Rhythm Rounds

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January 2003

THIS IS NOT A DEFINITIVE FINAL REPORT

FORMATIVE evaluation studies like this one often:

- **are conducted quickly**, which may mean
  - small sample sizes
  - expedited analyses
  - brief reports

- **look at an earlier version** of the exhibit/program, which may mean
  - a focus on problems and solutions, rather than successes
  - a change in form or title of the final exhibit/program
Sound and Hearing – Formative Evaluation

Rhythm Rounds

Joyce Ma
January 2003

PURPOSE
To determine:
1. What visitors do at Rhythm Rounds
2. How interesting visitors found the exhibit
3. What visitors think is the point of the exhibit

This study was performed to collect baseline data about the Rhythm Rounds exhibit to help inform future refurbishment efforts.

EXHIBIT
METHOD

Type: Observation followed by uncued interview

Observation / Interview Times

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Time of Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday</td>
<td>12/26/02</td>
<td>Afternoon</td>
</tr>
<tr>
<td>Sunday</td>
<td>12/29/02</td>
<td>Afternoon</td>
</tr>
<tr>
<td>Sunday</td>
<td>1/5/03</td>
<td>Afternoon</td>
</tr>
</tbody>
</table>

Data Collected

- N = 23
- Demographic Breakdown

<table>
<thead>
<tr>
<th>Gender</th>
<th>Count (out of 23)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>14 (61%)</td>
</tr>
<tr>
<td>Female</td>
<td>9 (39%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Count (out of 23)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child (8-12)</td>
<td>4 (17%)</td>
</tr>
<tr>
<td>Teen (13-17)</td>
<td>2 (9%)</td>
</tr>
<tr>
<td>Adult</td>
<td>16 (70%)</td>
</tr>
<tr>
<td>Senior</td>
<td>1 (4%)</td>
</tr>
</tbody>
</table>

Note that 13/23 (57%) of the people we observed worked with a child, under 8-years old, at this exhibit.

RESULTS

How long do visitors stay at Rhythm Rounds?
Figure-1 shows the distribution of visitors’ holding times.

- Mean = 112 sec
- Median = 75 sec
- Minimum = 14 sec
- Maximum = 431 sec
As a rough comparison, we looked at the average holding time for Rhythm Rounds from this study to the average holding time for Sound and Hearing exhibits, computed from an earlier timing and tracking study.\(^1\) We found that Rhythm Rounds has a higher holding time than the average for Sound and Hearing exhibits, 112 seconds > 53 seconds. Also, Rhythm Rounds falls in the top quartile of exhibits for longest holding times.

**What do visitors do at Rhythm Rounds?**
A majority of the visitors spun the wheel and reorganized the pegs:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spun the wheel</td>
<td>22 (96%)</td>
</tr>
<tr>
<td>Reorganized the pegs</td>
<td>19 (83%)</td>
</tr>
<tr>
<td>Pressed a button</td>
<td>12 (52%)</td>
</tr>
</tbody>
</table>

Furthermore, we counted how many times visitors went through the cycle of spinning the wheel and reorganizing the pegs.

\(^1\) Note that some exhibits have moved since the earlier timing and tracking study.
Most visitors spun the wheel and reorganized the pegs at least once, with over 1/3 of the visitors iterating two or more times.

**How interesting did visitors rate this exhibit?**
Interest in the exhibit varied.

<table>
<thead>
<tr>
<th>Interest Rating</th>
<th>Count (out of 23)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uninteresting</td>
<td>3 (13%)</td>
</tr>
<tr>
<td>Somewhat uninteresting</td>
<td>6 (26%)</td>
</tr>
<tr>
<td>Neutral</td>
<td>4 (17%)</td>
</tr>
<tr>
<td>Somewhat interesting</td>
<td>5 (22%)</td>
</tr>
<tr>
<td>Interesting</td>
<td>5 (22%)</td>
</tr>
</tbody>
</table>

Visitors mentioned that they liked the exhibit for the following reasons:

- **(5/23 visitors)** It’s interesting setting up rhythms
  Being able to set up rhythms, and see if it came out right.
  The rhythm made it interesting
  That, if we had finished the experience, I think we’d have been able to hear the patterns.
  You can change the rhythm
  Interactivity aspect, of controlling sound.

- **(3/23 visitors)** Spinning the wheel and playing with the pegs were interesting esp. for very young children, according to their parents
  Interesting because kids are interested in the pegs, putting them in and out.
  They’re a little young to really understand, but I figure they’ll really get it later, and we just play with the things they don’t understand yet.
  2 yr old making noise and moving pegs is great - she likes making any kind of noise.
  The little pieces and turning was fun for [child]
• (1/23 visitors) The exhibit made interesting sounds
  Cool noises

Visitors thought the exhibit was not interesting for these reasons:

• (6/23 visitors) The exhibit did not make interesting sounds
  Flat sound. I expected a difference in the two levers’ sounds.
  Monotonal - trying to establish rhythms, but not very exciting.
  Was expecting music, but it’s more just for the rhythm.
  I wanted to make the clicking be something more interesting.
  Should make more samples like the samba sample to hear in rhythm.
  I thought it would be a little more melodic.

• (5/23 visitors) Visitors were confused about what to do or listen for
  Little hard to understand about taking pegs out, and what that’s for.
  Pegs - I wondered what they were for.
  Not sure if I was working it right. There was no white knob.
  [It would be] more interesting if I knew how it works.
  Didn’t get any response from it. I don’t know if I was working it correctly.

• (2/23 visitors) Spinning the wheel and playing with the pegs are not interesting enough activities
  I arranged the pegs and spun the wheel, that was okay.
  It’s too simple and didn’t do much

What do visitors believe is the point of the exhibit?

When we asked what they believed the point of the exhibit was, visitors explained:

• (10/23 visitors) The exhibit shows something about rhythms
  As the speed changes, changing the pegs varies the frequency of the clicking.
  Without reading the label - I’d say it was a rhythm pattern machine.
  Show the different rhythms.
  Rhythms - saw that you could make a samba beat - so I guess it’s to hear rhythms.
  Rhythms - the two rhythms overlapping
  How place and timing, where pegs are affects rhythm. That’s how music is made.
  Seems like it’s talking about making rhythm from repetitive noises.
  You don’t need a drum set to see a beat. Instead you can set up something like this
  and generate a beat with that.
  Setting up a rhythm or frequency of a recurring sound.
  To create different rhythm based on pegs in circle. There’s a similar device
downstairs that looks like a player piano.
• (6/23 visitors) The point was obscure or the exhibit had no point
  Don’t know.
  Have no idea.
  Not sure
  Not really [has a point]
  Don’t know
  Couldn’t figure it out.

• (5/23) The exhibit allows you to make sounds
  Maybe it’s how movie sound effects are made. Showing how different sounds are made. That varying the buttons, pegs, varies the sound
  To experiment with the pegs to see what sounds it can make.
  To see how different things make different noises.
  Gives you a sense of how something physical turns into something auditory. Mostly, it’s fun putting the pegs in and out. Felt sort of like a player piano you could control.
  You can get sound in a variety of ways - running a stick on a fence, setting pegs in a wheel.

• (2/23) Shows connection between visual and auditory patterns
  Shows that there’s a connection between visual patterns, tactile patterns, and auditory patterns.
  Visually, you can see it happening [music made]

• (1/23) It has something to do with pegs
  It does something with pegs

SUMMARY
• The average holding time for this exhibit is 112sec (median = 75sec). This is longer than the average holding time for Sound and Hearing exhibits (53 sec)
• A majority (more than 85%) of the visitors either spun the wheel and/or reorganized the pegs, and 78% of the visitors went through at least one iteration of spinning the wheel and reorganizing the pegs
• There was a large spread of ratings for visitor interest.
• Visitors found the following aspects interesting
  – It’s interesting setting up rhythms
  – Spinning the wheel and playing with the pegs were interesting esp. for very young children
  – The exhibit made interesting sounds
• But, they found the following aspects not interesting or confusing
  – The exhibit did not make interesting sounds
  – Visitors were confused about what to do or listen for
Spinning the wheel and playing with the pegs are not interesting enough activities

- Less than half (43%) of the visitors thought the exhibit was about rhythm. About 25% of the visitors had no idea what the point of the exhibit is.

RECOMMENDATIONS

Rhythm Rounds has a long holding time; visitors spend the time to spin and to rearrange the pegs. However, a majority of the visitors (56%) did not find the exhibit either interesting or somewhat interesting. Instead, visitors complained that the sounds they heard were not interesting enough and about 20% were confused about what to do and what they should hear. Furthermore, less than half of the visitors mentioned that the exhibit showed them something about rhythm.

To improve the visitor experience, we may want to help them to make interesting patterns and to hear the rhythmic patterns they make. For example, the exhibit may give more examples of familiar rhythms and indicate on the exhibit how to make these patterns (e.g. color markers around peg holes to denote different rhythms --- a suggestion from Rae). In addition, some of the pegs are so worn down that they no longer make contact with the levers, further subtracting from the experience. Improving the listening experience itself may also help visitors understand the point of this exhibit.

ACKNOWLEDGEMENT

Mary Kidwell collected most of the data for this study.