Communications, Information, Technology, and Management (CiTM)
- From i3 Sytems and The I3 Consortium-

August 2021

THE EDITOR SPEAKS - Olympic Technology

The Olympics of 2021 has been like no other. From the perspective of the Olympic Committee, the event was delayed by one year due to the pandemic. From the perspective of the athletes, the lack of attendees in the stands surely gave their events a different feel. For the fans, routing from afar, the ubiquitous nature of the internet gave us all a myriad of viewing options and perspectives. I especially appreciated the commentary provided by Kevin Hart and Snoop Dogg on Peacock which brought a whole new dimension to the event.

Often overlooked in the frenzy associated with the Olympics is the role technology plays. This year's Olympics saw the introduction of a multi-camera replay system which allowed the action to be captured from a network of 4K cameras that allowed replay scenes to blend together to give the appearance that the replay camera was floating around the action of interest. There was a 2D/3D image tracking system that allowed comments such as the athletes name to be tagged to the individual as they competed in their event. Image analytics and Artificial intelligence served to keep these information tags associated with the athletes despite the number of participants and the level of activity at the event.

Vision analytics and a host of other sensor technologies were utilized to capture biometric data on the athletes at some events so the audience had some feeling for the level of stress these athletes face. Sensor technology was also used to provide feedback to coaches and in some cases gave an additional level of information to the event judges.

Less visible were the use of robotics and autonomous vehicles. The use of robotics were visible on field during some track and field events. For example, the hammers from the hammer throw event were returned from the field to the throwing platform with small robotic delivery vehicles. It has been estimated that there were 8-10 specialized robots that assisted in event management and additional units that served as guides and information kiosks for attendees complete with holographic displays. In addition, there were reportedly 100 autonomous vehicles that served as shuttles for the athletes that ferried them from the airport and between some event venues. Further, despite not going into commercial service until 2027, there was even a working Maglev in use at the Olympic venue that could travel at speeds more than 374mph.

Image recognition was used at the Olympics as a security screening system that allowed athletes and staff to be quickly identified and unidentified people in secure areas could be easily highlighted for security personnel. While not a part of the original plan, this same system also served to identify individuals who had come into contact with people who might have been infected with the COVID virus.

For some events there were virtual-reality (VR) experiences that engaged spectators as though the spectators had front row seats for these events. These VR systems utilized 8K technology in order to provide spectators with an ultra-sharp and clear immersive experience.

There was also an instant translation technology that could be used by attendees' cellphones. This was a high performance system that has been designed to go beyond acting as a translation intermediary and instead created a conversational language interface between people who spoke different languages.

A number of the buildings on the Olympic campus were equipped with Retrofit technology that sealed the surfaces of the buildings in a way that reduces the buildings CO2 emissions while extending a building's structural life.

While it was not ready for the Olympic event in 2021, one company had even developed a satellite based system that could create a manmade meteor shower.

As the Olympics drew to a close, it seemed as though there should be an additional round of gold medals awarded for technology's contribution to the games. The Academy Awards, long known for the awards associated with entertainment excellence, has seen how technology plays a major role in progressing our understanding of technology and gives awards to recognize technological achievements. Maybe it is time the Olympic committee should also award gold medals for technological achievements in support sports or the logistics challenges that must be overcome to bring these events to the public.

UPCOMING VIRTUAL EVENTS

- Aug 30-Sept 3, 2021. IoT Week. A virtual event hosted from Dublin Ireland.
- Sept 7-10, 2021. IEEE Smart Cities Conference. A virtual conference hosted by the IEEE.
- Sept 8-9, 2021. Smart City Expo Atlanta. Georgia World Congress Center.
- Sept 17-19, 2021. Data Con LA. One of the largest data conferences in Southern California.
- Sept 21, 2021. I3 Consortium Meeting, A virtual meeting hosted by the City of West Hollywood on Data Policy and Governance.
- Oct 4-5, 2021. Dubai Smart Cities Expo. Dubai International FInance Center.
- Oct 26-28, 2021. Mobile World Congress (MWC) Los Angles. Significant trade show for wireless industry held in Los Angeles.
- Oct 28-31, 2021. IEEE Symposium on Technology and Society. A virtual event hosted by University of Waterloo and University of Guelph, Canada.
- Nov 2-4, 2021. The Infinity Festival Hollywood. A hybrid event (physical and vivirtual).

- Nov 16-18, 2021. Smart City Expo World Congress. A hybrid (physical and virtual) event focused on smart city technology.
- Nov 29-Dec 3, 2021. re:invent. A hybrid learnding event osted by AWS for the cloud community.
- Dec 2-3, 2021. International Conference on Urban Studies and Internet of Things. Sydney, Australia.
- Dec 9-10, 2021. International Conference on Smart Cities, Big Data, and Machine Learning. New York City, New York.
- Dec 10, 2021. Connected Communities Conference, Raleigh NC
- Dec 9-10, 2021. Conference on Urban Studies and the Internet of Things. London, England.

If you have an event that you would like us to include in our newsletter, please send an email to manager@i3-iot.net

THE i3 CORNER

i3 Release 1.0 has been released for general availability and can be obtained via our online store at i3-iot.com.

i3 software represents a significant step forward in the creation of management and governance software for real time data networks Most software used to manage these data flows assume a single party is responsible for the data source, destination, and the data that flows through the network. There are also approaches that assume no responsible party exists and the participants in the process are inherently untrusted entities. i3 is different in that it assumes the parties are cooperating but remain independent from one another.

i3 provides data governance tools that facilitate the exchange of data between entities that have common objectives but want to retain control over the distribution of the data they produce. It is generating interest from organizations that have a federated operating environment where different departments have independent IT departments but want to be able to exchange data between these groups. It is also of interest to a federated ecosystem where a number of independent companies work as a collective partnership so that partners can exchange data in support of a common customer or project.

The i3 software was specifically designed to support the network of data flows that connect individual departments and partners together. Exchange of data requires that the involved partners share information about conditions and use of the exchanged data as a prerequisite to the data exchange. Before the existence of software like i3, the exchange of data between entities required protracted engagements between legal and IT departments where each exchange was custom crafted to cover the conditions and technologies that supported the exchange. In many instances, these exchanges were sufficiently complicated that organizations preferred to refrain from exchanging data or side stepped such requirements.

Recent legislative efforts to enact privacy regulations are often driven by the fact that consumers are overlooked when they have no actionable voice in the data exchanges driven by click through agreements. The more recent activities in this area have extended their purview to ensure consumer privacy rights are extended to third parties that have no direct link to the consumer. Effectively, these efforts create an environment where cross-organizational data exchanges must be documented throughout the business community.

The team at i3 are proud of their efforts to release the software at a time when the public are beginning to understand the importance of data governance and the lack of technology available to support these needs. The team is currently in the process of scoping out i3 R2.0.

The next i3 Consortium meeting is scheduled for September 21, 2021 at 11am PST where the City of West Hollywood will discuss their efforts to address emerging data governance requirements. If you or a colleague is interested in attending this session, please send an email to “i3-join@i3-iot.org” and you will be added to our list of people interested in topics related to data and collaboration.

READER CONTRIBUTION: Why Data Governance is a Shared Responsibility by Greg Kihlstrom, Consultant, Author, Speaker

The benefits of a solid data governance plan include increased cost and time efficiency, risk mitigation, greater consistency and quality of data. However, the question of who “owns” data or contributes to data governance within an organization varies greatly. Some companies have a department or smaller set of individuals responsible, and others having cross-disciplinary teams responsible for governance.

The distinction between data ownership and data governance is also important. The former is generally best done by a smaller team focused on the storage, security and integrity of data. The latter is more related to how data is shared, maintained, consumed and normalized across business functions and processes.

Narrow oversight of data governance within an organization doesn’t increase its value. In fact, in many cases it leads to inefficiencies and lost opportunities for internal and external audiences. In this article, I’ll explore some of the potential participants in data governance within an organization, and the factors to consider with each.

Data Is an Enterprise Asset, Not a Team Asset

Who in your organization benefits from data? If your answer isn’t "everyone," it at least comprises many different teams, disciplines and roles. Because so many people benefit from data, regardless of the type or origin of the data, it should be considered an enterprise asset, not a team asset. This means the value of data benefits the company as a whole.

A shared data governance model helps reinforce this idea of data being an enterprise asset because many participants in a diverse set of roles, capabilities and teams are able to have input and guidance to how data is treated within the organization. This is in contrast to marketing having ownership and governance over marketing data, and sales over sales data, etc.

This window on the larger scope of enterprise data provides a better understanding of how different parts of the organization work together, how customers interact and behave throughout the entire lifecycle, and more.

Agile Organizations Need Data From Across the Organization

Does your sales organization only benefit from sales data? Or would information about your latest marketing efforts, as well as customer support inquiries also help them make better decisions? Having access to both leading and lagging data help teams within an organization stay agile in a fast-moving environment. Access to real data helps teams avoid making wrong assumptions or decisions based on anecdotal information or incorrect hypotheses.

A shared data governance model helps organizations be more agile, make better decisions, and reduce the time and effort that it takes to make important change happen. The quicker teams within an organization can get insights, and the more diverse the sources of data within the organization, the better insights they can gain.

The Customer Benefits When Data Is Shared

Does your customer care what department, division or team has access to the data they need in order to complete a transaction? I would wager that they don't, as long as your company can help them easily accomplish what they need help doing.

So, finally, let's look at this from the customer's perspective. How many times have you called a customer service line, only to have to give your account information two or even three times to three different sets of people who all work for the same company? If you work for that same organization, there may be a perfectly logical explanation, involving systems that don't "speak" to one another, or something similar, but how does that benefit your customers?

Of course, that example is a very simple (albeit frustrating) one. There are many more complex areas where lack of shared data either has an opportunity cost, or provides a negative customer experience. For instance, when your sales and marketing teams aren't aligned, or when your product and customer support teams don't see eye-to-eye, issues and solutions that might seem obvious to your customers are shielded from view because of unnecessary disconnects.

A shared data governance model helps this because customers no longer have to navigate through an organizational hierarchy they neither need nor want to understand. Instead, because data is governed more seamlessly on the back end, the customer can experience a more seamless experience on the front end.

Shared Data Governance Has a Ripple Effect

Just because governance is a shared responsibility doesn't mean there isn't an owner or manager of the processes. Although a chief data officer or similar role may sit under a particular executive such as the COO or CIO, their job is more as a facilitator of the many competing priorities that data users within a company may have.

As you can see, data governance impacts both internal and external audiences, and questions of ownership, sharing of data between teams and departments, and how that data flows between systems, can affect efficiency, customer satisfaction and more. Shared data governance can create a more agile organization that is capable of anticipating and responding to continual change.

This article was originally published on AUg 11, 2021 on CMS Wire. Jeff's latest book is entitled "The Agile Workforce"

Remote Management
by Jerry Power

During the pandemic, managers had to learn new skills given that so many workers were working from home. Hopefully the emergence of the Delta variant will not force a return to the restrictions that were placed on workers during the height of the pandemic. Regardless, any return to normalcy is likely to include an increased level of remote work when compared to pre-pandemic work environments.

Most articles about management of remote workers tend to consider the topic from the perspective of the team manager, managers who have remote workers that directly report to them. The reader is left to extrapolate the findings so that they can be applied to higher level managers.

Remote working is not a new concept that was invented during the pandemic. Some companies had embraced a work-from-home paradigm long before the onset of the pandemic arose with some companies proving themselves to be more adept at operating in such an environment than others. In general, remote workers have been shown to be more productive in a work-at-home environment by eliminating stress associated with commuting and by reducing distractions. Of course, the assumption is that a remote worker can establish a distraction free environment at the house (this might not always be possible). Arguing against a work-at-home policy, the benefits that come from collaborative and other activities that benefit from group interactions are often reduced.

The differences between work-at-home and office-based groups is less pronounced at the higher level in the organizational structure or when considering international organizations or organizations that are spread over large geographic areas. Higher level managers in these organizations have always been in a position where they do not have the luxury of frequent face-to-face interactions with individual team members. In these circumstances, the individuals have always been required to find ways to maintain group level productivity despite the geographic divides that separate the workforce.

In geographic distant relationships, the need to establish clear objectives becomes even more important. Well defined expectations allow parties to work independently between interactions. In remote working situations, this is especially true because serendipitous interactions are less frequent. As a result, it becomes critical that individual objectives be explicitly linked to the team and larger organizational objectives.

It is also imperative to have established a protocol that encourages virtual relationship building so that the team members feel comfortable interacting with one another. The establishment of a communications vehicle that encourages frequent exchanges between team members serves to build a trusted and familiar means of communications. Such an environment ensures communications will flow smoothly during times of stress. There are many ways that this can be accomplished including email, telephone, video, texting, social networks, or collaboration specific software tools. Efforts to force a particular communications tool can be met with resistance when some team members feel compelled to use specific tools or to discourage use of familiar tools.

Managers bear the onus to ensure their remote workers are being productive. This implies that it is the responsibility of management to ensure the employee's at-home environment is conducive for prime productivity and to make sure these workers are not only engaged with management but with the larger team as well. Too often, managers feel that when they are distanced from the remote workers. Then it becomes the worker's responsibility to remain engaged. This cannot be done if there is a strict focus on deliverables. In these environments, the manager must take on the task of nurturing the employee relationship so it is an open, professional, and honest. Professional relationships, like all relationships, have ebbs and flows. In an in-house work environment, the employee peers serve to moderate individual relationships. When these peer relationships do not exist, negative situations often devolve quickly if issues are not detected and corrected. This makes it essential that managers engage frequently with their subordinates and that the subordinates have a path to quickly and easily engage with management.

In the end, when a company sees a decline in remote worker productivity, the immediate reaction is to intervene and coach the employee toward behaviors the manager expects. The reality of the situation is that the better approach is to help the manager adapt to new communication techniques. In the end, the objective is not about getting the employee to conform to manager expectations and more about getting the team to support the organization's larger goals. After all, the role of the manager is not to maximize individual outputs but to maximize the value provided to the organization. This implies that each manager should have a personal communication plan that engages the entire team (direct and indirect employees) as a part of the organization's larger vision.

READINGS FROM THE EDITOR'S DESK

- **Digital Transformation, Post COVID-19.** Organizations that started a digital transformation process did better under COVID than others. Organizations that slowed programs for fear of disrupting existing business practices suffered. Unless fixed, these companies will continue to falling behind.
- **It's Time for Leaders to Get Real About Hybrid**. Work at home can be productive but management worries that prolonged use will negatively impact corporate culture. This is true. Management must adopt new communications strategies when online - in-person culture building strategies do not translate to online.
- **Leading a Public Sector Digital Transformation**. Among public organizations the trend is to move away from independent end-to-end solutions. These organizations are adopting agile platforms that allow them to quickly change existing applications and deploy creative new solutions on top a flexible base.
- **Core Revival: Net Technologies, Techniques, and Business Cases to drive you Modernization Strategy.** As CIOs move onto new projects, they want to reduce costs AND make the organization more agile. This leads to new data platforms which often have innovative business models. As a result of this shift, companies are adopting new purchasing policies as well.
- **Innovation Invites Huckster**. NYT asks whether the need for capital drives innovators to over embellish or whether this is a part of vision setting. Tulip-mania and railroad-mania show hype has always created bubbles. Maybe the internet just makes the communications function more efficient
- **Four Trends for Successful Digital Transformation.** Accenture reports there are 4 key trends driving post-pandemic business gains. 1) Companies who make more use of Cloud, 2) partnerships, 3) collaboration, and 4) life cycle marketing. Tech is the enabler but not the goal; the goal is business results.
- **Digital Transformation After the Pandemic**. Digital transformation projects moved slowly pre-pandemic but the emergence of COVID required bold action to survive and many transformational projects were fast tracked side-stepping process uncertainties that held projects back.
- **How Executives Can Help Sustain Value Creation for the Long Term**. Many established businesses play to avoid losing (revenue/market-share) and, as a result, they constantly struggle to stay in front of competitors. More successful companies play to win by investing in new products, services, and business models.

LET's CONTINUE THE CONVERSATION

Please feel free to forward this email to your friends and colleagues who you believe would benefit from participation in our community. For those of you who wish to be included among those who believe that technology is a tool and that business success is achieved by skilled wielding of the tools available to us, feel free to reach out. If you have suggestions, topics you want to see included in future newsletter updates, or other general inquiries, feel free to email us at admin@i3-iot.net. The ideas expressed in this newsletter are intended to stimulate conversation and dialog that will lead to a better understanding of our collective future. The opinions may not necessarily reflect the opinions of any members of our community of interested people.

ABOUT I3/CiTM

Originally founded under the guidance of USC, the Institute for Communication Technology and Management (CTM) was formed to support a deregulated telecom industry. Over time, computer and networking technologies evolved and grew changing the way we do business and live our lives. The CTM Newsletter was created as a vehicle to foster continued conversation about tech associated issues that transcend specific technologies and specific industries. CTM conducted foundational Internet-of-Things research and created a community driven IoT network vision. Working with the engineers at USC's Viterbi School of Engineering, the cities of Long Beach, Los Angeles, the County of Los Angeles, along with a host of supporting companies, academic institutions, and private individuals, this vision was turned into Open Source software that was released in December 2019. I3 Systems was formed to pursue commercial opportunities based on the work of the I3 Consortium and the concepts published in the newsletter. With this grass roots tech movement, the newsletter evolved and continues these conversations even further.

I3 Systems, 1146 N Central Ave #687, Glendale CA 91202, www.i3-iot.com
I3 Consortium, www.i3-iot.org