Technology

INSTRUCTOR

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COURSE OUTCOMES

At the conclusion of this session, participants will be able to:

1. Understand the basics questions to ask the business as well as technology vendors when considering their purchase.
2. Gain a better understanding of how technology supports the business needs of a venue.
3. Understand more about cyber security and its impact on our industry.
4. Be aware of technology trends and how these will shape the venue industry in the future .

Introduction

> *"The art challenges the technology, and the technology inspires the art."*
>
> - *John Lasseter (Director)*

Very importantly, this paper is not written in technical terms or to try and make the reader an IT "expert" but much more of an explanation of technology concepts and how they relate to today's venues. Technology is an integral and ever-changing part of venue management these days, and because of this specific roles exist within venues to manage the day-to-day workings of systems, the manager does not need to know "how" to make things operate but does need to have an understanding of "why" certain technologies are important and the choices available. Because at the end of the day, technology should not be the driver of the process, but simply the tool to help you achieve the desired result.

I have broken down this paper to try and give in layman's terms an outline of delivery methods/hardware and also of the types of software that are most applicable to venues today. Plus some basic information on the steps required to manage a successful implementation of any new system.

The course is intended to equip managers with a conceptual understanding of venue technology and how to make informed choices when offered with various options for implementation of systems, as well as understand what to consider for the venue patrons needs as technology evolves at an ever increasing pace.

The expectation is that students will study the attached paper as not all the information will be covered in the class.

Analyzing Your Needs

One of the first areas that many venues fall down in is truly analyzing their technology needs. Granted, these days it almost goes without saying that every venue will need to have some sort of technology in order to operate, and some of these may well be mandated by Head Office or by existing contractual obligations, but it is still a good idea to run through these simple steps before embarking on system selection for any area.

1. What are you wanting to achieve?

2. What budget to you need to work within?

3. What is the best delivery method for this technology for you?

So let's explore each of these and some key factors that you should take into account when running through the process.

What are you wanting to achieve?

Are you looking to purchase/implement a new technology just because it is what everyone else seems to be doing, or are you actually trying to match the purchase to some specific end goals? Hopefully, the latter! One of the biggest mistakes a venue can make when investing in technology is doing it because it "looks cool". This is *not* a reason to buy. So let's identify some of the major reasons we look to implement new technologies:

Internal process

Take a look at your current processes internally – are you doing things the most efficient way you could? How much duplication of entry/double handling is going on that technology might be able to remove? As humans, we are very resistant to change even though we might say we aren't – deep down we all are. It's true, how annoyed do you get when

Microsoft changes the way things look/function from version to version – we all get familiar with things and like them to be that way. Introducing a software application into your business is usually one of the biggest changes you and your staff will encounter because it not only forces you to learn something new, it may even change some of your business processes. That change can be a very scary thing for many people and can actually have a very large bearing on the success or failure of the software in your business if it is not managed properly. In fact I would say that change management is the single biggest factor to consider in this respect.

External process

You may also be forced to purchase software because of other factors like an audit requirement. How many people have had auditors come through and look at their business and processes and been told that the way you do certain things is in breach of some standards? This is especially true with financial software.

Or perhaps you want to bring your level of service in line with known industry "standards" and this will require you to purchase technology to achieve this.

Client needs can be a driver too. This could be as simple as the frustration that you feel by continually having to double handle stuff internally to get it to a format that you can share with the client.

The flow on effect of this is it makes you look and act more professionally with your clients in the way you communicate and share information. The last thing a client wants to hear when they ask about the status of their event is "oh, let me get back to you on that, our Accountant is working on the excel spreadsheet we track that in and they are away for a few days"

Or your clients might be pressuring you to provide information in a certain way – perhaps they have systems that follow industry standards and they would like you to communicate things to them using the same terminologies for example.

What budget do you need to work within?

Cost is usually one of the biggest factors in the decision making process of course – everybody wants the best and most functional technology for the least amount of money! So when it comes to determining your budget there are several factors to take into account.

Best of Breed vs. Standalone

Do you buy what is commonly called "Best of Breed" systems or go for a more, integrated modular approach? A Best of Breed approach is when you buy a system specifically for a certain task – for example, with what we have been discussing here it could be that you go and research the best possible stand-alone solutions for Sales and Marketing, Event Management, Booking, Building Management, and Ticketing and then purchase each of these. Whilst this might give you outstanding functionality in each of these areas, the problem is that none of them are integrated so you end up with lots of duplication of entry or the need for interfaces. With a modular system, you might not get all the bells and whistles in each individual area but you do have one system with most things in it, albeith individual functionality likely won't be as good as it is in a best of breed solution. It becomes a trade-off as to what is more important to you.

Pricing methods

When trying to compare technologies you will find many vendors have varying pricing models which can make doing "like-for-like" comparisons a little more difficult unless you understand what they mean. There are a large number of software applications, particularly in the ticketing area where vendors will charge a fee per ticket – so your costs rise as your attendance figures rise. Similar models are a per event cost and so on. The benefit of this model is that you don't typically have a very large upfront payment, however a challenge with the transaction-based cost model is that your costs increase as your event attendance increase, so budgeting a solid cost base can be an issue. More modern companies are now using the SaaS model, which is typically just a flat fee subscription per year. Other companies follow a one-time license cost model, where you pay a one-time fee up front for a license. This cost then typically lets you have a

certain amount of people use the software. The benefit of this model is that you know exactly what your costs are going to be regardless of the event attendance. The flip side is that it usually requires more upfront cost than the transaction based model or the subscription model. Within the licensing model it can have even further distinctions though, as it might be priced based on the number of "seats" or people that will use the system, or in some cases, just the number of people AT ONE TIME (concurrent users) that will be accessing the system. Other models charge different prices depending on access privileges, so a read-only user is cheaper than a System Administration user for example. So it can get quite complex when you are trying to compare –and it is important that the vendor explains clearly how their pricing model works so you can do an accurate comparison.

Another major factor to consider in the cost is the Support and Maintenance fee. If the software is sold on a license basis, usually there will be a percentage amount that you pay of the license fee per year to cover support and maintenance. This can vary between 10-50% of the license fee in most cases. And be sure to clearly understand what is and isn't covered in a support agreement. It can be very costly to call the support line with training questions if these aren't considered support

It is also important to make sure you have the vendors explain the costs associated with training and exactly what their cost includes, such as licneses, training, maintenance, etc. Many companies will try and make this a very small cost so you don't get scared off when first looking at the investment, but you end up inadequately trained and either use the software very poorly, or end up spending a lot more money on training later that you didn't initially budget for. I am a big fan of making sure that if you purchase a software package, spend the money (and the time) on the training to make sure you maximize your investment. However, these days the software should be intuitive enough that you don't have to spend months setting it up and learning how to use it!

Hardware costs are also a factor to consider when putting your budget together. If the software requires you to run a mainframe computer that you don't currently have, this is going to be a rather large cost for you. Or

if you have existing hardware, is it powerful enough to run this new software package or will it need to be upgraded?

Following on from the hardware side of things – what database engine does the software require? Some systems require very large powerful databases like Oracle which are also very expensive – so if you have to purchase this it can make a big difference in budget. Microsoft SQL Server is one of the more common database engines and also much more affordable but it is still an additional cost in many cases. Some software has proprietary database engines which can sometimes make compatibility with hardware and other software a problem. Some smaller and older systems run on Filemaker or Access database engines, but be careful that you don't under-power your needs, or choose old technology. Many venues have had applications built on an Access database and once they get a few thousand records in the database it becomes so slow you can make coffee every time you want to refresh a list of events. Other software needed might be things like Acrobat Writer to create PDF files (the Reader is free but the Writer isn't), Microsoft Office, floor plan software like AutoCAD and so on. But all of these need to be considered in the overall cost of the software implementation.

Be sure to find out if future upgrades are included in the price of the maintenance too. Some companies do include these, others don't and charge you a substantial amount every time a new release comes out. As a software user nothing is more frustrating than to be calling a support line about a problem only to be told "oh yes, we fixed that in the next release but that will cost you $5,000". And make sure you clearly understand what is meant by an upgrade and how often they are released. Some companies don't consider a re-write of their software (if they needed to update it to use a newer, better development tool) as an upgrade so you are faced with re-purchasing the system every few years if this happens.

Another important consideration is the "hidden" cost. Many vendors won't tell you how labor intensive their systems may be to manage on an ongoing basis. If you have to employ personnel just to manage and maintain your system, these costs need t be factored in too!

And finally on the cost side, be sure to clarify any future training costs. As mentioned earlier, be very wary of companies offering minimal training up front only to come back later on and hit you up for vastly more. To protect your investment and maximize the use of the software it is a very sound move to budget for a few days training every year – things like staff turnover and so on can have a big effect on how well you use any software so it's always a good idea to get refresher training at least once a year.

What is the best delivery method for this technology for you?

The final thing to cover in detail when analyzing your needs is the delivery method, as this has an effect both on the cost and also the use of the software you choose.

Externally hosted

A Hosted offering – these days more commonly referred to as Software as a Service (or SaaS) generally means you don't have to have your own hardware/servers or infrastructure – just a computer with an internet connection and the software provider looks after the rest. Typically you would pay a monthly or annual fee for this service. The beauty of this is that you can access the system from anywhere at anytime as long as you have an internet connection. With high speed internet costs dropping and availability increasing, this makes hosting a much more viable option than 5-10 years ago when cost and availability were more of an issue. These days you'll also hear this referred to as "cloud computing" or "in the cloud" – whilst there are some subtle differences it is basically saying that your system is hosted via the internet.

Another big benefit of being hosted is that you don't have to have someone on staff to look after backups - server/database engine maintenance and other such tasks all get handled by the hosting provider.

Just a couple of things to keep in mind if considering this option though: make sure that your internet speed and reliability are good – because if your internet connection goes down then no one can access the system. Or if you get periods during the day when your internet gets slow, all your

staff will be on a forced go slow then too.

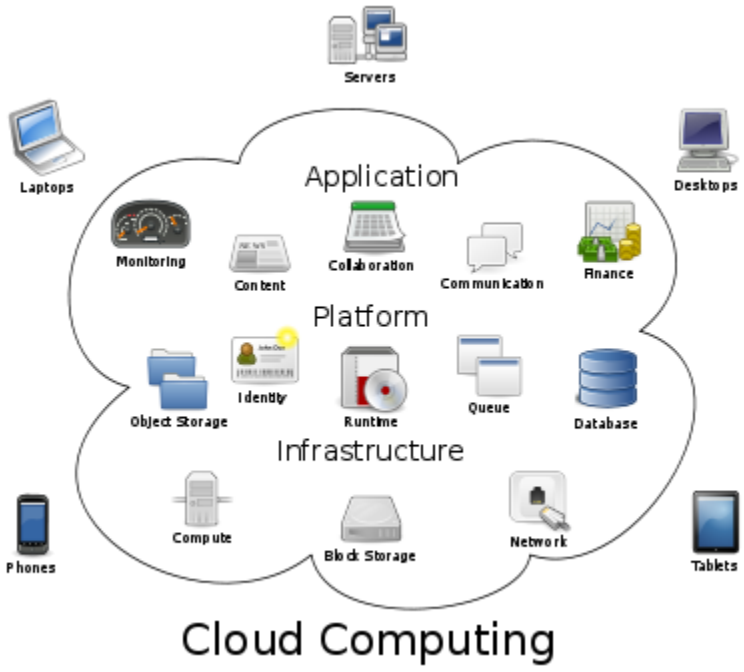
Also make sure you clearly understand your provider's Service Level Agreement – what guarantees of uptime they are offering. If they say 99% up time that still means over 7 hours downtime per month. So make sure they clearly state when maintenance and scheduled downtime will take place so it has the least impact on your business. No good if they do this every Sunday morning from 9am if you have an event going on then. Many hosting providers will also offer some sort of penalty tied to these uptime guarantees so that they are financially impacted if there is a problem. And security of the hosting facility is something else you should take into account – if the company hosts the software in the owners garage and their multi-million dollar house falls off a cliff in a landslide so does your database!

In-house (or on-premise)
It is an older style approach, but you can choose to have your software application kept in-house on your own file server, therefore not being reliant on an internet connection, as it runs over your local network. However, if you wish to give your staff remote access (from home) then you still need to have a way to do this and usually this will mean via the internet anyway. You also have to incorporate the additional infrastructure costs into the equation for someone to maintain the system, do back-ups, trouble-shoot and so on.

Many companies already have this infrastructure in place so it might not be that big a deal, but the trend around the world is that more and more companies are going towards the hosted model. Even if they already have the existing infrastructure, many don't want to have to deal with their IT people learning another application to support and maintain and are happy to farm this out to the software provider.

So with all these points in mind, hopefully now you have a greater understanding of some of the analysis that should be done for any technology project and more importantly what questions to ask your potential vendors before you commit to purchasing something.

Figure 1. Software as a Service (SaaS)



Types of Technology Commonly Required by Venues

This list is by no means exhaustive as these days there is a technology solution for pretty much any function you can think of, but hopefully this covers most of the areas of relevance.

Ticketing/Access Control

While these are two quite distinctly separate areas for the sake of this paper I have combined them since they do interact very closely with each other. For Stadiums and Arenas, there are probably more choices for ticketing software than any other software application. Typically the ticketing can be either outsourced to a specialist company or managed in-house.

Most ticketing systems will have a heavy emphasis on customer relationship management, history, preferences and so on of the ticket buyers. Many also favor the barcode as the unique identifier for entry purposes and this is where it interacts with the Access Control systems. The information coded into the barcode will identify if the person has a valid ticket or not when scanned by the Access Control hardware.

Trends are changing more significantly in this area than perhaps other areas we will discuss. Many companies are offering the ability to buy tickets online and then delivering them to the purchaser's smart phone that can then be placed against the reader at the gate, rather than printing out a ticket at all. And some companies are even offering RFID (Radio Frequency Identification) chips instead of barcodes to facilitate easier and faster entry as these chips do not necessarily require someone to hold a reader over them to actually read the information contained – sensors in a gate can record this entry information as the person passes through. While this RFID technology has been around for a number of years in retail and manufacturing, costs have meant that it is still in the early stages of adoption within the events industry. However, expect to see much more of this in the near future – especially in theme parks via wristbands.

Obviously moving people into/out of the venue as quickly as possible is a paramount requirement of any Access Control system, and these days the technology is designed with speed and also security in mind.

And with businesses finally realizing the real value of good customer information and demographics, a focus on CRM capabilities is now more important than ever when venues are buying ticketing software. With event patrons having many, many choices on what to spend their money on, a CRM with the ability to offer very targeted marketing campaigns and suggest purchases based on previous history or preferences is becoming more and more relevant.

Sales and Marketing/Booking

The Sales and Marketing and Booking area are the backbone of most venues in terms of keeping up to date with venue availability. Once again, these 2 areas could be discussed very separately, but for the sake of

relevance and time I have grouped them together for this paper.

The typical requirements venues have in this area deal with the ability to easily record the venue renter's details and history, or in other words a complete customer relationship management system that helps them to understand the wants and needs of their clients and prospects. Most venues actually have 2 distinct sets of clients – the ones renting the space and also the ones attending the events within the space. Understanding both of these is paramount to providing the ultimate event experience.

Any worthwhile software application should provide the ability for a venue to (both individually and en masse) communicate with their clients via a variety of formats such as email, direct mail, and so on. The system should also be able to track and even store all of these communications – not only the outgoing but in many cases the incoming too.

And the sales person for the venue also relies on this type of software to be able to track the sales cycle or pipeline management as many people refer to it. This means being able to attribute certain key indicators to a prospective client such as value, expected close date, and easily move the business through the sales cycle to close.

On the booking or scheduling side it is extremely important to be able to have a graphical view of not only what is currently booked, but also what is currently available. Calendars of this nature come with a variety of options such as monthly views, daily views and even some with yearly views. All of these should be easily interchangeable so that a sales person can change this on the fly depending on a client's needs at the time of booking. And in many cases it is also very important for a venue to be able to schedule recurring events – for example every Saturday for the next six months – without having to make every booking from scratch.

Trends in this area are more and more requirements for integration to other systems, whether it be ticketing, or in the case of some universities – integration into a campus-wide calendaring system that shows events AND classes.

Measuring marketing campaigns is also something that more and more people are looking for these days. In other words, it's no longer enough to be able to just send out a mass email, it is equally as important to measure who opened the emails, where they went from the email (if it had links to your website), how many emails "bounced" and so on.

As sales teams become more flexible and wide-ranging with their work places and work hours, there are also more requirements put on systems to have remote access so that a sales person can access their database from anywhere with an internet connection. This has seen the introduction of a number of web-based applications over recent years.

Event Planning and Operations

Many venues have operated in this area using the likes of Microsoft Excel and/or custom-built applications. It is probably the area where most time is spent in collating and distributing information on the day-to-day management of events.

This area is where people look for their software to provide workflow and task management. Key to this is the ability to create a timeline leading up to, during and after the event and in conjunction with this have reminders automatically sent to the relevant staff members at the relevant times.

Operationally, many software applications allow for the creation and distribution of work orders for the wide variety of products and services offered to the client. Depending on requirements, these are typically distributed within the software application itself or via email if being provided by third parties.

These days as venues are looking for more control over delivery and billing of products and services, there is an increasing trend towards the completion and addition to work orders from Smart Phones, saving the need to fill out pieces of paper or to have to wait until they are back in the office to complete the order.

There is also a big push towards allowing the client to input their requirements via the web or even smartphone devices, and having this automatically create the subsequent event orders in the venue's software

application. As people get increasingly more comfortable with the internet as a ordering mechanism, this takes a lot of the data entry requirement off the personnel back at the venue leaving them more time to concentrate on the far more important tasks in making the event the best it can possibly be.

Point of Sale

Point of Sale providers often provide both the hardware and the software, although there are some these days that operate on generic hardware platforms. Again there are a lot of options to venues in this area, and most systems nowadays are touch screen based for ease-of-use and speed-of-use by the operators.

Most venues will also look to the Point of Sale software to provide inventory control and tighter audit control to combat theft and breakages.

In Stadiums and Arenas, especially those offering corporate hospitality there is a trend towards hand-held devices to offer in-seat service to the patron. A lot of Point of Sale systems are also either providing or at least linking to loyalty card systems so that a patron can use their member/loyalty card to purchase products and services around the venue. By doing this, once again all this information on their spending preferences is captured in the CRM for further data mining and targeted marketing campaigns later on.

Asset/Facilities Management

Most software applications in this area deal with scheduling maintenance on assets such as the buildings and equipment.

Typically the maintenance can be either preventive or corrective and most applications allow for “frequency scheduling” of the preventive maintenance tasks – for example HVAC inspection on the first Tuesday of every month.

With the focus nowadays on sustainability/green issues, the trend is for building management software applications to integrate with event management systems in order to have lights/air-conditioning and so on

turned on and off at appropriate times

There are a lot of other features focused on sustainability/energy conservation that these type of systems are coming out with now too but that could be the subject of a whole other discussion.

Rostering/Workforce Management

Being able to plan and schedule out staffing requirements for events is a critical component for most venues.

With labor costs being one of the single biggest expenses for most companies, these applications allow you to take into account all the factors such as minimum/maximum work hours, overtime restrictions, casual labor availability and so on in order to produce the optimal schedule for both the venue and the employee.

Because of the nature of venue staffing and in particular the reliance on a lot of casual labor, the internet is now also playing a major part in this area by allowing employees to go online and pick the shifts they are available for and/or interested in.

Financial Management

Even for venues that don't have specific systems for many of the other aspects of their operation, they will typically run some form of financial system because this is where most of the reporting is done – at the very least for Profit/Loss and Balance Sheet reporting.

Telecommunications

Voice over IP or VoIP as it is commonly referred to, has revolutionized the telecommunciation world. Calls being made over the internet cut costs dramatically over traditional methods, and with the increase in bandwidth and smarter code being developed, the quality of these calls has improved dramatically in the last 5 years. Some systems even allow for personnel that are traveling to load software on their laptops that acts just like their standard office extension, so they can answer incoming calls from anywhere or have their outgoing calls re-routed through the VoIP

technology to anywhere in the world.

There is also an increased use of SMS or text messaging in terms of communicating information instantly to both internal personnel and clients.

AV/Video

Again this area could be a topic by itself, but some notable developments for venues here is the ability for changeable content to be delivered to suites/seats, allowing the patron to choose camera angles or replays at their discretion.

The broadcasting of live events is also becoming increasingly popular, where people who can't attend the event can pay a fee and watch it via the web, or even watch it at their leisure after the event has finished. This type of technology enables an expanded audience to participate and experience the event.

Most venues these days have extensive audio visual capabilities for assisting with the event production, ranging from giant TV screens to complex staging and lighting systems.

Key Considerations For Any Implementation

While we have already discussed some of the critical items to consider to analyze your needs, it is also vital to consider the selection and implementation stages and how these can be most successfully managed.

Selection process

There are a couple of ways to manage this – you can either look to have vendors come to you independently and show you what they have to offer in the area of technology you are interested in, or if you want a more formal process you can put together a Request for Proposal (RFP) based on your requirements. It really depends on your needs and prior knowledge of what is available as to which is the best method for you. Doing it independently can often be a quicker, less costly exercise from an administrative perspective, but it does leave you open to

having the vendors only showing you their system from their perspective which often makes it very hard to achieve an apples-to-apples comparison.

Going through an RFP process is much more time-consuming and often quite costly, especially if you involve an external consultant to assist you with this, but the benefits are that you can clearly document your needs and then have every vendor respond in a common manner. Additionally, once it is time to look at the various short-listed products it is a good idea to have the vendor follow a demo script so you can do that apples-to-apples comparison with others. This is often where you will see which systems have gaps in meeting your needs.

Change management

Probably the single biggest factor that impacts the success of any technology implementation is change management. Earlier I mentioned how we don't like it when companies like Microsoft change things from version to version – the same applies when implementing a new system. It is critical to ensure that everyone understands why you are implementing a new technology and has had the ability to have some sort of say in the matter before it takes place. If you simply thrust a new system on your staff without any prior engagement then you will have immediate resistance, which is human nature.

Ideally, you want to be able to involve as many of the staff as possible early on in at least being able to voice their opinion on the technology you are looking to introduce and why you are introducing it. This doesn't mean that you can't make decisions without getting everyone's buy-in but at least ask for opinions/comments before embarking on a project. Make sure you know whose roles will be impacted the most and involve these people more.

Many staff feel threatened when a new system is implemented, either because it is a challenge to their "standing" within the company, or simply because they are not technically proficient. Ways to combat this are:

- Ensure these people are more involved than others in the process.
- Explain how this new system will not take away any of their power or stature within the company, but free them up to concentrate on

more important tasks.
- Offer additional training if they are not as technically proficient as others.

One of the worst things that can happen as you implement a new system is not have buy-in from everyone involved. It is also equally important to the success of the implementation that it has support from the top down. In other words, management are fully on board with the change and why it is important and draw a line in the sand – whether that be a cut-off date to go from the old system to the new, or rejection of information if it does not come from the system implemented to provide this. It is very easy not to change, and to simply continue doing things the way you always did if this is not enforced. Systems only work to their maximum when everyone uses them.

Another mistake to be aware of when implementing a new system is with reporting. One of the main reasons for putting a new system in place is because you want to be able to analyze/understand your business better, and this generally comes from reporting. Don't try and make the new system replicate reporting you had from the previous system just because that was what you were familiar with. If that's what you are looking for, why bother to replace what you have? Be more open minded and understand that while the format may be different, the information will likely either be similar or hopefully better than what you previously had.

Implementation Plan

With any implementation it is very important to have a plan in place that clearly outlines every task that needs to happen along the way and who is responsible for each. If you don't have this, it is extremely likely that your project will take a lot longer and be much more costly than you budgeted/anticipated.

The implementation plan should be put together in conjunction with the vendor and in some cases with an external consultant if relevant. Having milestones and critical dates outlined will ensure there are no surprises at the end of the project. The implementation plan should also allow you to know when staff will be impacted for training and other factors that can

affect your day-to-day business operation. It is important to recognize that whilst the implementation takes place your normal business still typically needs to run, so be aware of what impact in time this will have on the personnel involved.

It should also take into account any data conversions from previous systems and integration with other existing systems. Both of these areas are common areas for “scope-creep” which means extended time and budget to complete. As part of the planning process it is critical to have these areas clearly defined and costed so that this minimizes the scope-creep mentioned.

With data conversions, many organizations start out with the feeling that they want everything from their old system converted over. The problem with this is that you are trying to take information from one system and put it into another when neither of these systems were ever designed to work together, might be entirely different technical platforms, etc. So the vendor who is implementing the new system then has to have someone develop some code to do this conversion. This can be very time-consuming and costly so you should perhaps think first about what your needs are and try and keep it to a bare minimum from this perspective.

Integration with other systems such as financial systems and so on can save a lot of double handling but again can also be very costly because you having to make two entirely different systems “speak” to one another. Whilst much integration may already exist because of prior projects your vendor has been involved in, be sure to be very clear with your requirements and ensure that the cost of the integration matches the time it saves.

Security and Privacy

With more and more emphasis being put on security and privacy these days, it is important to address this as part of the overall technology area.

Let's first look at security within the application itself. These days most technology will have a certain level of security access/control built into it via the likes of usernames and passwords. Each user will then have different access to parts of the system depending on who needs which level of access. This security can usually be set up and managed by either your System Administrator on site or by the vendor. One thing to keep in mind when setting security levels, everyone generally starts out by having a lot of restrictions because it sounds like a good plan initially. However, more often than not these restrictions can hinder your personnel from doing their day-to-day tasks so just be aware of this – you hire people and give them a certain amount of trust to perform their roles, keep this in mind when you set up security access for the technology too. The tool is there to help streamline the operation, not put further obstacles up that not only slow down processes but also cause barriers for adoption by the end users. Don't leave the setting of your security policies entirely up to your technical staff, these policies should be a collaboration across all departments.

Security for attacks from external sources is another area receiving a lot of attention currently. With terrorism and cyber hacking on the rise, it is something to be aware of, without getting too paranoid. If you have your technology on premise, then your IT team will be responsible for ensuring that adequate firewalls, anti-virus and spyware/malware applications are in place and kept up to date. With a plethora of excellent software available for this these days - much of it free - there is no excuse not to be up to date. If your technology is externally hosted it is the responsibility of your vendor to protect your core systems and generally they have a lot more sophistication in place both physically and virtually to do this. Hosting facilities are generally expected to meet various security requirements such as access to the facility/data, construction of the building (earthquake/flood/cyclone rated), and even in some cases protected from things such as bombs or other terrorist type situations.

One of the areas that allows for the most spreading of viruses and other malicious attacks is through email. It is also the most difficult to manage because it relies on the individual staff member rather than just the IT team. Emails (even if they are from people you know) with very little in the way of an explanatory message but usually with a link to a website can be a quick way to spread a virus. Hackers can easily have emails sent to you that look like they are coming from a trusted source but they are not. When an email is targeted at a specific person or group, this is known as a spearphishing attack. An email sent en masse with no particular target is usually classified as a phshing attack. An email sent specifically targeting a high value peson(s) in the organization is called a whale attack. Another general rule of thumb to use in this area is that if the text of the email doesn't really explain what the link is all about then go and use google and search the email subject before you open the link – you'll pretty quickly find many references to a hoax or a virus if that is the case.

Privacy is also a big issue for many people, with many of your systems capturing personal data about your clients and others. Different countries have different laws on this, but these days most have some form of requirement to allow people to "opt out" of any communications you may send to them. If you do not offer this and continue to send people emails/SMS's or such like, you can be legally liable and face a lawsuit. So ensure you always give this option to "opt out" whenever you are communicating electronically. Equally important is ensuring you let everyone know if you intend to share the information you are collecting about them with any third parties. Once again, there should be a clear statement that you are intending to do this, and they must have the option to agree or decline. Recent regulations like the GDPR requirements for EU citizens highlight the ever changing environment around privacy that you have to be compliant with.

Mobile Apps

Probably the area that has had the biggest impact on us all is the area of mobile apps and smartphone functionality within the event space. Many venues are now providing their own apps for their clientele, to enhance the venue and event experience. The trend does seem to be though, that Live Entertainment Venues are more likely to get value from an app because of the fan enagement capabilities vs. a Conventon Centre, where typically the Meeting Planner renting the space will provide the attendees with an app specific to that event, so the Centre may just use a “mobile friendly” website to provide information to their guests about the facility.

Web-based vs. Native Apps

There are basically 2 kinds of delivery methods for apps – either web-based (or HTML5 as it is commonly referred to) or native apps. There is no right or wrong option, it really comes down to what suits your message the best. But so you understand the difference, a web-based app means that the app is browser-based, it doesn’t come from any app store. This means that it will work on any phone or tablet that has internet capability, it is platform independent. The patron simply clicks on a hyperlink or scans a QR code to initially bring the app up on the phone, then adds it as a shortcut to their main screen. A web-based app does require you to be connected to the internet to get the latest information, although these days they do allow for caching, so that once you have visited a page it will still be accessible even if you are not online. A native app is an app that is developed specifically for various platforms, such as an iPhone, iPad,, Android, Windows phone, Blackberry, etc. Then you need to go to the app store for your specific device and download the app. This will automatically add it to your main screen. Once downloaded, it can be accessed at anytime regardless of whether you are connected to the internet or not, but of course if any updates are made to the app you do need to be connected to the internet to receive these.

What to incorporate into your App

Again there are no right and wrong options here, it really does depend on the experience you are trying to offer to the patron at your venue. But

many venues will incorporate things such as maps, venue location and transportation information, upcoming events, ticketing, safety and emergency procedures, team information (if its a venue with permanent tenant teams), merchandise and catering options, links to the venue's social media/fan pages, that type of thing. Be careful not to offer things that require too many clicks, otherwise patrons will lose patience and not utilize it as much as you might want them to.

Pricing for Apps

This is a really interesting topic, because even though many hours of programming and cost (to the venue) can go into creating an app, there is very little value attached to an app by the general public. Because of the "perishable" nature of an app, due the fact that one might just want to use it for a very short period of time, there is very little perceived value or inclination to pay for this. Most venues that have an app have made this a marketing cost and offer it for free to obtain greater patron engagement.

Connectivity

This has become an increasingly important concern within the venue especially these days with the device saturation we see at events. Not only have the number of patrons carrying a mobile phone into the venue increased dramatically, but because most of these are smartphones, the demand load is not only on the cellular networks for voice access, but for data also. And many patrons are bringing more than one device with them now. These days, nothing annoys your patrons more or leaves them with a less than stellar experience of your venue than poor or limited connectivity. Whether it is a concert, a trade show, or a sporting event, people are going to want to use their smartphones to call, tweet, like, text, browse, download, search etc. etc. so it is imperative that your venue has the capacity to deal with this.

Charging for wifi access

This topic has become a real hotbed of debate, and the general trend we are seeing in the event world is that the public has little tolerance for paying for wifi anymore. Internet connectivity is now almost viewed as a

utility, as important and integral part of an event as electricity and running water! Some venues still charge for connectivity, but I believe this won't be the case for much longer, so venues should start thinking about other ways to cover the costs associated with offering this, as the public are now expecting this to be included. One way some venues are transitioning this, is to offer free wifi with enough bandwidth to accommodate acceptable speeds for basic browsing and checking emails, etc. but a fee if you want to have high-speed access for video streaming, downloading etc. But whatever methods you decide to offer, you must ensure that the bandwidth is going to suit the volume of people accessing the network. Nothing is more frustrating than being told there is free wifi to then find after about 100 or so people connect it is so slow it becomes unusable. This is almost worse than not offering wifi at all!

The bottom line is that demand is only going to increase as we move forward, so be sure to plan accordingly as you build/upgrade your venues.

The Impact of COVID-19 on venue technology

It would be remiss not to include a section here about the impact that the COVID-19 global pandemic has had on technology requirements for venues.

For example, when events such as conferences moved from being in-person to virtual, many convention centers had to pivot and several even built their own studios so that content could be broadcast from the venue to virtual attendees. This meant a significant investment had to be made by venues that took this route. Many concluded this was a worthwhile long term investment because events going forward will now likely have some form of virtual component to them, even when in-person returns. Time will tell if this is true or not.

Additionally, many venues looked to technologies that offered electronic counters to track how many people were in the venue at any given time to assist with crowd limits.

Floor planning software suddenly needed to be able to draw floor plans that took into account social distancing requirements.

Many venues have moved to cashless environments because of the pandemic and installed ATM's that ingest cash and convert this into a card with the cash balance on it instead.

There is definitely a move torwards making everything at the venue as "contactless" as possible.

The Future

Technology is evolving so fast that it is almost impossible for a venue to keep up with it all. The question is always asked – "what's the next big thing?" We all know mobile technology had/is still having a massive impact on the way people interact with the venue and the event, and this will in part also add to the technology focus for the future. As I see it right now, there are some major areas where technology is headed over the next 2-3 years:

Collaboration of Technology

In order to start gathering that information about people, it requires some level of integration or collaboration between several systems. If venues want to offer a greater event experience for their clients and attendees, they need their technology providers to work with them on being able to innovate and work together – even where previously some tech companies may have viewed others as "competitive". The tech companies that embrace this idea will be the ones to flourish in the long run, as the reality is that one company simply cannot keep up with all the technology needs of the modern venue. Plus a venue is no longer interested in "standalone" information being gathered when sharing of this data can result in a far more effective event process and experience.

Virtual and Augmented Reality

When venues first started hearing about Virtual Reality (or VR as it is commoly referred to) the immediate general thought was this could be a real threat to people attending live events. The truth however, has seen VR becoming more widely accepted as a way to offer attendees and fans an additional avenue of engagement with the venue and event. Many venues

will use VR “tours” of their venues to showcase the venues without the need for someone to have to visit in person. This can be particualry helpful for raising awareness of refurbishments as well. There are many applications for live entertainment events too, such as giving a fan a view of the event from another part of the venue or in some cases being in the middle of the action!

Augmented Reality (or AR) is a combination of “real” data with simulated data. A good example of this is the Pokemon Go game – this combines real maps with the ability to then find and capture items that don’t really exist (although some hardcore fans may argue this point!). But the application for this kind of technology to venues is enormous. Think of the training ability to be able to simulate a live shooter situation with real video of the venue, but “avatars” as shooters and attendees.

Artificial Intelligence (AI)

In recent years there has been a massive increase in the use of Artificial Intelligence, whether it be voice recognition and learning your preferences via the likes of Apple Siri, Amazon Alexa, Google Home or others, it is now a technology that is infiltrating our everyday lives. So this means that attendees at events are looking for venues to incorporate this in their event experience also. Hotels are already using Alexa in the rooms for things like ordering room service, information services and so on. Venues could utilize it for spoken directions or various other informational uses.

Some venues have already started using AI “robots” for additional security throughout the buildings, with real time video feed as they “patrol” the areas. Others are using Amazon’s Alexa for their corporate suite clients to order food and beverage, and change channels on the TV inside the suite, etc. drastically reducing the need for a staff member to be present at all times.

And most recently, tools like ChatGPT have become available, opening up all kinds of opportunities for AI to impact everything we do.

We will see much more use of AI in the venues as this becomes more commonplace in our day to day lives and this is the area of technology that

likely will have one of the biggest impacts on our venues in the next few years.

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