



## “Immersive versus Interactive Technology: A Practical Guide” Evolution of the Arts in a Digital World Symposium - Session No. 7 Notes February 17, 2021

### Question 1: How would your organization define the difference between immersive and interactive technology?

#### Jesse Moffat's Answer

- Our exhibits at the [National Music Centre](#) (NMC) are a combination of real-life objects and props that are used to create the atmosphere. Technology is used to intensify the experience.
- Currently we do not have virtual reality (VR).
- For object-based collecting institutions (i.e. museums) we use technology to assist in the creation of active or passive experiences. Technology is used to amplify the stories we are telling.
- Within our building, we utilize technology to create engaging and creative access points for visitors.
- Online, visitors can explore at their leisure through digital collections.
- More museums will invest in emerging technologies.
- With more points of access, this will result in more engagement.

#### Dan Alfano's Answer

- Immersive experiences transport you, they take you to another place, and make you feel like you are in a different world.
- Interactivity is a scale. You can have exhibits that you touch, smell, and move with, or it can be something simpler and more passive. If it captures your attention, it is interactive.
- Example: The Disney theme park model where everything immerses you in that experience. Everything from the lighting, carpet, buttons, and paint on the walls.
- It does not always have to be super high-tech to be immersive and interactive.

#### Milan Krepelka's Answer

- The [Telus World of Science](#) (TWOSE) has a feature exhibit gallery that showcases a lot of immersive exhibits from around the world. When these exhibits are here, the team can learn about the different ways other exhibits utilize interactivity.
- Audiences are getting savvier and they get bored more easily.
- In the past, you would push a button, and something would happen. Now, we will give people a question or challenge that they must solve, and their involvement creates a user-driven outcome and makes them feel more immersed.
- There is a shift to get people to be involved so heavily that they feel immersed in the experience.



### Amanda Derksen's Answer

- When creating the digital wall, the librarians at the [Edmonton Public Library](#) (EPL) had to consider definitions. Are we speaking the same language? What is interactive?
- When you are near it, you are emotionally placed in that experience. You are connected and involved, and you feel yourself in that space.
- The wall is enormous so you cannot help but feel immersed.
- The design team needed to consider the sound, look, feel, and emotional connection of the audience.
- The IT developers were surrounded by librarians. They needed to make sure everyone was on the same page.

### Question 2: Where do you recommend organizations begin if they are planning to include immersives or interactives in their daily activities?

#### Dan Alfano's Answer

- Assuming you have received the funding to create an immersive or interactive experience, consider where the best place is within your facility that would be the most widely used by your visitors. You need to consider both location and floor space.
- Then, what kind of technology can we use in the confines of our space? Usually, you will have a subject matter that you will be focused on.
- After looking at funding, location, and the topic, then consider is it an exhibit where people will run, jump, or sing within it, and what will be the impact of that exhibit on the rest of your facility?
  - Example: The TWOSE had a classroom and educational space where dedicated lessons such as soldering could take place. However, right next to the classroom was a noisy kinetic structure machine. Independently, they are both great exhibits, but next to each other, they did not work.

#### Milan Krepelka's Answer

- You need to focus on your resources.
- My advice is to start small and simple.
- One must proceed slow and steady to get to a user-driven outcome.
- Guests do not want to facilitate and participate at the same time.
- Fail early, and fail cheap.
- Learn about how the audience will behave; this is not something you can predict. People have different energy when they enter a museum vs. a library vs. a science centre.

#### Amanda Derksen's Answer

- Start with your story or your user's story. Find out what your community needs.



- Will people use the technology interactives you are displaying?
- There is a touch table at the Millwoods library branch. The table has eighty-touchpoints and is a great group experience. The table started as a game machine but was not very well used as people would walk past it. It was not a great use of the grant money. Librarians were not quite sure what to do with the table.
- One successful use was with a library that had a digital collection that could be shown on the table. The table has now been reworked to be an interactive digital content display.
- Amanda also worked with University students to try to solve the problem of the use-cases for the table. She would give students a list of criteria that the table needed to fulfill. The tables are now a showcase of student games and works that met Amanda's criteria.

### Jesse Moffat's Answer

- In a world with all forms of technology, do not follow trends.
- Focus on what you do best as that could be something that only you can do. Define the big idea - the 'so what', what do you want people to feel and takeaway?
- Determine what type of interactive activity would work best with your audience. Do you want a passive or a highly engaging experience?
- Determine what you can afford or how much you are willing to pay for that experience.
- Immersive and interactive activities are costly. You will need to consider the maintenance and longevity of the technology. Can you keep upgrading and when will you need to make a replacement?
- For budgets, we typically plan for a ten-year life cycle, but practically, you likely have five years.
- Once everyone internally is on board, then start engaging third-party experts.
- Time and money will be wasted if you do not know what you want before you engage those experts.
- NMC started as a grassroots organization that morphed into being a nationally focused organization. They spent three years in development, building out a twenty-two-exhibit space. They are celebrating their five-year anniversary, but truly, Jesse feels like it has been eight years because of the three-year development phase.
- It is great to have big ambitions, but you never have enough in the budget when it comes to technology.

### Question 3: If you could provide one piece of advice for integrating technology in a non-profit environment, what would it be?

#### Milan Krepelka's Answer

- Start small. It is easy to be seduced by technology. VR is the next big thing, but it has been the next big thing for thirty years.
- Start small and work sequentially.
- Try to avoid telling too much with too small of technology.



- You only have one chance to engage your audience.
- Milan would rather help people experience fewer things at a higher quality rather than many things at a lower quality.
- Stakeholders want results – you need to redefine what it means to get results.
- There are many solutions to each problem.
- You need to find a balance between stakeholder pressure and what the audience can bear when they come to the facility.
- Good, fast, or cheap - you can't have all three, pick two.
- Educate stakeholders about what they are looking at, and define what success and results look like for you.

### Amanda Derksen's Answer

- Think hard about how you will support this technology, especially after the initial excitement has faded. There are stresses on staff that may not directly work with the immersive technology, but who are expected to provide support for it.
- For smaller-non-profits, there is a 'can-do' attitude, but this can make it difficult to provide long-term support to technology once the excitement has faded. The organization needs to commit to keeping the technology updated.
- Consider the impact on staff, level of training needed, and how to provide ongoing support.

### Dan Alfano's Answer

- Exhibits need to be built to withstand people, somebody will find out how to break them.
  - Example: Library Gaming Room. This space is dedicated to video gaming with computers, consoles, and arcade cabinets. The library thought that because people play on arcade cabinets all the time, they should be relatively durable. One cabinet had clear acrylic buttons that were not commercial grade. Someone came in and played the machine with rings on their hand and cracked the buttons. This was a hidden cost that was not anticipated. Make sure you are purchasing high-quality exhibits.
- Before you go out and buy something, do a scan, and call others who have used it or contact the organization you want to purchase from. Learn from other organization's successes or failures with that product.

### Jesse Moffat's Answer

- Consider the durability of exhibits. When working with [Haley Sharp Designs](#) for a museum exhibit, they would bring in large immersive screens. The museum director would put them on the floor and kicked them. If it broke, they would move on to something else.
- As a non-profit with a modest budget, if you are starting from scratch with your interactives, keep in mind that there are capital expenses and expenses to keep things current.
- [BrightSign](#) - Go-to technology that is inexpensive, has great support, and works well as a content management tech tool. BrightSign allows the creation of access points through screens and buttons. It can also control screens, projection, and audio. It can create an interactive experience



for a few thousand dollars vs. tens of thousands if you were to have it created by a third-party. They are also great because they have training available. Jesse is not endorsed by the product, but he is a fan.

- Stay away from developing your own software. This is an expensive endeavour with a lot of pitfalls.
- Always buy off the shelf from a trusted vendor.

### Question 4: Do you see immersive and interactive technology becoming more prevalent considering the recent jump towards digital technology?

#### Amanda Derksen's Answer

- Yes!
- However, we are in a place of growing pains where the hardware is affordable, but the experiences you are creating are less affordable.
- Need to consider what you are going to do with the technology.

#### Jesse Moffat's Answer

- Yes, more organizations want to increase their online presence and reach audiences beyond the brick and mortar.
- The approach would have been much slower if not for the pandemic.
- The physical exhibits had to reduce the number of touchpoints. This had Jesse considering the use of interactive tech within the exhibitions. With 65 touch screens, musical instruments that are coached through headphones, vocal isolation booths, music maker interaction spaces or children, these all had to become more passive engagements because of COVID.
- Pre-COVID, Visitor satisfaction was highest in galleries with lots of interactives and that focused on a single learning outcome.
- Restrictions will pass and the ability to physically engage and touch things will go up in the short term once we can have visitors again.

#### Dan Alfano's Answer

- Yes. The Library has three recording studios and one video recording studio. We want to invite people to use those spaces.
- Immersives and interactives are more prevalent, but ask yourself why? What is the point you are making and what do you want customers to experience?
- Technology is the conduit for delivering your message and should be used intentionally.
  - Example: VR Headsets. These are available for use in the library and these are a cool individual experience. However, if visit with a group, the minute you put the goggles on, you put up a barrier. This technology takes away from the collaborative experience.
- Still need to figure out the best way to use all this technology that is available to us.



### Milan Krepelka's Answer

- COVID meant that we have had to leverage technology to go online. We can reach a broader audience around the world by going beyond our walls.
- VR is wonderful, but it comes at a cost, both financial and experimental.
- Operational consideration - hygiene between users, the durability of the technology.
- Technology evolution is a moving target.
- Focus on your organization's message and brand. This will be used to drive your audience experience.
- Also, you need to consider the visibility of the technology. We have screens and technology surround us in our everyday lives.
- Try to stay just beyond the leading edge. The leading edge can also be the bleeding edge when considering the costs of keeping things supported and running.
- If an experience leans too heavily on technology and that technology is fallible, then the immersive experience fails.
- When open, there are over six hundred people coming to visit a day who can break things. These are opportunities to improve the design. Things break, not always because of malicious intent.
- Pump the breaks a bit when introducing new technology. Keep the message and branding clear to drive the experience.

### Question 5: How do you go about considering the visibility of the technology in immersive and interactive exhibit experiences?

#### Jesse Moffat's Answer

- We do not go to great lengths to hide the technology unless it negatively impacts visitor experience.
- Interactives need to be intuitive for the visitor.

#### Amanda Derksen's Answer

- The library wants you to see behind the curtain.
- They want technology to be good and helpful when you come to visit. Every Tuesday morning, there is a maintenance window where you can see the technology behind the scenes.
- There is a strong DIY movement connected to library spaces and they want to invite you to be curious about that technology and the immersive experience.

#### Dan Alfano's Answer

- We want to give people the option to learn about how the technology works and give them the forum to ask and be curious.



- If your organization's goal is to have an immersive or interactive space where people are transported to another period in history, then maybe the technology should remain a mystery. The more technology is a mystery, the more immersed you are in that scene. This works great if this is your goal.
- Benefits to both showing and concealing technology.

### Milan Krepelka's Answer

- There are times where it is appropriate to show the technology.
- There are different types of visibility. Literal visible includes how compact the technology is, the cables, and wires. There are also the 'invisible' elements that contribute to the visibility of the technology such as the speed of the interaction.
- Technology becomes visible if there is a noticeable lag in the experience.
- The speed and ease of interaction can also impact the visibility of the technology.

## Q&A Session

### Question: How do you evaluate the success of your immersive or interactive experience?

#### Milan Krepelka's Answer

- No formal evaluations, but staff members do observe visitor experiences.
- Milan did do some research on Health Galleries in the US. The gallery that he observed had an exhibit team of one hundred people. Milan has four. The gallery had a ten-person evaluation team whose sole job was to ask questions before, during, and after the experience. This is now done at the TWOSE as well. As visitors they look at their takeaways, and use this feedback to see how the exhibits can fill gaps.

#### Dan Alfano's Answer

- Define what success looks like. Can you observe your customers achieving those desired end goals? If not, can see if there are barriers that are preventing them from reaching that success?

### Question: I have edited some virtual orchestra and choir projects since the pandemic restrictions began. Are there any technology or design suggestions for making these virtual productions more immersive or engaging to the audiences and/or participants?

#### Jesse Moffat's Answer

- Streaming concerts have become more popular than ever. Before closing in December, used to stream up to three concerts per week.
- Production value plays a component.



- Consider live streaming vs. capture and release.
- With live streaming, more things can go wrong, you cannot edit the final product, but it gives you the opportunity for direct engagement with the audience, like a real concert. This direct interaction makes that experience a bit more engaged.

**Question: How do you determine the shelf-life of immersive/interactive technology? Do you want the latest and greatest or stay with tried and true?**

### Milan Krepelka's Answer

- It is expensive to use the latest and greatest technology. It can also be stressful.
- Milan prefers to stay with tried-and-true technology, but this can be seen as 'outdated' and stagnant.
- It can take anywhere from a year to a year-and-a-half from developing the technology to when it is finally introduced to the visitor. By this time, it could be outdated.
- 'Shelf-life' is defined as the frequency the technology is deemed to be broken.
- Define what you consider to be a 'success'. An exhibit and experience cannot have everything.
- You can tell the same story with multiple different technologies.
- 'Shelf-life' can also be defined as when the technology you are using cannot support what you define as success.

**Question: I have noticed that public institutions have a good handle on the hardware, but often the software takes a hit because of budget priorities and lack of knowledge experts. Can inroads be made into collaborations with experts such as video game companies?**

### Dan Alfano's Answer

- Going back to Amanda's example of the touch-table and collaboration with post-secondary institutions. It was a mutually beneficial endeavour.
- It depends on the partnerships you can make that are mutually beneficial and that have cross-promotion.
- Be honest about what you are looking for. Lots of people are willing to help their local non-profits.

**Question: I would like to hear what people are thinking for the integration of technology in programming for generations growing up with the expectation of technology involved experience?**

### Milan Krepelka's Answer

- This is self-governing, especially for people who began their learning journey with technology.
  - Example: When the new Children's Gallery debuted, Milan remembers seeing a dad with his toddler on his lap looking at an exhibit. He was shocked when the toddler just grabbed the mouse and began moving it around. That type of technology was part of that toddler's journey right from the start.





- Everyone expects everything to be a touchscreen.
  - Example: The upcoming Dinosaur exhibit has a table where you can place a fossil piece onto a spot in the exhibit and the screen will react to your placement. You can see marks on the screen where people tried to put things on or touch the screen.
- If you are utilizing non-touch screens, you need to make it obvious.

### Question: Which exhibit or technology have you found that works best, and why?

#### Jesse Moffat's Answer

- With twenty-two different experiences, his favourite is one that integrates as many technological and non-technological elements as possible.
  - Example: the Junos Awards Exhibits. Visitors enter on a red carpet, are guided through using old school velvet ropes, they experience a series of projectors and audio recordings. There are panels and graphics on the walls and objects you can touch. This exhibit is a combination of everything.
- Love having different access points for all visitors.
- It is not necessary to have the best technology but merging technology with real objects that you can touch enhances the experience.

#### Milan Krepelka's Answer

- Object Theatre - as the story unfolds, things are highlighted with lights and audio.
  - Example: The science centre's moon rock. It is tiny but they use technology to tell the story of the moon rock. They make the story more important and emotional to engage people. The use of storytelling makes this experience immersive.
  - The technology used for this exhibit is not invisible, but it is not the main take-away. When you leave the space, the takeaway is hopefully on all the effort that went into getting the moon rock displayed in front of you.

#### Amanda Derksen's Answer

- The exhibits that worked best are not the ones that are the easiest to maintain.
- The library has an augmented reality (AR) sandbox. It is a box full of sand with a projector on top that changes the landscape as children move the sand around.
- Children will throw the sand and get it into the projector and throw sand on the floor.
- It is a simple walk-up and use experience for the customer but and is a nightmare to clean and maintain behind the scenes.

#### Dan Alfano's Answer

- When a guest walks up to an exhibit, they just do it. They do not ask how it works. They just experience it.
- Do not have to think too hard to achieve success. This should be put into the design.

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Dan Alfano, Amanda Derksen, Milan Krepelka, Jesse Moffat,  
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- Example: The Digital Wall. There are big flat touchscreens, and it would not be the best idea to put objects there that could be moved into the screen. Make the exhibit easy and include elements that will not break it. Everything needs to work on the same plane - pushing a button or spinning a dial will work but pushing and pulling a lever in front of the digital screen may not be the best idea.