The Value of Mobile Phones in Heritage Interpretation

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Abstract

This paper refers to her MA thesis for the University of Birmingham, which assessed how effectively heritage sector mobile phone applications (apps) are currently delivering interpretation to visitors. The full thesis is available here:

www.academia.edu/13633679/The_Value_of_Mobile_Phone_Applications_in_Heritage_Interpretation.

Keywords: mobile technology, digital technology, heritage interpretation, mobile applications
Introduction

The heritage sector has woken up to the mobile boom and the possibilities that mobile phone applications (apps) offer for interpretation, and consequently there are many examples of mobile developments and apps in the sector. As new strategies are being formed to include mobile technology, however, there is a lack of information and evidence to base them upon. The Museum Association's Mobile Surveys (2012; 2013) have been carried out among museums and heritage sites and give a useful insight into current apps and future aspirations in the sector, but no indication of how well apps are received by visitors and what kind of a visitor experience they provide. This paper is based on my MA thesis research and will discuss the results. The research revealed that apps’ strengths are in enabling users to find new information and offer an engaging and enjoyable experience. The challenges, on the other hand, are technological and user experience issues, as well as offering deeper, life-changing, learning experiences. A summary of the research methodology and conclusions are presented below.

Methodology

The 2013 research thesis was based on an online survey among heritage app users. The survey, which took the form of a questionnaire with both multiple choice questions and an open question, was completed by 55 people. The target group was not representative of the wider population, rather the sample comprised of people who had already used an app out of their own initiative. This sample represents people who showed an interest in both heritage sites and in mobile phone applications, who owned the technology and had the know-how required to be able to download and use a mobile phone application. It was thought that this group of people would provide information that is most useful to heritage professionals considering app development. The survey measured how effectively apps deliver a selection of interpretation priorities. The priorities were drawn together from the literature review, the findings
of the Museum Association's Mobile Survey (2012) and communications with heritage organisations and managers (Berry, pers. comm., 2013; Kay, pers. comm., 2013; McBride, pers. Comm., 2013). They included the ability of apps to:

1. Offer good learning experiences
2. Engage visitors
3. Offer enjoyment
4. Offer more of the venue & objects on display
5. Make visitors value the heritage site more.

The first question about learning used the Museums, Libraries and Archives Council's (MLA) Generic Learning Outcomes (2008) with the results looking at each of the five GLOs separately, rather than as a whole. The survey section about learning was thus modelled on the questionnaire made available on the Inspiring Learning for All website (MLA 2008) with the word 'app' added to each statement:

1. Using the mobile app made my visit very interesting.
2. I discovered some new information because I used the app.
3. I found out how to do some new things using the app.
4. Using the app, I learnt some things that made me change my mind.
5. Using the app will encourage me to visit again.

The following statements about 'engagement', 'enjoyment', 'seeing more of the site' and 'valuing the site more', used the same pattern.
Strengths

Finding new information scored highest of all the questions in the survey. 83% of respondents found some new information while using an app (Figure 1).

**Q2 I discovered some new information because I used the app**

Answered: 54  Skipped: 1

![Bar chart](image)

Figure 1: Graph showing the results to the question ‘I discovered some new information because I used the app’. (Source: Author).

In addition, 76% of people had an engaging experience using an app. This statement received the most 'strongly agree' responses with 24% people strongly agreeing and 52% agreeing with it. In third place was enjoyment; 70% of users enjoyed their app experience. People who selected 'strongly agree' to the question about enjoyment had used a mix of different types of apps for different types of heritage sites. Those who did not enjoy their experience had mainly struggled with technological and usability issues.
Answers to the open questions indicated that interactive maps were a popular feature, many citing them as convenient. Apps which work as handbooks, such as the National Trust app (National Trust 2014) and the English Heritage Days Out app (English Heritage 2014) scored low on the questionnaire, as they do not offer interpretation as such, but had a lot of positive feedback in the open question. They were thought to be more convenient than websites and paper-based handbooks. Handbooks are a good example of a product that can work better as an app rather than a paper-based version. Most people today do not carry their handbooks with them but will take their phones wherever they go. As long as the phone has the required signal, the GPS feature will enable users to find heritage sites nearby, wherever they are. Visitor information should be up to date, as it is downloaded 'as you go' from the internet. Apps suitable for the whole family were also popular. They can offer a structured way for families to do an activity together. Tour and trail type apps scored highest for 'seeing behind the scenes' and more of the site as well as for being the least distracting.

Weaknesses

Technological issues or app functionality (not meeting users' expectations) scored the lowest. This is not a result of any specific question but a combined outcome of the survey. People who experienced either technological problems (download time, compatibility, battery life) or struggled to get AR (augmented reality) or QR codes (quick response codes that are accessed via a QR code reader app) to work, gave lower scores across all questions and had the poorest experiences overall. AR failed to deliver for some people. This could be either due to technological problems or to user expectations not being met.

The question with the lowest score was 'learning things that make us change our minds', as illustrated in Figure 2. 20% of the respondents indicated that they learned
things that made them change their minds. But 35% of people did not learn anything that made them change their minds, and on top of that 45% neither agreed nor disagreed.

**Q4 Using the app, I learnt some things that made me change my mind**

![Graph showing the results to the question 'Using the app, I learnt some things that made me change my mind'.](Source: Author)

The second lowest score went to 'learning new skills'. 35% indicated that they had learned new skills, but 40% of people did not learn any new skills using an app, and on top of that 26% neither agreed nor disagreed with this statement.

These results seem to indicate that although apps are good at sharing information, this may be at a somewhat superficial level; just information rather than life-changing and life-impacting information. It is hard to determine whether apps are weak at delivering
these outcomes or whether they are not currently developed to answer these 'deeper learning' outcomes, but simply to be fun and engaging. The challenge therefore, for the next generation of apps, could be to offer more variety and for some to offer a more meaningful learning experience. On the other hand, different types of interpretation and technology may be best suited for certain purposes. Other forms of interpretation may naturally offer a better solution for the Generic Learning Outcomes (MLA, 2008) that scored low in the survey: 'learning new skills' and 'learning things that make us change our minds', or in other words, life-changing learning. The Heritage Lottery Fund document 'Using Digital Technology in Heritage Projects: Good Practice Guidance' (2012: 17) makes the point regarding different technology solutions:

'Different types of technology, like mobile apps, will be more appropriate for activities on the go, while activities that require more in-depth exploration of content may be more suited to home computers.'

Apps should be integrated as part of the bigger picture, embedded within the interpretation plan, offering one of the activities visitors can engage with, with other activities covering different interpretation priorities. The HLF document (2012: 19) encourages blended learning solutions:

'Audiences benefit the most from projects in which their needs have been put first ... Activities which offer a blended learning approach, for example, where computer or mobile-based activities are integrated with practical, hands-on or classroom based situations, tend to engage a wider audience.'

**Recommendations**

Mobile solutions are becoming a part of everyday life for the majority of people, helping them deal with everyday tasks such as finding information, communicating,
shopping, setting an alarm and taking photographs to mention just a few. The popularity of smartphones and tablets means that a large proportion of visitors enter heritage sites with a powerful mobile device, ready in their pocket or bag. This means that apps can offer multimedia interpretation to visitors without additional investment in technology, although the cost of developing apps is still high.

A mobile-optimised website should be the first port of call for anyone starting with mobile development, as more and more of traffic to websites is coming via mobiles (Scott 2014). At times, web apps can work as well as mobile phone apps, and should be considered as an alternative solution. Beyond that QR codes are the cheapest way to implement a mobile activity but are limited in what they can offer. Apps themselves are still expensive to develop, but a successful app can be worth every penny (Lee 2012).

Apps are not likely to create a considerable income revenue currently. Whilst they can be charged for, in the heritage sector the majority of apps are free. From the case studies this research looked at, it would seem that monetization of heritage apps does not currently provide a financial return. This trend may, however, change in the future.

Augmented reality (AR) apps have perhaps the most potential to offer something that other technology cannot. According to the Museum Association's Mobile Survey in 2013, only 10% of museums are currently offering AR, but this is the one area that is particularly growing. 32% of respondents planned to provide a mobile AR feature in the next 12 months (Atkinson 2013). Apps offering AR and other innovative technologies get most media coverage and most downloads, but often the worst user experience. AR is still expensive to develop, and when the technology does not work, visitors can be left frustrated. User expectations are also high and not always met with the reality
of current technology. Innovative apps have been good for publicity (Lee 2012), but not always great for delivering content to the majority of people.

Other features worth utilising in apps are the ones that give mobile phones an advantage over other types of interpretation tools. One of these is the GPS (global positioning system) feature, which can, for example, locate users and points of interest on a map or show visitors a route. The GPS feature is utilised in apps which help users locate a heritage site near them, such as the National Trust app, English Heritage Days Out and the Churches Conservation Trust’s Visit Churches app (National Trust, 2014; English Heritage, 2014; Serious Games International, 2012), or apps that locate a points of interest near the user, such as the Museum of London’s Streetmuseum app (Thumbspark Ltd, 2014). However, the GPS feature is also good for showing the user’s location on a map, and showing them the way to the next point of interest. Another way of using GPS is to trigger content at specific points of interest, as done by the Island of Wight Dinosaur Island app (Visit Island of Wight, 2014). The app is ‘… available to download from anywhere in the world, but will only be triggered into life at six coastal locations on the Isle of Wight’ (Visit Isle of Wight, date unknown). The phone’s camera is one of the most popular features. Apps, such as the Isle of Wight’s Dinosaur Island, let people take pictures of themselves with augmented reality added to the scene, in this case, 3D dinosaurs.

There are some considerations, based on the research that those responsible for running heritage sites ought to hold at the forefront when planning to develop an app:

1. Consider if a mobile optimised website or web app would work equally well for your situation and if its benefits would outweigh the benefits of a mobile phone app.
2. Choose a specific purpose for the app and integrate it with the wider interpretation offer for the site, both on-location and online. Apps, mobile technology and other digital resources should not be seen as something separate but included in learning and engagement strategies: neither retrofitting new technology into old strategies, nor rewriting a new strategy based only on mobile technologies, but they should be thought of as part of the whole.

3. Create something that works best as an app and cannot, or cannot easily, be achieved by other methods of interpretation, through making use of a smartphone and tablet’s unique functionalities.

4. Augmented reality is currently a very popular feature in heritage applications, but not necessarily the best functionality for every app. It could be advisable to include a solid user experience that is not as reliable on AR working, even in an AR app, so as not to disappoint those who struggle to get it to work, or are disappointed by the results.

**Conclusions**

Marshall McLuhan wrote that the medium becomes an extension of our bodies (1964) and never has this been so true as today with the emergence of mobile phones, smartphones and tablets. They affect the way we live our daily lives, their shape and size may vary, the way we carry them with us may change, but mobile technology, connected to the worldwide web, is the new way of life. The heritage sector cannot afford to ignore it. It is time for each heritage and cultural site to think through their mobile offer. It may be that a mobile-optimised website is enough, perhaps a URL or a QR code displayed in a suitable position, or an app with a more traditional audio tour. For some sites, a more creative app that delivers a solid and engaging user experience may be more appropriate. Others will want to lead the way in innovation such as
through AR, and like the Museum of London may find success in terms of user downloads and exposure.

As heritage site audiences change, so too must the ways in which organisations interpret and present their sites, in order to offer a valuable experience for each and every visitor. The 'one size fits all' approach is not acceptable for the 21st-century visitor, but a 'palette' of interpretation is required '... to meet the needs of different audiences' (Black 2005: 5). A balance is needed between new ways of communicating with visitors, which include mobile phone developments, and traditional ways, in order to offer as many as possible with a meaningful visitor experience, and help all audiences to engage with collections. It may well be that mobile-enabled websites and web apps will be sufficient for heritage sites if the technology advances and they can offer more functionalities than they do presently. Apps, however, do currently provide an exciting opportunity for visitor engagement, and as such cannot be ignored by heritage organisations.

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