Visitor Observation

Impact Evaluation Resources

There are many ways of evaluating museums, galleries, displays and visitors. One useful method of working out what people are naturally doing in a gallery space is timing and tracking through observation.

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When we track visitors, we are trying to unobtrusively observe where they are stopping, how long they stop for and any other relevant behaviour (such as discussing, photographing etc). Visitor observation can give both qualitative and quantitative evidence.

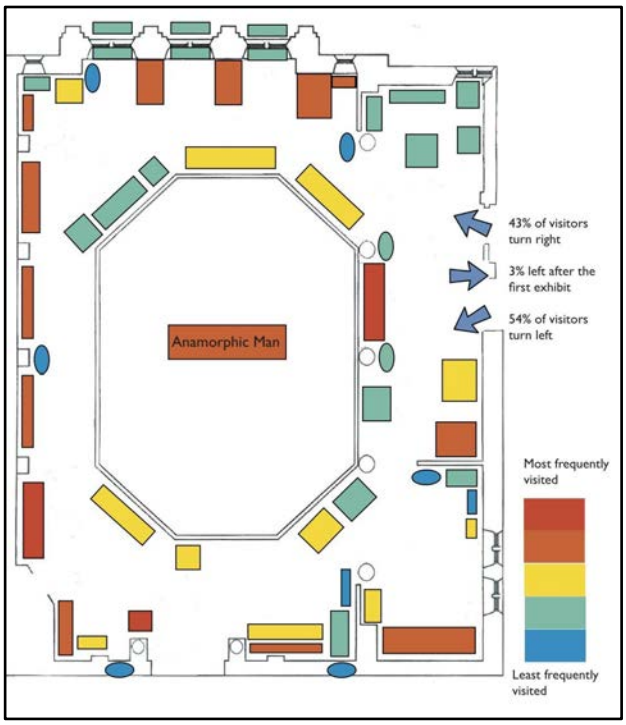


Figure 1: Sample Thermal Map

If we combine the results from many visitor trackings, we can create 'thermal maps' like the one shown in Figure 1. This shows which parts of the gallery visitors stopped at, which objects, cases or text were popular and which parts were ignored. We can also use the data to see what route visitors took through a gallery and the average time spent. Other thermal maps could be made showing which cases encouraged people to stop for a longer period of time. The results give an idea of how an exhibition space is being used.

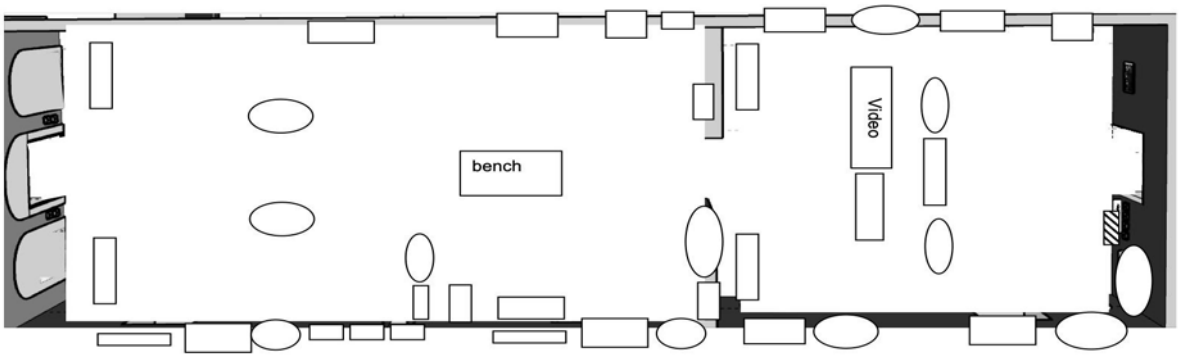
Museums can use this evaluation to change a current display, or when they plan future exhibitions. Observing museum visitors without the addition of other evaluation methods cannot distinguish between a long time spent at an element due to engaged interest, or because of deep confusion. For this reason, it is most useful to use tracking alongside other forms of evaluation such as questionnaires, interviews or focus groups. Using multiple evaluation methods is called triangulating your data. These can help the museum to further explore the results of visitor observation.

Figure 2: Visitor observation training

How to track

Tracking forms and gallery plans should be tailored for each space to be tracked.

Those doing the tracking should be familiar with these notes and should be quick and accurate at recording information.



Key: ◯ Text ▨ Large print labels

T: Tracker location when tracking commenced; X: stop, time noted in seconds; (X) : non case stop; C: calls others over; CA: called away by others

Date: Tracker initials: Time started: Time out: Total time:

Under 16 16 – 24 25 – 34 35 – 44 45 - 54 55 - 64 65 - 74 75+

Social grouping: Individual Pair Group (3+) School group

Notes:

Figure 3: Example tracking form

The person doing the tracking will fill in one plan per person tracked, following only one person at a time. The start and end point(s) should be decided and used to time the total visit. This could be the entrance to the gallery, or the area immediately next to a case or interactive.

The tracker will need to choose where to stand when they start the evaluation. They should mark this point on the tracking form, for example with a T. The observer may need to rotate around several different starting points to avoid unduly influencing visitors. Depending on the gallery, the tracker might need to move around to find out where visitors are stopping, or they might be able to stay in one area to take several observations.

The total time spent in the observation space should be noted on the tracking form. This could be from writing down the times the visitor starts and ends their visit, or by timing the length of the visit alongside timing each stop. It should not be calculated by adding up the stops.

Usually, we are interested in all the different elements of the area under observation. An element could be a case, a text panel, a single object in or out of case, an interactive exhibit, a computer, a book, etc. Mark down every time a visitor engages with an element. A 'stop' can be defined in lots of ways. In UCM we have defined a stop as the visitor both stopping and looking at an element. If the person you are tracking walks past a case, glancing at it without pausing, it is not recorded as a stop.

For every stop, mark the sheet with an X and add the amount of time the visitor stops for. Use a timer to accurately time each stop and write the time in seconds on the form. You might use a stopwatch, the timer on a phone or other device.

The X should mark the element that is being looked at rather than the exact position of the visitor when they stop: X marks the stop, not necessarily the precise spot. Arrows could be added to the plan to clearly show which element is being looked at. Each individual element that is stopped at should have one time (you should never have one stop marked with arrows to three different cases but a single time).

If the visitor has stopped, but is not looking at an element, mark it as a non-case stop: an X in a circle. If there is time and it will be useful, add notes to the tracking sheet, for example 'looking at phone'. Other behaviour should also be noted on the tracking form using shorthand codes. For example, the study might be recording which elements are photographed, discussed, interacted with. Use the simple codes on the tracking form (eg P, D, I) to quickly record this. For movement between elements, use arrows to indicate the direction the visitor is moving. See the completed tracking sheet in Figure 4.

At the end of each tracking, the volunteer should carefully check the tracking sheet. Each stop should be at an individual element, with a single time per element. It should be completely clear which element the visitor was engaging with. Record broad demographic information at the end of the tracking. Age will be an estimate only, it's just to try and get an even spread of ages.

Once you have completed a tracking study, you should use the sampling strategy for your project to select the next person for tracking. This could be the third person through the door once the tracking has finished or could be the next person if the venue is quite quiet.

In order to maintain focus and concentration, a session for visitor observation should be no longer than 2 hours. Depending on the venue, in 2 hours between 1 and 20 tracking studies could be completed. Try to ensure tracking sessions are evenly spaced over the venue opening times, covering weekends, holidays, school term times etc.

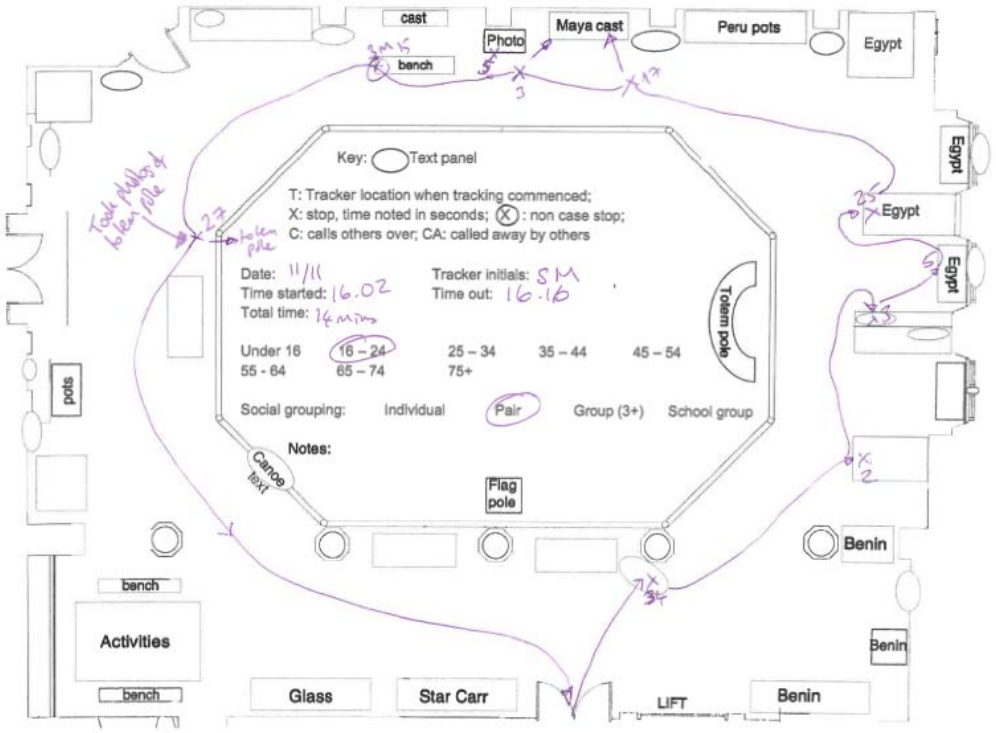


Figure 4: Completed tracking form

Ethics, safety, and security

We are interested in what visitors would naturally do in the observation space, so we do not ask permission before the visit begins. It would be unethical not to give people notice of the evaluation and the option to withdraw from the study. Each gallery being studied should have a sign prominently posted. The sign should read something like: “We are currently evaluating our displays in this gallery. The information we are gathering will be used to improve future exhibitions.”
The sign should be put up in the tracking area before the evaluation session begins.

All relevant museum staff should be fully briefed on the evaluation project before it begins. If gallery attendants are present, they should be informed each time that tracking is taking place. Evaluators should introduce themselves to visitor services staff before they start tracking, and should

remain within sight of another member of staff or museum volunteer at all times. The venue may request that the evaluator wear a badge, lanyard or other identification. Your organisation or the venue may require you to submit an ethics application.

Anyone evaluating visitors should be ready to explain what they are doing if they are approached, either by the person they are tracking, or any other visitor. If someone would like to withdraw from the study, the tracking sheet should be removed and disposed of. A note should be made that there has been a withdrawal.

With most tracking studies, the evaluator has no contact with the visitor, but if the evaluation is to be carried out with children, young people or vulnerable adults, the venue's ethics procedure should be carefully followed. The evaluator should stop tracking immediately in case of emergency and evacuate according to venue directions.

People who are tracking visitors should always remain in public areas. They should not follow visitors into toilets or private gallery areas, and should be vigilant on uneven floors. Trackers should take extra care when evaluating gallery space that includes stairs, they should not stop or be distracted while they use staircases. Hazards like these should be marked on the tracking sheet.

What to do with the data

	A	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU
1		28 all	29T	29	29 V	29 all	A1	WA3	V4	30	30T2	30T	30 all		Non case stops		total cases	repeats (excl non case)	total case stops (inc repeats)	total stops	total time (cases)	total time (inc non case)	Total time (mins)	(secs)	Time in secs	
2	1	18													59		8	0	8	9	104	163	2	55	175	
3	2																3	0	3	3	96	96	3	20	200	sum of 2
4	3																4	0	4	4	318	318	4	23	263	sum of 3
5	4																0	0	0	0	0	0	1	17	77	sum of 4
6	5	30															7	0	7	7	120	120	1	43	103	sum of 5
7	6																0	0	0	0	0	0	0	25	25	
8	7	2		60	22	82				95			95				10	0	10	10	313	313	5	28	328	explainer
9	8																5	0	5	5	170	170	1	48	108	stop with no data
10	9	36															4	0	4	4	112	112	2	15	135	sum of 9
11	10																2	0	2	2	6	6	0	42	42	
12	11	41															6	0	6	6	292	292	5	8	308	
13	12																5	0	5	5	252	252	1	33	93	
14	13																2	0	2	2	38	38	0	36	36	
15	14			66		66				640			640				3	0	3	3	772	772	12	37	757	
16	15			53		53				55			55				3	0	3	3	161	161	2	13	133	
17	16		48			48	52		2								8	0	8	8	270	270	2	1	121	
18	17																0	0	0	0	0	0	0	23	23	
19	18																2	0	2	2	8	8	0	4	4	
20	19	10		53		53											12	0	12	12	1052	1052	7	39	459	
21	20	190		13		13		12		171			171				6	0	6	6	589	589	7	58	478	
22	21																3	0	3	3	16	16	0	4	4	

Figure 5 Sample spreadsheet with tracking data

You will need to analyse the data. The simplest way is to create a spreadsheet and enter the data into it. In Figure 5, the display elements have been numbered and are the column headers. Each tracking sheet is also numbered and entered in a row. The time spent at each element is added

to the relevant column. Plenty of time should be given to entering and interpreting the data.

Various calculations can be performed using the data. For example, average time spent in the gallery by person or by element. Multiple trackings can be used to create thermal plans (such as Figure 1). Different plans could be created for average number of stops or average time spent per element, or focussing on particular element types (interactives, 2D artworks, artefacts, etc). The total time spent in the gallery, and the total time spent looking at text may be useful calculations for creating more engaging exhibitions if the same space is to be used.

Cautions and caveats

Observation is helpful to show visitor flow and circulation, but it has limitations. You can see what visitors are doing but the data doesn't always tell you why they are doing it. Is a visitor reading a text panel for five minutes because they find it engaging, or because they do not understand it? This evaluation technique works best when it is one of several that you are using so that you triangulate your data. It also works well when you use the results to give direction to other evaluation methods you use. For example, if your observation shows a particular area is being looked at in depth, interviews, meaning maps or surveys might help you determine why and what visitors are learning.

When you present the observation results, make sure it is obvious in your report when there are calculations that are based on very few visitors. It is very easy to draw conclusions about people spending a long average time looking at an exhibition element, but it might only be based on a handful of visitors. Take lots of photographs of the area that is being observed, from as many angles as possible. Include photos of individual elements as well as wider gallery shots. It can become very difficult to analyse results after an exhibition closes if you do not have good images from a visitor perspective.

Further reading and other resources

- **Beverly Serrell. 'Paying Attention: The Duration and Allocation of Visitors' Time in Museum Exhibitions' *Curator: The Museum Journal*, 40.2 (1997), 108–25 and Paying More Attention to Paying Attention', (2010)**
  Serrell's 1997 paper was a seminal work in the field of visitor evaluation through tracking, which she updated in 2010. The 1997 paper gives an outline of her motivations, and the summaries of evaluation in over 100 North American exhibitions in order to find common visitor behaviour. Serrell's attempts to create generalisations about museum visiting (the Diligent Visitor and Sweep Rate indices) are less successful, but both articles are a good introduction to the method and potential ways of presenting results.

- **Steven S. Yalowitz and Kerry Bronnenkant. 'Timing and Tracking: Unlocking Visitor Behavior', *Visitor Studies*, 12.1 (2009), 47–64**
  A very practical introduction to timing and tracking. The section on technology is very much of its time, but the paper goes into more depth on how to record and report tracking data. The worked example is of an exhibition about sharks which was on display in an aquarium in 2006.

- **Paco Underhill. *Why We Buy: The Science of Shopping*, Simon & Schuster, New York. 2008.**
  While not directly about evaluating museum visitors, this accessible read about shopping theory will introduce some of the main themes that have been more generally applied to observing users.

A couple of papers using technological methods to observe or record visitor behaviour:

- **Dirk vom Lehn, 'Embodying Experience: A video-based examination of visitors' conduct and interaction in museums', *European Journal of Marketing*, Vol 40 No 11/12 (2006), pp. 1340-1359.**
  Vom Lehn uses video recording in two London museums, an art gallery and a science centre. Note additional ethical considerations if video recording takes place.

- **Claudio Martella, Armando Miraglia, Jeana Frost, Marco Cattani, Maarten van Steen. 'Visualizing, Clustering, and Predicting the Behavior of Museum Visitors', *Special Issue IEEE International Conference on Pervasive Computing and Communications (PerCom) 2016*, 38 (2017), pp. 430–43**

The results of a study involving 180 visitors to an art gallery while wearing proximity sensors.

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