

Overview

Collecting, entering and analyzing timing and tracking data can be time consuming and resource intensive. This is because these studies often involve several evaluators who each follow an individual visitor as s/he enters the space, noting on a piece of paper where and for how long that individual stops (Serrell, 1998). The data then need to be typed in for analysis.

This poster describes a suite of tools recently developed to facilitate the collection, entry and analysis of timing and tracking data for a formative evaluation of the Exploratorium's new Mind Section.

These tools are in-progress. We hope to initiate a discussion with the larger visitor studies community about possible next steps in developing these tools for wider use.

NEW TOOLS FOR TRACKING AND TIMING

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The Three Tools

These tools were developed using **off-the-shelf, inexpensive** software and hardware, and can be **used independently** of one another.

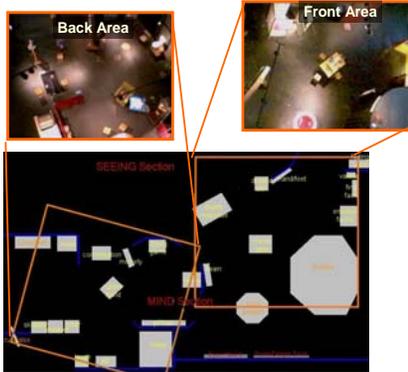
Overhead Webcam

To collect video data of visitor movement

Figure 1. Equipment Setup



Figure 2. Overhead shots of the Mind Section. Two webcams were used, one for the Front and one for the Back areas of the section.



Advantages

- Study an area with many entrances
- Protect visitors' anonymity
- Fast-forwarding for time savings

Limitations

- Cannot be used to reliably collect demographic data
- Cannot capture details of what visitors say or what they do
- Difficult to track visitors who disappear from view

FileMaker File

To facilitate data entry and search

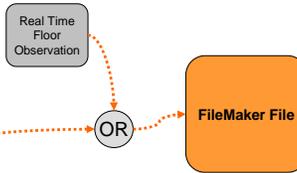
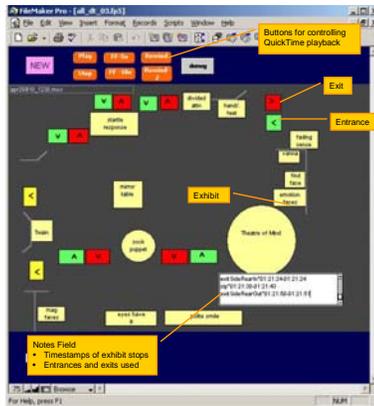


Figure 3. Screenshot of the data entry file for the Front Area of the Mind Section. A similar layout is was created to the Back Area as well for the entire Mind Section.



Advantages

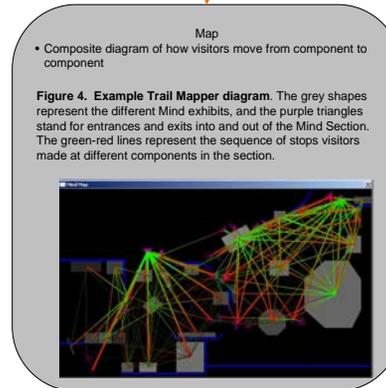
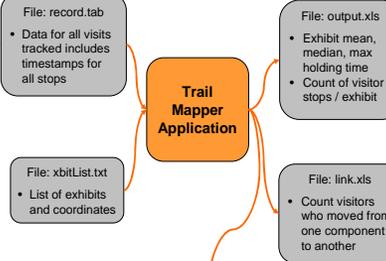
- Enter data quickly by clicking buttons in FileMaker file

Limitations

- Requires user to create layout and button scripts

Trail Mapper

To parse the data file, calculate key measures, and map visits



Advantages

- Visualize movement
- Automate calculations

Limitations

- Difficult to discern patterns, especially in open floor plan
- Currently in beta and the user interface still needs work

Some Results from Mind

- About 20% of the people cut through the Mind Section without stopping at any exhibit.

Figure 5. Trail diagram for visitors who did not stop at any exhibit



- Only one-third of the visitors visited both the Front and the Back areas of the section.
- Which exhibits a visitor saw depended on how that visitor entered the Mind Section.

Figure 6. Trail diagram for visitors who entered through the Front Entrance

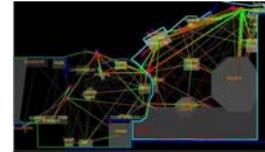
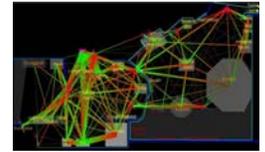


Figure 7. Trail diagram for visitors who entered through the Rear Entrance



- The Front Entrance is not necessarily the main entrance into the Mind Section.

Figure 8. Diagram of entrances and exhibits used. The width of the green arrows corresponds to the percentage of people who used that entrance. The brightness of the exhibits indicates count of visitor stops.



- For more information, see www.exploratorium.edu/partner/pdf/mindCamMay_rp_03.pdf

Literature cited

Serrell, B. (1998). *Paying Attention: Visitors & Museum Exhibitions*. Washington D.C.: American Association of Museums.

Acknowledgments

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