QR Codes Initial Scoping Exercise

A report prepared for the West Midlands Museum Development Officers

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Definition

QR is short for quick-response. A QR code is two-dimensional code that when scanned with a smart phone via a QR reading device links directly to a web page.
Introduction

This research was conducted to inform the delivery of projects and training offered by the West Midlands Museum Development Officers as part of their programme strand ‘Users and their Experiences’. This strand aims to encourage museums to use and progress in their use of digital and social media.

The report reviews the current use of QR codes by the museum sector in general, exploring the pros and cons of their use and the potential for future development in response to the following questions:

- How useful are QR codes in interpretation?
- Do QR codes engage visitors?
- When is it not suitable to use QR codes?
- How well do QR codes link to Wikipedia and is there a case for using QR codes to drive traffic to Wikipedia?
- Is another technology more useful?

This initial analysis is followed by the results of a survey designed to investigate the current use of QR codes by museums in the West Midlands. The survey aimed to develop a greater understanding of how digital technology and QR codes have been used, how and why museums hope to utilise this technology in the future and the ways in which MDO support could help to museums to use and progress in their use of digital technology and QR codes.
Context

Any examination of the potential of QR codes for museums needs to be situated within the wider context of digital participation by the UK population. We need to understand whether and how museum visitors participate with the internet and digital applications before we can use – and optimise use of – these channels to communicate with them.

Key Statistics

- 39% of people own a smart phone.
- The majority of adults use their smart phone primarily for internet access.
- Mobile web surfing is estimated to overtake desktop web surfing by 2015.
- Facebook is the most visited website on hand held devices.
- The BBC found that 77% of the UK online population actively participate online – they ‘create and contribute content online so that others can see’.
- Within this model of participation more people are sharing more of their lives, lifestyles and entertainment choices through active participation online.
- Increasingly, the public expect they will be able to access, redistribute and contribute comments and material themselves.

Sources

1. BBC, *BBC Online Briefing Spring 2012: The Participation Choice*
2. BBC, ‘Third of adults use smartphone says Ofcom report’, 4 August 2011
Current use of QR codes by the museum sector

How useful are QR codes in interpretation?

QR codes have been used in several ways, broadly categorised by 4 themes:

1. To provide increased access to collections information
   - To extend a label and provide extra information about an object
   - To provide audio commentary and/or oral history
   - To improve access by providing translations or virtual tours
   - To extend the visitor experience beyond the walls of the museum by linking objects to outdoor space or the surrounding area

2. To enhance the visitor experience
   - To orientate and welcome visitors, for example, on a floor plan to give a flavour of exhibits in each part of a museum
   - To create trails, treasure hunts or quizzes to support events or learning sessions
   - To change user behaviour and exploit the flow of people around the museum
   - To facilitate intergenerational or group activities
   - As a navigational tool – linked to Google Maps to direct visitors to the museum
   - To evaluate the museum through visitor opinion – favourite objects, spaces etc

3. To give the museum a more informal voice through which to connect with visitors
   - To give more personalised visitor tours
   - To re-script the traditional museum narrative for another audience through offbeat or quirky facts and alternative interpretations
   - To link to an informal curatorial blog about an object
   - To generate emotional connections and deeper engagement with collections

4. To create dialogue with visitors and facilitate co-production
   - To foster the use of social media
   - To enable visitors to add their memories or comments about an object or exhibition
   - To allow visitors to contribute to digital object labels
   - To ask provocative questions relating to objects or exhibition themes
   - To encourage visitors to link exhibition narratives and objects to contemporary issues and their own lives
QR codes offer numerous benefits for interpretation:

- QR codes are free, easy to install and interactive.¹
- They can help to make interpretation more relevant to young people.
- QR codes linked to an interesting website can enhance the visitor experience, and increase access to collections information.
- The content is most useful when visitors can interact with it immediately. Ideally it is rewarding, offering something special that isn’t available without the QR code – not just the generic museum website or events marketing but something that adds value in that moment, to that specific visit.
- A strategic approach is essential – the usefulness of QR codes in exhibitions depends on the audience you are trying to reach. To be useful and engaging you must be clear about your objectives from the start.

Equally, QR codes can be problematic:

- They can be very frustrating for visitors if there is poor WiFi or problems with the website’s host server.
- They are exclusive – not everyone has a device or technical ability to use them.
- QR codes are often used with very little thought as to whether they add value beyond standard interpretive methods – they may just be a novelty.
- Why should visitors scan a QR code rather than typing the URL?
- Money is needed to enhance their impact within interpretation or to proceed to the next level of engagement.
- Time for moderation will probably be required if you decide to allow visitors to contribute comments.
- Young people have the devices and ability to access QR codes, but do they use them?
- Do people using smart phones change the atmosphere of a space?
- Will QR codes alter the nature of visitors’ interactions with objects, encouraging focus on narrative and data rather than object materiality or sensory engagement?
- Practical issues may impede – the right amount of space and correct lighting levels are required. They require a lot of time and space for explanation.
- They are ugly!

¹ Across the sector, Word Press is very popular – its Mobile Pack Plug-In can deliver readable content to the widest range of mobile phones and it is free.
Do QR codes engage audiences?

Feedback from the sector is mixed and there is no clear consensus about how to measure the success of QR codes in terms of visitor engagement. Suggestions for this include:

- The percentage of visitors who scan the codes
- The number of times each code is scanned
- Time spent on the webpage
- Shares (i.e. of the page, ‘liking’ objects)
- Visitor comments (online)
- Visitor feedback (in museum)
- Extra time spent in an exhibition above the average visit length

QR codes do not engage visitors

- The proportion of visitors who scan QR codes is low, statistics presented in blogs range from approximately 1-10%. There remains a great deal of uncertainty about whether visitors understand what a QR code is and how to access it.
- A proportion of visitors will never be inclined or have the technology to take part.
- For some, scanning QR codes is simply too much effort.
- QR codes may be more appropriate for special events than for core exhibition programmes.
- QR codes are frequently advocated as a means to engage the teenage audience. Paradoxically, the Minnesota History Center found that while young people are most likely to scan QR codes, they are least likely to rate the content as informative and interesting. Although young people are most receptive, the technology alone is insufficient to engage them and the importance of the quality of the content should not be underestimated.
- Professionals are keen for QR codes to be generative of content and open-ended, visitor-led conversations but the budget and time required for this are restrictive.

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2 There are several methods of tracking QR code usage e.g. 1) Create a URL specifically for the QR code, 2) Append a string to the end of the URL e.g. ?source=QR, 3) Use Google Analytics to track use, 4) QRpedia tracks use.

3 Statistic observed from case studies online as included in bibliography.

Therefore, despite encouraging a more informal form of engagement, QR codes generally still invoke a unidirectional model of communication.

- Even when visitors are able to leave comments or contribute to labels, for some there is no incentive to read comments left by other members of the public – visitor comments can be seen to trivialise the museum and its expertise.

**QR Codes engage audiences**

- QR codes which have successfully engaged audiences add value to the visitor experience – this value must be greater than the effort put into scanning codes.

- Content is crucial – engaging QR code experiences draw on typical visitor interests, e.g. behind the scenes activities or the chance to see part of the object and find out something about its history that you couldn’t otherwise. They are integrated into existing activities, appealing to visitor motivations already understood as a component of a wider interpretive strategy.

- Successful QR codes provide opportunities for visitors to participate or co-curate exhibitions. At the Grant Museum of Zoology, UCL, nearly 1 in 3 people left a comment on a digital iPad label through the QR code, a substantial proportion but equally a larger investment than a printed code alone.5

- Other success stories exploit current modes of digital participation. The Powerhouse Museum’s QR link gave visitors the ability to ‘Love’ their favourite objects and share their personalised collection online.

- Online content is a distributed network and QR codes help lead visitors to other arenas for participation. Engagement is encouraged when the QR code isn’t a dead end but provides additional opportunities to interact with the museum through links to Facebook, Twitter or other spaces in which they can join the conversation.

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Where is it not suitable to use QR codes?

The use of QR codes in museums to date has been varied and widespread. Indeed, the suitability of QR codes is dependent upon the needs of individual museums and there is no real strategic consensus regarding when a QR code should not be used by a museum. A culture of experimentation will be central to understanding when it is and isn’t suitable for museums to utilise QR.

Beyond the sector there is some scepticism about the use of QR codes in marketing and whether people are willing to use their data plans on advertising or are receptive to the message they receive after scanning – an anti-climatic QR experience could indeed be detrimental to a marketing campaign. Nonetheless, marketing that provides visitors with offers that apply to that visit, for example linking to discount codes for the museum café or shop or extra information about a restaurant menu, have been regarded as more useful. QR codes may therefore have a role in income generation, other innovative uses including:

- QR codes on donation boxes to provide examples of how donations will be spent
- QR codes on donation boxes to link to Pay Pal to allow visitors to donate via their mobile phone
- QR codes have also been used by charities to connect to a free text to give service to allow visitors to donate via QR generated SMS.⁶

Practically, QR codes are not recommended if you do not have a mobile site to link the code to or if you only have a small space – tiny QR codes are difficult to scan, visitors will only attempt to scan a code around 3 times and you need to have room for an explanation of what the code will lead visitors to. QR codes in emails, codes located in high gallery spaces or on moving vehicles and codes that appear for a very short time on television screens have also been highly criticised.

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⁶ These methods have been discussed, however little has been written about their effectiveness: LinkedIn discussion board, ‘How have you utilised QR codes for marketing, visitor experience, or anything else at your museum?’ American Association of Museums, www.linkedin.com/groups/How-have-you-utilized-QR-2965314-S.132046560; L. Butler, ‘How charities can use QR codes’, Guardian Professional, 30 May 2012, http://www.guardian.co.uk/voluntary-sector-network/2012/may/30/using-qr-codes-charity-fundraising
QR Codes and Wikipedia

Several museums in the UK have linked QR codes in their exhibitions to Wikipedia via QRpedia.

QRpedia

- Generates QR codes that link to Wikipedia articles
- Detects the language setting on the phone to connect to a Wikipedia article in the visitor’s preferred language
- Records usage statistics
- Derby Museum & Art Gallery was the first museum to work with QRpedia. The museum worked with Wikimedians to produce articles in over 28 languages.

Museums can be supported to maximise the benefits of Wikipedia and QRpedia through the Wikipedians in Residence initiative.

Wikipedians in Residence

- Wikipedians in Residence work or volunteer in house at an organisation to promote understanding of Wikimedia among the workforce, support staff to digitise, compile and organise resources and help to improve Wikipedia content.
- They help to increase publicity through the co-ordination of events, for example, backstage pass or ‘editathon’ events.
- They can also cultivate wider interest in images and information offered by the museum.
Is there a case for using QR codes to drive traffic to Wikipedia articles?

<table>
<thead>
<tr>
<th>For</th>
<th>Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>• An existing platform – no need to design and develop a new platform</td>
<td>• Loss of control and potential for inaccuracy – still need to manage and moderate content</td>
</tr>
<tr>
<td>• Wikipedia is compatible with mobile phones reducing the technical hurdle</td>
<td>• No video or sound</td>
</tr>
<tr>
<td>• Wikipedia is well used and offers a widely recognised platform</td>
<td>• The Wikipedia code of conduct prohibits self-interest and promotion</td>
</tr>
<tr>
<td>• Wikipedia has global reach and impact</td>
<td>• No opportunity for brand development</td>
</tr>
<tr>
<td>• Potential to increase audiences and expand access to collections information</td>
<td>• No/little social media integration – no way to ‘like’ an object on Facebook or to share it on Twitter</td>
</tr>
<tr>
<td>• Potential to extend awareness of the museum and raise its profile</td>
<td>• No facility to comment or allow any other form of interaction</td>
</tr>
<tr>
<td>• Scope to increase access to collections information by providing interpretation in multiple languages</td>
<td>• Notability criteria mean that not every object warrants a Wikipedia article. For objects that are not referenced outside of the museum, you will have to create a page elsewhere to provide additional information</td>
</tr>
<tr>
<td>• Scope to broaden the audience demographic through outreach work e.g. asking members of the local community to create, edit and translate articles, working with young people to create articles, or recruiting ‘e-volunteers’</td>
<td>• Potential to trivialise – some visitors view social media and Wikipedia as too informal preferring to read articles written by curators</td>
</tr>
</tbody>
</table>
Should museums use QR codes at all or is there something else that is more useful?

There is some debate as to whether QR codes are already outdated. A Museums Association blog recently reported that they are on the way out. In an Arts Council Arts Digital R&D podcast the process of tagging objects in an exhibition with QR codes was described as ‘very cumbersome’. A range of other technologies exist, or are being developed, to perform a similar function to QR codes. Museums will need to consider whether QR is best suited to their objectives.

1. Apps and Augmented Reality (AR)

Apps offer a non-linear experience and the potential to expand interpretation beyond the museum building or throughout a large site without the need for scanning. They can allow museums to reach into people’s everyday lives whereas the QR code is generally contained within the museum experience. Some apps have been developed through social media sites such as Facebook. ArtFinder offers the user the opportunity to build and share their own collection as well as regularly delivering artworks and collections information to the user through Facebook’s newsfeed stream. This idea could be easily adapted by museums either within exhibitions or through online catalogues, resources and exhibitions.

Apps are often combined with AR technology which combines a real scene viewed by the user with a virtual scene generated by a computer. The Museum of London’s Street Museum app combines a phone’s camera and sat-nav applications to superimpose historic images of London over the present day view, along with a description. The trigger is encoded in the image detected by the camera and location code so there is no need to print out, locate and maintain an obtrusive code board.

However, unlike QR codes apps can be expensive to develop, they may only be compatible with one platform (iPhone, Android, Blackberry etc) and of course, eventually many will also become outdated.

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9 There are exceptions to this, for example in Manchester public art was tagged with QR codes.
2. **Near Field Communication (NFC)**

It is frequently argued that NFC will soon replace QR codes. With NFC there is no need to launch an application; by tapping or swiping the device over the label (as you would with an Oyster card) the user has immediate access to additional information. Certain NFC devices have also been designed to work in areas with no mobile phone signal. NFC technology is cheap but not yet mainstream and QR codes offer organisations the chance to experiment with the ideas behind the technology before investing in a more advanced system.

3. **Non-digital solutions – ‘Technology is a vehicle, not a destination’**

The use of QR codes is not about the technology, rather the use, motivation and content that lies behind the technology. QR codes are neither intrinsically good nor bad and we need to think carefully about what we are using the medium for. The question remains whether we are simply using technology for technology’s sake.

The use of QR codes should fit with an organisation’s digital strategy, interpretive strategy or forward plan which in turn serves to deliver its overall objectives. The approach to QR codes should be integrated into what the organisation is doing or where it hopes to develop to in the future. QR codes need to add value to the organisation and to the user experience. Alternatively, simpler, traditional non-digital interpretive methods may be more appropriate to help museums realise these ambitions.

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11 [http://www.smartposter.co/](http://www.smartposter.co/)

12 Costs less than 1p to print each ‘rectenna’ ‘Tiny transmitters that cost a penny to print unveiled’, *BBC News*, 13 August 2012, [http://www.bbc.co.uk/news/technology-19208112](http://www.bbc.co.uk/news/technology-19208112)

Conclusion

Research into the user experience in digital cultural contexts at UCL’s Centre for Digital Humanities and the Imperial War Museum has posed a similar range of questions about QR codes:

- Are they useful?
- Are they just a transient technology?
- How do they help the visitor experience?
- Where do they lead the visitor once they have scanned it?
- Who actually scans them?\(^\text{14}\)

Neither this research nor sector debate has decisively answered these questions. However, what is increasingly emerging from both the museum community and wider cultural strategic review is the consensus that organisations needs to experiment, take risks and exploit opportunities for new levels of user engagement.\(^\text{15}\) QR codes are a low cost, low risk means of encouraging museums to experiment with digital modes of communication to position themselves within the modern context of audience participation.

Results of the QR Code Survey

The survey aimed to determine the current use of QR codes in the region, what museums hope to achieve by using them and any barriers preventing them from doing so, as well as ascertaining the support that could help museums to progress in their use of QR codes. Although the survey did not aim to produce a comprehensive overview it does provide a flavour of activity in the region. In total 17 museums were interviewed representing a breadth of size, governance type and workforce composition across all six areas covered by the West Midlands Museum Development Officers. These museums ranged from those that have already used QR codes extensively to those with little or no experience of working with the technology.

The survey (Appendix Six) addressed these strands of enquiry through three sections:

- **Section 1** considered the use of digital technology by people working in the museum sector – in their professional life or otherwise – investigating how familiar the workforce is with QR code technology.
- **Section 2** probed the current use of digital technology and QR codes at individual sites considering whether museums have the equipment and skills to use QR codes, whether, how and why QR codes are currently used and plans for future use.
- **Section 3** asked respondents for information relating to their perceptions of the future use of QR codes at their museum, how QR codes could help to meet the museum’s aims and objectives, any barriers to using QR codes and the training or support that could help to overcome these barriers.

The key findings are summarised and then followed by more in-depth analysis of the results of the survey responding to the following questions:

- What is the current use of QR codes by museums in the West Midlands?
- Which types of museums are using QR codes?
- What do museums want to achieve by using QR codes?
- Why aren’t some museums using QR codes?
- What help and support do museums need to use them?

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16 The Conurbation (Birmingham, Wolverhampton and the Black Country), Herefordshire, Shropshire, Staffordshire, Warwickshire and Worcestershire. Museums were selected by the MDOs.
Key findings

- Awareness of QR code technology is high. **100%** of respondents had heard of QR codes and **76%** have scanned a code.

- In contrast, the use of QR codes by museum staff as museum *visitors* is relatively low. Only **24%** had scanned a QR code as a museum visitor.

- Perhaps therefore not surprisingly, the impact of QR codes on the *quality of the visitor experience* and *creative ideas for use* were key areas of concern.

- **53%** of museums are currently using QR codes and **100%** would like to in the future. QR codes and digital technology are perceived as important to the work of a modern museum.

- Improving *access to collections and collections information* is the main way in which museums use or plan to use QR codes, followed by *marketing*.

- In addition, reaching a *younger audience* was identified as a major reason for using QR codes with many museums also hoping to achieve increased awareness or a refreshed offer leading to *higher visitor numbers*.

- The main barrier to participation is *other priorities*, also identified as insufficient *time*. This may be pragmatic, but could reflect *organisational culture, workforce training and support* and a lack of *digital strategy*.

- It was also felt that QR codes and smart phones are *exclusive technologies* with the potential to isolate audiences.

- Respondents identified that *practical training* could them to progress in their use of QR codes as well as *case studies, factsheets* and *support with evaluation*.

- There is scope to develop more *creative ideas* for using QR codes, to engage visitors in *dialogue* and to exploit the *digital participation model*.

- Museums want the *MDOs to sell QR codes* to them so that they in turn can convince their workforces of the benefits of using them.
What is the current use of QR codes by museums in the West Midlands?

53% of museums are currently using QR codes and 100% plan to use them in the future.

The majority of museums use QR codes to:

- Provide additional information about objects in exhibitions
- Provide a link to their website on fliers, posters and signage
- To create a trail either across a museum or throughout a town

Of those museums using QR codes, over 75% identified just one or two ways in which they have used them. The vast majority of activity lies in the above areas, although more unusual or creative uses of QR codes have aimed to:

- Tailor interpretation for a specific audience
- Support events
- Connect visitors to social media
- Encourage income generation
- Provide a navigational tool by linking to Google maps

QR codes sit within a wider portfolio of digital activity with the majority of museums engaging with a broad range of digital and social media. The survey suggested that the five most popular ways of communicating to visitors digitally are:

- A website
- Social media
- Email mailing lists
- QR codes
- Flickr

The prominent use of QR codes demonstrates the importance of developing the skills within the workforce to use either this or similar technologies proficiently and strategically in the longer term. When discussing future activities, museums interviewed expressed an interest in using QR codes primarily to support interpretation in exhibitions and on printed marketing material. Other uses included heritage trails, to complement other technologies, to join up interpretation across a large site and to improve collections management.
Which types of museums are using QR codes?

The survey results were analysed for variation between governance and workforce types, comparing the answers of local authority museums with those of independent museums and of sites employing paid staff with those of sites managed entirely by volunteers. In general, this analysis revealed very little divergence and the survey sample size is most likely insufficient to make any substantial conclusions.

It may however be significant to note a trend emerging from those museums interviewed. The survey found that museums with paid staff are nearly 20% more likely to have used QR codes than those run solely by volunteers. The results outlined in the tables below imply that this is in part a reflection of the equipment available at different sites. Respondents were asked whether they had access to a smart phone with a QR scanner app and data plan and whether the museum had a computer with internet access and a printer. This information reveals whether the respondent could create online content, make and print a QR code and test this code on site. Museums with paid staff are nearly 20% more likely to have the resources to make and trial a QR code than to those run entirely by volunteers. When comparing the results of local authority and independent museums very little divergence emerges in either category.

<table>
<thead>
<tr>
<th>Museum type</th>
<th>Museum uses QR codes</th>
<th>Museum able to make and trial QR code</th>
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</thead>
<tbody>
<tr>
<td>Paid staff</td>
<td>60%</td>
<td>90%</td>
</tr>
<tr>
<td>Volunteer run</td>
<td>43%</td>
<td>71%</td>
</tr>
</tbody>
</table>

Table I: Comparing museums employing paid staff and those entirely run by volunteers

<table>
<thead>
<tr>
<th>Museum type</th>
<th>Museum uses QR codes</th>
<th>Museum able to make and trial QR code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local authority</td>
<td>50%</td>
<td>83%</td>
</tr>
<tr>
<td>Independent</td>
<td>55%</td>
<td>82%</td>
</tr>
</tbody>
</table>

Table II: Comparing local authority and independent museums

The difference between the proportion of museums able to create and trial QR codes and those actually using them will be explained in later analysis considering why some museums aren’t using QR codes.
What do museums want to achieve by using QR codes?

An extremely wide variety of reasons were given for using QR codes, the top five mentioned were:

- Improving access to collections and associated information
- Audience development, in particular in terms of young people
- Increasing visitor numbers by raising awareness, enhancing the museum profile and/or encouraging repeat visits
- Improving the visitor experience and generating additional opportunities for learning
- Improving access for audiences who are unable to visit the site, across a large or open air site or by making the museum/service more accessible

Respondents were asked both what they hoped to achieve by using QR codes in a specific context and to think more broadly about how using QR codes could help to meet the museum’s aims and objectives.

Collections and Collections Information

“I think it could help to meet the museum’s aims and objectives in terms of access, I'm thinking about our work for Accreditation, making the collections more accessible, perhaps for schools as well.”

“Give visitors access to more information and in deeper detail.”

“In town we have large vinyl pictures in empty shops; we could include a QR link to show what else is in the collections. Or we could include a link to PastTrack.”

“Another way to provide quick, convenient information. Visitors stay for a very short period, lots have smartphones – we hope to encourage them to purchase artworks, generate sales and make repeat visits by making the collections more accessible.”

Audience development and young people

“Younger people accessing the collections, either in person or online. It would help us to explore new ways of getting the collections online.”

“Whenever we are looking for funding, all of the streams are keen to ensure that organisations are engaging with visitors on different levels and of different ages.”

“A younger audience, it could make us look more funky... it could help us to develop our audience, that’s one of our main objectives.”
Increase visitor numbers

“...we will have to expand our offer with new things and something different to encourage repeat visits; even if the display is fixed we could do this through new information.”

“increase visitor numbers... feedback shows that more visitors are finding us because of our website.”

“We would hope to achieve more interaction and an organisational image that is ‘with the times’.”

“Getting the message about the museum out on smart phones.”

Visitor experience

“Greater understanding for visitors and enhanced visitor experience.”

“i curate the social history collection... it’s about helping visitors access, learn from, enjoy, be aware of and learn about the significance of the collection. One of the best ways of making people care is by giving them information. For example, i recently did a display about gloves and interviewed a person who makes gloves – linking to this media would show that it is not just a glove, there is the 90 year old man who made it!”

Access

“An opportunity to be more inclusive for people who cannot visit.”

“...perhaps for people who don’t come, to improve access”

“Greater access to the service”

Several comments also revealed that QR codes are seen to be important to the work of a modern museum and that for many sites digital technology is an important way of keeping in touch with their audiences. The growing adoption and public awareness of QR codes led many respondents to note that they are likely to form a part of future activities even if they are not currently used.

“QR codes and technology are very important in the big picture of museums. Older visitors perhaps don’t have the technology but younger visitors do, and as younger visitors become older it will be the norm to use QR codes”

“Every advertisement in the newspaper has a QR code and I’m sure other museums are adopting them; we don’t want to be left behind”

“To survive as a museum in the modern age we have got to embrace IT”

“I think with IT you have always got to try to use it to your advantage”

“They will become more prevalent.”
Why aren’t some museums using QR codes?

The survey asked for information about the disadvantages or negative aspects of QR codes as well as directly asking about the barriers that prevent museums from using or progressing in their use of QR codes. The reasons why some museums are reluctant to use of QR codes include:

- Time and other priorities
- The potential to isolate audiences
- Staff support and awareness
- Training, in particular of the benefits and creative uses of QR codes
- Technological difficulties, especially mobile and internet signal

These barriers can also be considered thematically with the following patterns emerging:

**Organisational barriers** reflect the culture and attitudes which may prevent museums from prioritising digital activity or viewing it as an integral part of their work.

“Lots of our volunteers are from an older generation. A proportion are engaged with digital media but a larger proportion aren’t... getting our volunteers to embrace and understand”

“Social media and QR codes are not a priority for our higher authorities; it would be difficult making a case for it”

“Strategies of the museum and the local authority”

“...we wanted to [include QR codes in an exhibition] but didn’t get round to it”

Limited **resources** prevent many sites from pursuing the opportunities presented by digital technology, although many respondents would like to be able to do more. 82% of museums interviewed had the equipment on site to develop and test a QR code but difficulties with phone and internet signal were frequently raised as a limiting factor.

“Technology isn’t a priority – we have to do other things with our resources”

“Time, it’s on a long list”

“We can only use QR codes in the future if the mobile signal improves”
Skills development was identified by several respondents, with many wanting to know more about the benefits of using QR codes and the different ways in which they can be used.

“I don’t know enough about them but I’m interested in exploring ideas more”

“Knowledge of what QR codes can do – their potential”

“I don’t know enough to comment [on positive/negative perceptions of QR codes]”

Other approaches are preferred by some museums, in particular due to concerns about excluding visitors and whether QR codes are a short-term phenomenon.

“I think there is an access issue using something that is only for people with smart phones”

“We are wary; will it be sustained or replaced by the next thing? ...Will people get bored of barcodes?”

“It’s hard to argue for investment in an area when something new will replace it. Keeping volunteers up to speed when it will soon be replaced, it’s very difficult on a small site with limited resources.”

“We have to make people more aware of what they are and how they work. The majority of our audience doesn’t have a smart phone; we have to be aware of not isolating the core audience. Our visitor survey revealed that some people are suspicious of QR codes – they think they are buying into something and don’t like being sold to or having something forced down their throat”

“...it can be really annoying when a link doesn’t work and we wouldn’t want to be the cause of that annoyance, it would look like we’ve got it wrong”

“Through the app we will have all of our information in one place; it will be easy to use and easy for volunteers to explain. It will be contained – we have no interpretation boards.”

Other comments reflected on whether QR code technology is a useful aide.

“I’m yet to be convinced that people actually use them”

“A concern would be audience participation in terms of technology and inclination”

“They have to be the right size, have prominence, an explanation of how they work without being invasive and littering the site. We have minimal interpretation in our period setting – nothing, no folders, no labels. It’s a question of how to use QR codes at the same professional level?”

“For lack of awareness you have to have a big instruction paragraph and the whole point is that it’s unobtrusive and easy”
As well as the barriers identified by respondents, the survey results revealed a set of implied and interrelated obstacles to using or progressing in the use of QR codes:

1. Limited experience of scanning QR codes in a museum setting
2. Knowledge of how QR codes and linked content can be used creatively
3. Lack of digital strategy or planning for digital technology

1. While 76% of respondents had scanned a QR code, only 24% had experience of scanning a QR code as a museum visitor.

The survey asked respondents about their experience of QR codes in a non-professional capacity, investigating whether they had scanned a code and whether they had scanned a code as a museum visitor. Rates of scanning codes in general are high whilst experience of scanning codes in museum settings is comparatively low. Device ownership was regularly identified as the reason why a respondent would not scan a museum QR code in the future.

<table>
<thead>
<tr>
<th>Museum type</th>
<th>Have scanned a QR code</th>
<th>Have scanned a QR code as museum visitor</th>
<th>Would scan a museum QR code in the future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid staff</td>
<td>80%</td>
<td>30%</td>
<td>90%</td>
</tr>
<tr>
<td>Volunteer run</td>
<td>71%</td>
<td>14%</td>
<td>71%</td>
</tr>
<tr>
<td>Local authority</td>
<td>83%</td>
<td>50%</td>
<td>100%</td>
</tr>
<tr>
<td>Independent</td>
<td>73%</td>
<td>9%</td>
<td>55%</td>
</tr>
</tbody>
</table>

Table III: Experience of scanning QR codes

Unsurprisingly, concerns emerged about how QR codes impact upon the visitor experience. Several respondents noted that more could be done to evaluate how QR codes affect the nature of a visit. Just as ideas in other areas of practice might develop from the experience of visiting exhibitions, be that a moment of inspiration or a sense of how you could approach something differently, exposure to QR codes and linked content plays a role in developing understandings of how they can be used and the value they can add to or detract.

“It’s a question of how to enhance the experience without altering it”

“I agree that QR codes can help to improve the visitor experience, but I’ve not got enough experience to go further. In my limited experience I agree.”

“I should do it more myself, I haven’t seen one at a heritage site”

“Technology can stop people communicating verbally. There is the possibility that visitors will QR code everything and leave without learning because you learn through talking in the museum”
2. Creative ideas for using QR codes and developing linked content

The survey results also revealed that most museums have used or plan to use QR codes in very similar ways – to link to collections information or to their website. The results suggest that there is scope to develop more creative and innovative ideas for using QR codes. Respondents were asked to comment on a range of perception statements, which explored attitudes towards the potential of QR codes and the organisation’s approach to digital technology. The statement which elicited the most comment, ‘don’t know’ or neutral responses was “QR codes can help us to have a conversation with our visitors”. Nearly half of respondents disagreed or gave a neutral response to the statement. Furthermore, many sites identified that generating ideas and envisaging the potential of QR codes would be central in helping them to plan to use them.

| "Don’t know how well QR codes would help us to have a conversation with visitors, would depend how they are used.” |
| "More experience is needed, could go either way.” |
| "I don’t think they can help us to have a conversation with visitors – they are about information giving.” |
| "I think a conversation is face to face, verbal, but it would initiate dialogue through a digital format.” |
| "I haven’t used them so don’t quite know the possibilities.” |
| "I hesitate because I don’t yet know enough about QR codes.” |
| "QR codes and access... I hadn’t thought about that.” |
| "...we are wondering whether we should also include QR codes. We have no idea how but it seems more and more that everyone else is using them.” |
| "The codes are easy but the content is the problem; it’s what you link it to.” |
| "Best practice examples [would support use].” |
| "Only your imagination stops you – it’s what you follow it up with.” |

The national best practice advice document Encouraging Digital Access to Culture recommends that organisations make it easy for people to share, use and re-distribute content. This reflects the current model of digital participation by the UK population (p.4). Some respondents discussed opportunities to connect QR codes with social media, websites such as Staffordshire PastTrack or the Portable Antiquities Scheme or other technologies
such as augmented reality. Across the region there is potential to develop these ideas and to create user-focused digital experiences that don’t end with the QR links, but offer opportunities to share collections and experiences with other members of the public and to create and continue dialogue with the museum.

3. Using digital and social media strategically

The survey asked visitors whether they have a digital strategy or plan for digital technology and to rate the perception statements:

“We should be planning now how we will use technology in the future”

“We should be asking our visitors how they use digital technology”

94% of respondents either agreed or strongly agreed that museums should be planning now how they will use technology in the future.

100% of respondents either agreed or strongly agreed that museums should be asking their visitors how they use digital technology.

Nonetheless 25% of respondents either agreed that technology was not a priority or were neutral about its importance.

Just 24% of respondents have a digital strategy with a further 12% identifying informal mechanisms such as regular discussion at team meetings or ideas and consensus about the longer-term use of technology.

<table>
<thead>
<tr>
<th>Perception Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I strongly agree that we should be asking visitors how they use technology but we don’t at the moment.”</td>
</tr>
<tr>
<td>“In the future we will need to ask visitors how they use technology.”</td>
</tr>
<tr>
<td>“It would be helpful to have more information [about how visitors use technology]”</td>
</tr>
<tr>
<td>“We ask our visitors about their use of technology during our outreach work, through Google analytics and visitor surveys asking what people use”</td>
</tr>
<tr>
<td>“We have done some analysis but probably not as much as we should”</td>
</tr>
<tr>
<td>“Not currently, but this is the pre-step to our digital strategy”</td>
</tr>
<tr>
<td>“I agree we should be planning how we will use technology in the future”</td>
</tr>
</tbody>
</table>
This lack of strategy and planning for digital technology could explain the perception of technology as an add-on competing for resources with, rather than complementing, other activities. One site identified that although they use QR codes, use is inconsistent and ad-hoc. Developing a digital strategy could encourage the workforce to incorporate digital media within other areas of work, improve effectiveness and help to generate new ideas.

Digital strategy should not be interpreted as a high level policy document, rather a usable outline of what the museum would like to achieve, who its target audience is, how they interact digitally, what they find engaging and subsequently what the museum could do to achieve its objectives. All museums interviewed were very clear on how QR codes could help them to meet their aims and objectives, thus it seems that the latter sections are key to developing the use of QR codes.

‘Nobody would build a bridge without first thinking about the vehicles that would travel on it, where it needs to go, why it is needed in the first place […] So it is with digital projects’ – J. Drori, Encouraging Digital Access to Culture, 2010.

Audience research would clarify uncertainties about which demographic and what proportion of the audience are inclined to use QR codes and engage with digital content. Numerous sites remarked that they had been surprised by the popularity of QR codes with older visitors, cautioning against presuming that they would only be used by young people.

“A barrier would be people understanding what they are and do.”

“Not everyone will get it – the core audience might not understand what they are or do, and they are often the people who would get the most benefit.”

“They’re not everyone’s cup of tea – even young people.”

“The younger age group spot them straight away, are looking for them and looking to engage with their phones. But equally for the older age group and enthusiasts, it’s not just the label or looking at a vehicle, but engaging more with content.”

“They are another resource we can use but this depends on the nature of the visitors – QR codes can be intimidating, leaving visitors with a sense of being left behind or not catered for… It’s important not to patronise, but don’t assume. We can’t assume what people want, a lot of our older audience members do have smartphones and have taken well to QR codes.”

Developing MDO support strategies in response to these barriers would be an important approach towards helping museums use QR codes more effectively, complementing the methods specifically identified by respondents.
What help and support do museums need to use them?

Respondents were given the opportunity to consider any support which could enable them to use or progress in their use of QR codes. The main sources of support requested were:

- Practical training workshops
- Case studies and best practice examples
- Support with pilot testing and evaluation
- A factsheet or guide to QR codes
- Links with other museums and the opportunity to share experiences
- Publicity

Skills development through practical training was a key area discussed. Both introductory and follow up training to previous MDO events were suggested. To make a real impact on organisational culture it is important for senior managers/trustees to also attend training.

“Practical time spent planning and training.”

“A workshop in which we actually create the codes and see them in use.”

“We need some training to get off the ground; we need to know how they will be useful and why it is advisable to go on a course. Sell QR codes to us so that we can encourage people to go on a training course.”

It is felt that sharing ideas, best practice and experiences good or bad could encourage creativity and persuade sceptical members of the workforce to experiment with QR codes. Other museums are keen to share reservations and any solutions for overcoming these.

“Case studies – where people have used it in good ways, could be useful to inspire the workforce.”

“Brilliant examples in the sector. What they did, any reservations they had and do they think it was worth it or was it just information overload?”

“We’ve never used them so some training about how they’ve been used and examples of them being used in different ways.”

“I’d like to hear opinions about making sure information is always available in a hard copy otherwise it would be exclusive.”

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17 Follow up training or a repetition of the event organised by the Warwickshire and Conurbation MDOs.
18 DCMS, Encouraging Digital Access to Culture, p.15.
The potential of **partnerships and mentoring** was raised by several museums surveyed.

"Could museums partner and visit each other’s sites to look at how QR codes affect the visitor experience?"

"A contact, guide or website. A mentor or MDO to provide one-to-one support."

"Talking to other museums about what they do, what does and doesn’t work."

"It might help to trial it out on people who are familiar with QR codes."

**Pilot testing** was highlighted with many museums suggesting that support with planning and help implementing the codes would give them the confidence to use them. Other respondents reflected that assistance with **evaluation** would be useful. Evaluation should not only consider the effectiveness of the QR code, but also its impact on the broader visitor experience.

"Help getting started"

"One-to-one support if our MDO could come over and do this in-house"

"More feedback on content – is the content what [the public would] like to see?"

"Support with evaluation – how QR codes work best for individual sites and how they are useful for visitors."

To help to spread the message throughout the workforce a **guide to QR codes**, selection of top tips and bank of case studies were frequently requested. A number of museums interviewed asked the MDOs for a factsheet, which, in simple language explains:

- What a QR code is
- How you use it
- Where you use it
- Why you use it
- The benefit for the museum
- The benefit for visitors

"An idiot’s guide to QR codes – what they are, what they are capable of, why we should use them and where. A factsheet that in simple language sells QR codes to me."

"Through email: top tips, accessible examples…getting staff to events is difficult."
Other potential areas of support raised by respondents included:

- Support with PR in terms of making the public more aware of what QR codes are and the value they add to the visitor experience. Incorporating an element of outward facing publicity and promotional activity into MDO projects may be an area for consideration.

- Manpower or assistance recruiting a volunteer with a specific digital remit was also raised; an area of development that may relate to MDO work around organisational health and the volunteer workforce, Friends or trustees.

- Nearly one fifth of sites lacked the equipment or resources to make and test a QR code. Others mentioned that funding was needed to finance hardware for other digital activities. Sustainability and future capacity will be a key issue in any MDO project.

- Some respondents felt it would be helpful to know more about how visitors use technology. In the absence of site specific analysis, disseminating research into patterns of digital participation could support a business case for QR codes by alleviating uncertainties about whether creating content and incorporating QR codes is a valuable use of resources (Appendix Four).


Encouraging Digital Access to Culture argues that new projects need someone to champion them, ideally accompanied by a small amount of funding or support. It advises that frequently a resource cannot be justified until a project is properly defined and a business case made for doing it. The MDOs have a role as advocates for QR codes and digital technology, creating a vision through their projects and support which articulates what technology can do and why it is useful, in order for digital champions working in museums across the region to enthuse their workforces. MDO support in this strand provides an exciting opportunity to strategically review our approach to digital technology to provide museum experiences which engage and inspire audiences in the twenty-first century.

Blogs and discussion boards


LinkedIn discussion board, ‘How have you utilised QR codes for marketing, visitor experience, or anything else at your museum?’ American Association of Museums, www.linkedin.com/groups/How-have-you-utilized-QR-2965314.S.132046560


Newspaper Articles


Research and Debate


Case studies

ArtFinder app, Facebook, http://www.facebook.com/artfinderfb
SHARE Museums East, Local Example of QR codes: Benefits and Limitations (Powerpoint Presentation), www.sharemuseumseast.org.uk/shares/resource_131.pptx
‘Handmade in Britain: mobile content’, Victoria & Albert Museum, www.vam.ac.uk/content/articles/h/handmade-in-britain-mobile

Websites accessed August 2012
APPENDIX TWO: CASE STUDIES

UK

**Dales Countryside Museum**
Used QR codes to engage primary school pupils with their heritage. 7-11 year olds chose their favourite objects, took photographs, researched and wrote stories and interviewed family members about their own treasured possessions. This information was uploaded to a webpage and can be accessed using QR codes scanned with portable PlayStation devices used by the children.
www.naace.co.uk/1711

**Grant Museum of Zoology, UCL – QRator project**
QR codes are located near to key objects and an iPad digital label which asked a provocative question about science, zoology or museum practice e.g. ‘Can we lie about what a specimen is or where it came from?’, ‘Should we clone extinct animals?’, ‘Given that climate change is man-made, should we be protecting animals that are at risk from its effects?’. Members of the public can type their thoughts on the object and question and send them to the museum. Visitor comments are immediately updated on to the digital label so that their interpretation became part of the object’s history and the display itself (comments are not moderated apart from a swear filter). Visitors give personal opinions and often highlighted their favourite objects, helping staff to plan future exhibitions. Statistics show that around 29% of visitors choose to leave a comment.

The project aimed to change the cultural paradigm from interpretation to conversation, creating new models for visitor engagement and scope for multiple interpretations.
http://www.qrator.org/
http://www.ucl.ac.uk/public-engagement/projects/innovation/Warwick

**Imperial War Museum**
By scanning the QR code visitors can access more of an object’s story and share their own memories and experiences. Aims to build up a social layer of knowledge around the object. Visitors can also create and share their own museum collection comprising their favourite objects.

**Ipswich Transport Museum**
Plans to use QR codes to improve access for wheelchair users by linking to films and photographs of objects and areas of the museum otherwise inaccessible.
www.sharemuseumseast.org.uk/shares/resource_131.pptx

**Museum of East Anglian Life**
QR codes were used to highlight star objects and to give people the ability to comment and contribute their own thoughts and stories. Web pages also used oral history in the collection to give first person interpretation.
www.sharemuseumseast.org.uk/shares/resource_131.pptx
National Museum Scotland
70 items in an exhibition were tagged with QR codes. Each object was linked to a video containing primary source material about the object. Visitors could add their own memories and comments
www.guardian.co.uk/edinburgh/2011/apr/14/edinburgh-national-museum-scotland-qr-codes

Petrie Museum of Egyptian Archaeology
QR codes next to artefacts were linked to a blog post. Visitors were encouraged to leave their own comments about the artefacts and exhibition.

USA

New York: Central Park’s World Park Project
Aimed to engage a younger audience and position the park as a leader in events and outdoor activities. For a limited time period QR codes were used as a form of outdoor game to unlock the history of the park. At different points visitors could scan the codes to access a quiz. Questions were connected to the place in which the visitor was stood. Quiz answers were in the form of film and television clips, old photographs, paintings, concert clips, quirky facts etc. Everything linked to a Facebook page and website where personal avatars led discussions.

The landscape became an outdoor museum and interpreters provided guidance. New signs were created for the activity which helped to create and consolidate the park brand. The project enabled the landmark represent itself to today’s audience.

Anonymous comment
A 10” QR code was added to a donation box to provide donors with extra information about the organisation and what the funds will be used for. It has been useful as space to convey this information is limited.
www.linkedin.com/groups/How-have-you-utilized-QR-2965314.S.132046560

Australia

Powerhouse Museum: Love Lace Exhibition
QR app as pocket sized companion exhibition catalogue. Features an audio guide, the option to make a list of objects you ‘Love’ and share them by email or on twitter, exclusive content including behind the scenes videos.
http://www.powerhousemuseum.com/lovelace/index.php/the-app
APPENDIX THREE: USING QR IN EXHIBITIONS

Best practice – presenting QR codes in museum exhibitions

1. An orientation panel and/or a member of visitor services explaining to visitors what QR codes are and how to use them.
2. The object label and the QR code (provide access to a hard copy of the information where possible or include the URL to enable people without smartphones to access the content at home).
3. A single sentence explaining what you can access (and if applicable, its duration) – give visitors an incentive to scan.

QR Code Treasure Hunt Generator

www.classtools.net/QR/index.php
APPENDIX FOUR: THE PARTICIPATION CHOICE MODEL

77% of the UK population are active digitally. They are characterised as intense participators, initiators and reactors. We can use this information to craft digital experiences that help us to meet our objectives.

<table>
<thead>
<tr>
<th>Intense participation (17%)</th>
<th>Easy participation: initiators (44%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Relatively small segment</td>
<td>• Largest segment</td>
</tr>
<tr>
<td>• Comparatively young</td>
<td>• Young and slight majority female</td>
</tr>
<tr>
<td>• Typical activity includes blogging and reviews</td>
<td>• Activity revolves around friends and family and lifestyle</td>
</tr>
<tr>
<td></td>
<td>• Typical activity includes uploading photographs or following TV and entertainment content</td>
</tr>
<tr>
<td></td>
<td>• They participate around themselves</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Passive participation (23%)</th>
<th>Easy participation: reactors (16%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• This group are still online but are not creating content and sharing it publicly</td>
<td>• The smallest segment</td>
</tr>
<tr>
<td>• No trend as to who these people are</td>
<td>• Slightly older</td>
</tr>
<tr>
<td>• Passive participation is not about ability, it is a lifestyle choice</td>
<td>• Activities involve less effort and risk</td>
</tr>
<tr>
<td>• This group is shrinking: in 2012 just 23% of the population are passive participators compared to 90% in 2006</td>
<td>• This group own less devices</td>
</tr>
<tr>
<td>• The growing trend is towards active participation, how can we exploit this?</td>
<td></td>
</tr>
</tbody>
</table>

For more information see:

H. Goodier, *BBC Online Briefing Spring 2012: The Participation Choice*, 4 May 2012,  
http://www.bbc.co.uk/blogs/bbcinternet/2012/05/bbc_online_briefing_spring_201_1.html
APPENDIX FIVE: PREVIOUS MUSEUM DEVELOPMENT DELIVERY

The Conurbation

Training has mainly considered Wikipedia in particular looking at generating open content and involving volunteers. There has been interest in Back Stage Pass events with one museum hosting and another planning an event. The Conurbation Museums Officer has also arranged one-to-one Wikipedia training. In May 2011 Conurbation and Staffordshire MDOs ran a one day social media course which was followed up with interested museums.

Herefordshire

Broadband problems and local authority IT policy have meant it is not possible for many museums to use QR codes. They have been trialled at some sites, but difficulties were encountered due to weak mobile phone signal. Improvements in infrastructure may allow more museums to use the technology from 2013. Herefordshire received a generic training day from the Herbert Museum & Art Gallery, Coventry.

Shropshire

The Shropshire MDO organised several events and training courses in 2011 in partnership with Audiences Shropshire (Audiences Central). The MDO arranged a ‘cakes and computers’ session and offered one-to-one support as well as providing information on using open software and other tools such as using the web for fundraising.

Staffordshire

No training has yet been held within the county. The MDO organised a joint event with the Conurbation Museums Officer in 2011. This event was attended by 2 Staffordshire museums. More museums within the county are expressing an interest in digital and social media training. Some museums have used technology such as augmented reality of their own accord.

Warwickshire

The Warwickshire and Conurbation Museum Officers hosted a joint meeting at the Herbert Museum & Art Gallery, ‘something Wiki this way comes’. The Warwickshire MDO has also arranged for a Wikipedian to deliver QRpedia training to several sites. Shorter Wikipedia training sessions have also been delivered for smaller sites, which have included QR codes. In some towns QR trails have been mooted, however these plans are currently postponed. The MDO encourages museums to use QR codes through blog posts.

Worcestershire

An introductory social media training session was held in 2012. Again larger sites have used Wikipedia and QR codes of their own accord.
Appendix Six: QR Codes – Museum Survey 2012

The results of this survey will be collated in a report for the West Midlands Museum Development Officers. The report will be used to inform projects and training in the region.

| Name of museum:                                                                 |
| Type of museum:                                                                |
| Contact name:                                                                  |
| Role:                                                                          |

Section 1: Use of digital technology by museum staff and volunteers

1. Have you heard of a QR code before? Yes/No
2. Have you scanned a QR code before? Yes/No
3. Have you scanned a QR code as a museum visitor? Yes/No
4. Would you scan a QR code as a museum visitor? Yes/No

Section 2: Current use of digital technology and QR codes at your museum

5. At the museum do you have access to any of the following?

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Sometimes</th>
<th>Never</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>A smart phone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- with data plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- with QR scanner app</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A computer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A printer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. How do you currently use digital technology to engage and communicate with visitors?

<table>
<thead>
<tr>
<th></th>
<th>(X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td></td>
</tr>
<tr>
<td>Social media</td>
<td></td>
</tr>
<tr>
<td>Blog (e.g. Word Press, Tumblr)</td>
<td></td>
</tr>
<tr>
<td>Apps</td>
<td></td>
</tr>
<tr>
<td>Digital interactives</td>
<td></td>
</tr>
<tr>
<td>QR codes</td>
<td></td>
</tr>
<tr>
<td>Wikipedia</td>
<td></td>
</tr>
<tr>
<td>Flickr</td>
<td></td>
</tr>
<tr>
<td>You Tube</td>
<td></td>
</tr>
<tr>
<td>Other (e.g. Pinterest) please state</td>
<td></td>
</tr>
</tbody>
</table>
7. Have you used QR codes at the museum? Yes/No
   If so, how? If not, is there a reason why? (Prompt – do you know how to make/use a QR code?)

8. Would you like to use QR codes at the museum in the future? Yes/No
   If so, how? If not, is there a reason why?

9. If yes to Q7 or 8 - What do you hope to achieve by using QR codes?

10. Do you have a digital strategy or a plan for using digital technology? Yes/No

Section 3: Future use of QR codes at your museum

11. What is your opinion of the following statements about QR codes and technology?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>QR codes can help to support interpretation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QR codes can help our museum to reach new audiences</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QR codes can help to improve the visitor experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QR codes can help to improve access to collections</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QR codes can help us to have a conversation with our visitors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QR codes are too much work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We should be planning now how we will use technology in the future</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We should be asking visitors how they use digital technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology is not a priority at the museum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We don’t like technology and don’t want to use it</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
12. Do you have any positive perceptions to add about the use of QR codes?

13. Do you have any negative perceptions to add about the use of QR codes?

14. Can you think of any ways in which using QR codes would help you to meet your museum’s aims and objectives?

15. Are there/what are the barriers to using QR codes at your museum?

<table>
<thead>
<tr>
<th>Organisational barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>(strategic planning, firewall, digital technology seen as an add-on, no one’s responsibility)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skills, knowledge, mindset</th>
</tr>
</thead>
<tbody>
<tr>
<td>(perceived, actual, confidence, risk aversion, evaluation or technological)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>(time, budget, digital not prioritised, funding)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other approaches preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>(technology for technology’s sake, simpler solutions available)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
</tr>
</thead>
</table>
16. What help and support would help you to overcome these barriers or to progress in your use of QR codes?

<table>
<thead>
<tr>
<th>Pilot testing and evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(support to introduce initial small scale projects)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Working in partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td>(collective solutions, mentoring, case studies)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Training for staff and volunteers</th>
</tr>
</thead>
<tbody>
<tr>
<td>(skills, creative application, evaluation)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organisational culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>(integrating digital technology, taking risks, strategic approach, template policy/strategy)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
</tr>
</thead>
</table>

17. Is there anything you would like to add about the use of QR codes or digital technology more generally?