EXHIBITS THAT ENDURE THE TEST OF TIME

Considering Longevity from Concept Through Close-Out
WHO WE ARE

Moderator: Cathlin Bradley, Kubik Maltbie, Inc.

Expert Panelist 1: Sarah Myers, The Children’s Museum of Indianapolis

Expert Panelist 2: John Shaw, Museum EXP

Behind the Scenes Expert: Scott Wolfram, Working Studio
BEFORE THE SESSION

- We developed a survey to ask questions about creating exhibits
- Questions range from content development to maintenance
- We collected responses from across the industry
- We analyzed the results
DURING THE SESSION

● Today we’ll review the results of the survey… “Family Feud” Style!

● The moderator will ask questions related to exhibit creation

● Two participants will have a chance to guess the most popular answer

● The panel will discuss the results

● You will have an opportunity to test your knowledge

● We will make time for questions
LET’S GET STARTED!
QUESTION 1

Name a step in the exhibit development process.
Note: the results shown reflect the TOP (6) answers received.

Numbers are percents.
<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prototyping</td>
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</tr>
<tr>
<td>Design Development</td>
<td>10</td>
</tr>
<tr>
<td>Concept Design</td>
<td>10</td>
</tr>
<tr>
<td>Discovery</td>
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<tr>
<td>Schematic Design</td>
<td>5</td>
</tr>
<tr>
<td>Value Engineering</td>
<td>5</td>
</tr>
</tbody>
</table>
START WITH A SOLID CONCEPT…THEN TEST!

- Know your audience and their needs
- Develop a Big Idea or Vision Statement to guide the project
- Consider longevity of topic and experience
- Prototype, test, and evaluate throughout the process
- Manage schedule and budget closely - time lost early in the schedule can have costs later on
- Choose project team members and vendors that can work well together
QUESTION 2

How much does the average interactive exhibit cost?
QUESTION 2

SURVEY SAYS
INTERACTIVE EXHIBITS ARE A BIG INVESTMENT

- The truth is…it varies!
- Consider a balance of experiences - interpretive, mechanical, and digital
- Off-the-shelf vs. custom
- Off-the-shelf is cheaper, but may be discontinued or become obsolete
- Custom is more expensive, but it can always be procured
- Consider cabinetry that is modular and/or changeable over time to accommodate changes in hardware that may need to be replaced
- Don’t forget! While you may consider an exhibit to be permanent, there should always be room for changes
QUESTION 3

What type of exhibits require the most maintenance?
<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td>22</td>
</tr>
<tr>
<td>Hybrid Physical / Digital</td>
<td>17</td>
</tr>
<tr>
<td>Tech / AV / Media</td>
<td>17</td>
</tr>
<tr>
<td>Poorly Designed</td>
<td>5</td>
</tr>
<tr>
<td>Water</td>
<td>17</td>
</tr>
<tr>
<td>Traveling</td>
<td>3</td>
</tr>
</tbody>
</table>
INTERACTIVE EXHIBITS REQUIRE MAINTENANCE

- Maintaining existing exhibits is always less expensive than buying new exhibits!
- Focus on quality
  - If working with outside fabricators, carefully review their credentials
  - Ask for and follow up with references
- Consider materials and fabrication methods that offer long term flexibility
- Make sure you have a maintenance manual for EVERY exhibit
  - List all purchased components an sources
  - List timeline or replacing parts that will wear out
- Consider the speed of Technology
QUESTION 4

Name an important skill set for exhibit maintenance staff to have.
QUESTION 4

SURVEY SAYS
<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Solving</td>
<td>18</td>
</tr>
<tr>
<td>Carpentry / Fabrication</td>
<td>8</td>
</tr>
<tr>
<td>Troubleshooting / Diagnostic</td>
<td>15</td>
</tr>
<tr>
<td>Mechanical</td>
<td>8</td>
</tr>
<tr>
<td>Patience</td>
<td>10</td>
</tr>
<tr>
<td>Organization</td>
<td>3</td>
</tr>
</tbody>
</table>
IT’S NOT JUST ABOUT HARD SKILLS

● Mechanical knowledge and fabrication skills are important
● However, “soft” skills can prove even more valuable
  ○ Problem Solving & Research
  ○ Patience & Curiosity
  ○ Collaboration
  ○ Good Judgement
  ○ Networking
● Being able to figure out what’s wrong is the first step in solving exhibit problems
● Be wary of someone who wants to re-design everything

- Electronics - use a multimeter
- Carpentry - use power tools & cut straight lines
- Mechanics - Use hand tools & maintain moving parts
- Knowledge of material properties
- A/V & lighting
- Computer systems and software
- Project Management
- Engineering & Design
- Electrical
- Plumbing
QUESTION 5

What percentage of the fabrication budget should be set aside for maintenance and operations?
QUESTION 5

SURVEY SAYS
MAINTENANCE IS LESS EXPENSIVE THAN NEW EXHIBITS!

- Warranty vs. maintenance
- The type of exhibits you choose will impact the cost of maintenance
- Neglecting regular maintenance can be costly!
- During design, consider wear points and durability of finishes
- For interactives, select components that are easy to replace instead of custom produced, if possible
  - Ex. Bearing that can be ordered from McMaster-Carr vs. custom part
  - Be sure to design flexibility into anything that requires media hardware
Name a small power tool that every exhibits shop should have.
QUESTION 6

SURVEY SAYS
<table>
<thead>
<tr>
<th>Tool</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drill / Screw Gun</td>
<td>58</td>
</tr>
<tr>
<td>Router</td>
<td>8</td>
</tr>
<tr>
<td>Impact Driver</td>
<td>14</td>
</tr>
<tr>
<td>Palm Sander</td>
<td>3</td>
</tr>
<tr>
<td>Dremmel</td>
<td>8</td>
</tr>
<tr>
<td>Radial Arm Saw</td>
<td>3</td>
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</tbody>
</table>
THE RIGHT TOOLS ARE IMPORTANT…

- Building and maintaining exhibits requires the right tools
- Clearly, a drill or screw gun is a necessity!
- Other basic tools are also helpful for maintaining your exhibit
- It’s also a good idea to keep a set of spare parts for mechanical exhibits that require routine maintenance
QUESTION 7

Name a durable, lightweight material for building exhibits.
QUESTION 7

SURVEY SAYS
Aluminum 26
Starboard (HDPE) 15
Sintra 13
MDF 10
Plywood 10
Durable & Lightweight Doesn’t Exist! 3
AND SO ARE THE RIGHT MATERIALS

- The survey responses were write-in and not multiple choice
- The answers were surprising!

This doesn’t exist!

- While aluminum was the most common response, it’s probably not the best material for building children’s exhibitions
- Both MDF and Plywood are great options for building cabinetry and structures
- Starborad (HDPE) is a great option for water exhibitions or high-traffic areas
- Sintra is certainly lightweight and durable, but not a great option for BUILDING exhibits - better for graphics
- Think about material trade offs!
Name a way to interact with technology that’s an alternative to a touchscreen.
<table>
<thead>
<tr>
<th>Feature</th>
<th>Score</th>
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</thead>
<tbody>
<tr>
<td>Kinect or similar</td>
<td>45</td>
</tr>
<tr>
<td>RFID</td>
<td>5</td>
</tr>
<tr>
<td>Push Button</td>
<td>15</td>
</tr>
<tr>
<td>Virtual Reality</td>
<td>5</td>
</tr>
<tr>
<td>Voice Activation</td>
<td>8</td>
</tr>
<tr>
<td>QR Code</td>
<td>3</td>
</tr>
</tbody>
</table>
LOOK BEYOND THE SCREEN

● Kids are inundated with screens!
● Don’t use tech for the sake of tech
  ○ Consider where technology can enhance an experience or make deeper connections
  ○ Hardware becomes obsolete quickly and can be expensive to replace
● Offer experiences that kids can’t have on a screen at home
  ○ We don’t have budgets to compete with apps and video games
  ○ We DO have opportunities for authentic and immersive play
● Consider multi-user experiences and intergenerational play
● Consider how tech interactives can extend the experience into the home
Name a common material on which graphics are printed.
QUESTION 9

SURVEY SAYS
<table>
<thead>
<tr>
<th>Material</th>
<th>Score</th>
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<tbody>
<tr>
<td>Sintra</td>
<td>45</td>
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<tr>
<td>High Pressure Laminate</td>
<td>25</td>
</tr>
<tr>
<td>Paper (laminated)</td>
<td>2</td>
</tr>
<tr>
<td>Plywood</td>
<td>1</td>
</tr>
<tr>
<td>Acrylic (second surface)</td>
<td>12</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
</tr>
</tbody>
</table>
DURABILITY VS. ECONOMY

● Sintra is a great option for inexpensive and somewhat durable graphics
  ○ Good for wall signage and graphics that are not touchable
  ○ Sintra is soft and easy to scratch
  ○ It is also lightweight and commonly stocked

● High Pressure Laminate
  ○ Great for touchable graphics
  ○ Can be fairly expensive
  ○ Lead times are long!

● Acrylic
  ○ Good for wall signage and graphics that are not touchable
  ○ Great for graphics that include photos - good clarity
  ○ Scratches easily
  ○ More expensive than Sintra
What’s your go-to method for hanging graphics?
QUESTION 10

SURVEY SAYS
<table>
<thead>
<tr>
<th>Material</th>
<th>Value</th>
<th>Material</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleat - Z-Clips</td>
<td>63</td>
<td>Screws / Bolts</td>
<td>5</td>
</tr>
<tr>
<td>Velcro</td>
<td>18</td>
<td>Cable</td>
<td>3</td>
</tr>
<tr>
<td>VHB</td>
<td>10</td>
<td>Other</td>
<td>1</td>
</tr>
</tbody>
</table>
FLEXIBILITY IS KEY!

- Consider how often you expect to change your graphics
- Cleats and Z-Clips are sturdy yet allow you to change graphics quickly and easily
- Velcro can be a flexible option, but can also cause damage to walls when removed
- Bolts and screws can be a good option if hardware is hidden
- Beware of over-using VHB if you ever want to remove the graphic!
LIGHTNING ROUND!
You want to create an exhibit concept to request funding from a donor.

- Where do you start?
- What information do you need?
- How will you present it?
LIGHTNING ROUND 2

You are planning an outdoor exhibition.

● What materials will you choose?
● What are some of your maintenance and safety considerations?
You’d like to create a digital exhibit.

- How will you make it a different experience than what visitors can get at home on their phone, tablet, or computer?
QUESTIONS?
KEEP IN TOUCH!

Cathlin Bradley
cbradley@kubikmaltbie.com

John Shaw
john@museumexp.com

Sarah Myers
sarahm@childrensmuseum.org