflow within a global framework. Develop a strategy, timeline, and budget proposal for orchestrating the delivery of all marketing assets, in any language, using a continuous, agile, 24/7/365 process. The process will probably require a blend of local content creation, transcreation, and translation.

**3. Start building the supply chain now.** Re- envision your supply chain to include linguists with the appropriate profiles, specialist services, and new tools. Are your current vendors still griping about XML or atomized content? Then it's time to seek suppliers with serious social media expertise and competitive offerings in keyword research and mobile ad management with Facebook's ad engine, Google AdWords, and alternate networks from LinkedIn to Qzone. Consider supervising original content crea- tion in markets where you don't already have a subsidiary.

**4. Engage peers and their executive back- ers.** Build your organizational network. Let your colleagues and bosses know what you bring to the table. Get your peers onboard by sharing the big-picture viewpoint that campaign coordina- tion across all the asset types and channels in the marketing machine can improve results. Docu- ment it using analytics from a coordinated launch or campaign. With their inputs, you're ready to create the executive briefing to pitch establishing a global content factory. The presentation should cover how teams, tools, and workflows will be deployed to achieve the result globally.

**5. Transform a career by stepping up to this challenge.** The challenge precipitated by digital media itself is to break down silos and manage

marketing activities as a soup-to-nuts content program. Now multiply by ten all of those newly coordinated activities by making it a global content marketing exercise. Who can even compre- hend a program that complex? Not many people, but localization managers already know how to handle stuff of this complexity.

Even if global content experience is more compli- cated than issues faced in the past, like software localization, content atomization in tech pubs, agile development, or dynamic website content, it's not orders of magnitude different. It's just the next big challenge. It's what you've been training for. If you are ready, you can own the function within your company, as the leader who built the global content factory.

This article is based on proprietary research, which is detailed in the CSA Research report "Digital Campaign Management and Localization," November 2015. <http://bit.ly/1NIJgJB>

**i ABOUT THE AUTHOR**

**Ben Sargent** is a senior analyst at market research firm Common Sense Advisory. CSA Research has more than a decade of systematic and continual gathering, recording, and analysis of primary quantitative and qualitative data involving thousands of interactions with language services providers, tech vendors, buyers, and global consumers to produce independent, objective, and comprehensive research.



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# “Dare to go as far as your thoughts lead”

An inspirational Indian leader of the 19th century provides modern managers with food for thought and stimulating management guidelines of a different type.

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By Samiksha Chaudhuri

Born in 1863, Swami Vivekananda was an eminent Indian personality who introduced the world to the philosophies of Vedanta (known as the oldest sacred texts of India) and the benefits of Yoga

(physical, mental, and spiritual practice). As the first Hindu, he spoke in front of the World Parliament of Religions in Chicago in 1893 and worked diligently to raise interfaith awareness and to

revive the status of Hinduism as a major world religion. He was instrumental in making and shaping modern India and emphasized that success was the outcome of focused thought and action.



Image: © kieferpix/istockphoto.com

*"Take up one idea. Make that one idea your life – think of it, dream of it, and live on that idea. Let the brain, muscles, nerves, every part of your body, be full of that idea, and just leave every other idea alone. This is the way to success – that is the way great spiritual giants are produced."*

In Vivekananda's maxims, we discover brilliant principles for life management that are relevant to any manager. Let's discuss some of his principles and their relevance to our modern business lives. Managers are required to think strategically, show empathy and work on achieving organizational goals. Important functions of a manager include:

- Having a vision and strategizing to realize the vision
- Cultivating the art of learning
- Encouraging innovation in the organization
- Developing human resources
- Communicating effectively
- Motivating and appreciating the team

Now, let us see how each of these functions can be executed in the best possible way following Vivekananda's philosophy.

## Having a vision and strategizing to realize the vision

*"Dare to be free, dare to go as far as your thoughts lead, and dare to carry that out in your life."*

A manager needs to plan well ahead in order to carry out his vision. His vision might lead him to implement changes that could be difficult for his employees and might force them out of their comfort zone. But with factual and logical reasoning, he can overcome these barriers and follow through with what is right and effective for the organization.

*"Our duty is to encourage everyone in his struggle to live up to his own highest idea, and strive at the same time to make the ideal as near as possible to the truth."*

Many great leaders in this world such as Mahatma Gandhi, Abraham Lincoln, Martin Luther King, Susan B. Anthony and Shirin Ebadi have fought relentlessly for the achievement of their vision.

They dared to bring in change, and they fought for what is right.

## Cultivating the art of learning

*"We should be open to learn whatever good things we come across anywhere."*

Willingness to learn is a great trait. However, it is just as important to take ownership of your deeds and to share the knowledge that you have acquired.

Learning is a lifelong process that allows you to grow and develop. Learning doesn't always come from the books we read or the training we receive. It is more about gaining wisdom and implementing it where and when needed. Learning requires you to develop from the inside out – when you are no longer afraid to grow and are able to accept your shortcomings.

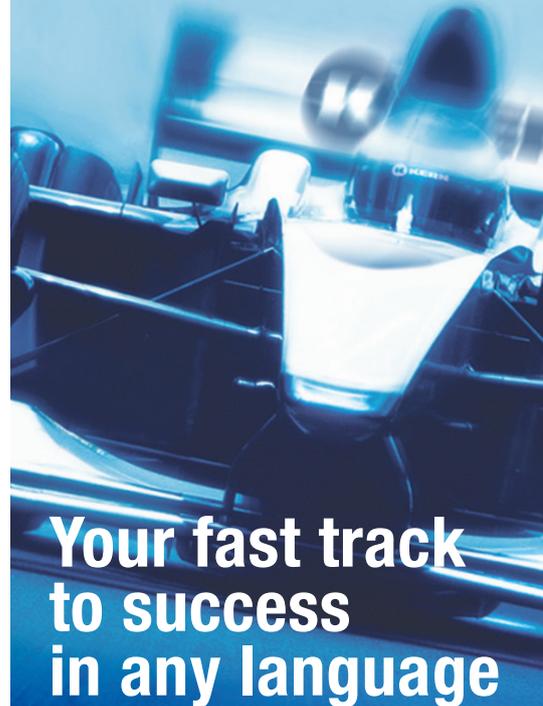
A manager who is well aware of his role should not only be keen to learn things for himself but should also instill the same enthusiasm in his employees with the help of interesting projects, inspiring training sessions and motivational speeches.

## Encouraging innovation in the organization

In today's world, complacency is no longer an option. One must think differently and find new ways to ideate, innovate, and implement new ideas. But thinking differently is not enough – one must also encourage a culture of continuous creativity within the organization.

*"Each work has to pass through these stages – ridicule, opposition, and then acceptance. Those who think ahead of their time are sure to be misunderstood."*

Innovation should be encouraged on an individual level, where any person can suggest an idea and receive the means to work on it. Companies like Google allow employees to work on their own projects for almost 20 percent of their time. Enterprises could work on process improvements, not changing their business model, but tweaking the existing product to offer something new. Then there are companies that completely reinvent



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their processes to develop innovative products and services – for example Apple with its iPod, iPhone and iPad.

## Developing human resources

A lot of money has been invested in modern-day management education and training. Training has had some impact but has not resulted in a substantial improvement of how people work. Some managers believe that the more they pay an employee, the harder the employee will work and the less likely he is to look for alternative jobs. However, this approach might backfire. The employee, seeing that he has been reduced to a mere resource, might change his work attitude and resort to measures such as go-slow and work-to-rule to obtain the maximum from the organization. This might drive a wedge between management and employees. Research shows that employees should not be treated as mere wage-earners and that a fuller development of all employees is paramount.

*“It’s your outlook that matters: It is our own mental attitude that makes the world what it is for us. Our thoughts make things beautiful, our thoughts make things ugly.”*

Some employees work to earn a living, some work to be the best in their team, and some work to be the best in the industry. People with completely different perspectives and visions might work for the same company and, therefore, management must strive to cater to various needs and motivations.

*“Whenever we attain a higher vision, the lower vision disappears.”*

A manager needs to understand and acknowledge the strengths and weaknesses of each employee and show them the right path to develop and cultivate their skills. Some employees may have the tendency to develop a skill in one company and to implement it in another. However, this shouldn’t restrain all other employees from getting proper training. Without continuous, customized training, people might take to finding faults in others instead of honing their own skills.

*“Desire, ignorance, and inequality – this is the trinity of bondage.”*

Greed for power and wealth, egotism, frustration and anguish through comparison will result in lesser productivity and an unhealthy environment. Understanding human nature is important. A manager must understand the visions of his employees and provide them with guidance, independent thinking, and a sense of ownership. This way, the organization can establish a long-term relationship with an employee. To further nurture the morale of employees and strengthen their faith in management, good deeds must be rewarded and appreciated.

## Communicating effectively

Communication sounds simple. However, what we try to communicate often gets lost in the process. You say one thing and the other person interprets it as something else – misunderstandings and frustrations ensue. Effective communication is more than just exchanging information. It entails understanding the emotions and intentions behind the information. The effectiveness of a manager depends on his ability to communicate. It is important what the manager says, but it is equally important how he says it and if he puts what he says into action.

*“Do not believe a thing because you have read about it in a book. Do not believe a thing because another man has said it was true. Do not believe in words because they are hallowed by tradition. Find out the truth for yourself. Reason it out. That is realization.”*

It is important not to be influenced by someone else when assessing your employees. A manager must create his own image of an employee based on factual information.

Research reveals that productivity increases if employees are treated well at their workplace. One of the key functions of a manager is to understand an employee’s wishes, requirements, strengths and weaknesses, and to guide the employee well. But employees should also have a clear picture of what is expected of them.

## Motivating and appreciating the team

*“Our duty is to encourage everyone in his struggle to live up to his own highest ideal,*

*and strive at the same time to make the ideal as near as possible to the truth.”*

Appreciating your team members is the key to excellent motivation. Some managers say they feel too shy to show appreciation, some say they do not know the appropriate way to do so, and some say that they are just too busy. However, a manager must take the time to motivate his employees. It is important to make progress, and it is equally important to acknowledge that progress and encourage the person to make further achievements. That’s how great companies thrive. Managers should listen to their employees’ ideas and, if they find an idea feasible, encourage the employee to work on it and bring it to fruition. This provides the employee with a sense of belonging; he not only works for individual achievement but also for the company that has given him the essential support.

## Conclusion

By developing your own philosophy and applying it to your life and work, you can reward yourself with a less stressful and more fulfilling life. There is no harm in failing, but the most important thing in life is to never quit trying and to keep nurturing a positive attitude.

### ABOUT THE AUTHOR

With more than eight years of experience in technical communication, **Samiksha Chaudhuri** has developed a wide range of skills in the areas of product documentation for IT services, telecommunications, media and entertainment, banking and financial services, and healthcare sectors. She has worked on key deliverables such as user’s guides, online Help systems, API guides, simulations and process models.



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# Professionals and diverse ideas converge at tcworld India 2016

By Vineet Upendra

On the bright and sunny morning of February 25, 2016, the swanky lobby of ITC Gardenia, Bangalore, was all set to welcome what would become a record number of participants to the 6th tcworld India conference: more than 300 professionals. It was also the first tc event in India that saw eight workshops conducted in packed conference rooms with eager participants devouring practical lessons in writing, rules, grammar, content, tools, and much more.

But practical sessions weren't the only thing on offer. Two inspiring keynotes opened the day for participants. In addition, the day also brought diverse and thought-provoking presentations and sessions, thus creating a well-rounded and satisfying experience for all. The topics treated included human auditory processing and speech recognition; change management in documenta-

tion projects; interactive videos; creating XML-based, structured content with Adobe FrameMaker; Kanbanizing your documentation life cycle; digital transformation – is your content future-ready?; an introduction to API technical writing; when bad design happens to good people; creating video tutorials; preventing ambiguity by improving consistency in technical communication: rule-based writing; an ask-the-experts session; and a captivating panel discussion on whether YouTube and Google are making technical writing redundant.

The programming track also received a taxonomy of sorts, with the talks being allotted to intelligent content, careers, leadership and best practices, tools, and workshops. This allowed the participants to plan ahead and choose their talks depending on their areas of interest.

The audience was just as diverse and engaging as the presentations: People from different companies, with varied roles and manifold challenges, had lively discussions about problems and solutions. During tea breaks, the participants used the expansive dining area with its comfortable sofas and seats to network, exchange cards and ideas, meet up with old friends, laugh, discuss, and debate. The air was abuzz with life, energy and an exuberant joie de vivre that extended into the evening and the networking dinner, dance and musical jamboree. Almost unanimous was the appreciation for the undeniably delectable and lip-smacking array of food items laid out for participants.

With so much happening during two days, it wasn't surprising that, as the conference drew to an end, there was a lull in the air, as happens when good things come to an end. But here is the beauty of tcworld India: It will certainly return in 2017!

Image: © tekomp



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