

Exceptional experiences for everyone

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Abstract

Often accessibility is an afterthought or sticking plaster to fix the holes in an experience that was designed with a central audience in mind: maybe middle-aged, fully able, well educated. Ideally, we would have user experiences designed specifically for different kinds of modalities and in different styles, not just because of the wide diversity of users, but also because any one user has varying needs and varying abilities at different times. In the context of a large museum or cultural institution this is already challenging, but appears impossible for smaller archives, or local community heritage. Yet if heritage and history is to be accessible this also applies to production: democratising digitisation and empowering marginalised groups. We need appropriate architectures, tools, technology, infrastructure and platforms, so that this is not just possible, but simple. In this talk I offer some insights, some examples and many research challenges towards the goal of enabling exceptional experiences for everyone.

Keywords

Accessibility, community heritage, historical archives, user interface architecture, data-driven interaction

1. The problem

As I start to write, I feel a bit of a fraud: I have been involved in the production of several experimental and deployed systems for historical archives and local heritage, but, with one recent exception, I have failed dismally to provide materials that are widely accessible. To be fair, the systems were low budget, for small communities and the legal obligation for ‘reasonable adjustments’ takes into account the means available. Or is this an easy get out? Does this mean only the largest museums, galleries and exhibitions will ever be accessible?

Often accessibility is a more or less sophisticated sticking plaster: tabbing between text areas or alt tags on images. An online or in-person experience may be designed with the middle-aged, literate and sighted in mind and adjustments are made so that those who are not part of the central design group are also able to get ‘something’ ... a second-rate experience.

1.1. An example – Frasan

Figure 1, (left) shows Frasan [5], a mobile application designed to help bring the contents of An Iodhlann, the Isle of Tiree archive, out from the dusty shelves and into the landscape of the island. Frasan is a basic map-based application. It shows your own position using GPS and also selected archive items that are related to places on the map such as old photographs taken of buildings or items that originated in the area.

How could this be made more accessible? There are easy fixes, such as adding alt tags describing each image. However, the selection of items that are included in the application was based largely on their visual interest. This selection would have been very different if chosen


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focused on the most interesting to read. That is, we risk taking an experience optimised for the sighted and then modifying it to produce a poor alternative.

The map navigation is more complicated, perhaps there ought to be a completely different mode of menu navigation with a 'near by' option and structural navigation for exploring geographically based on the township areas of the island. This already begins to feel like a different application; does that matter?

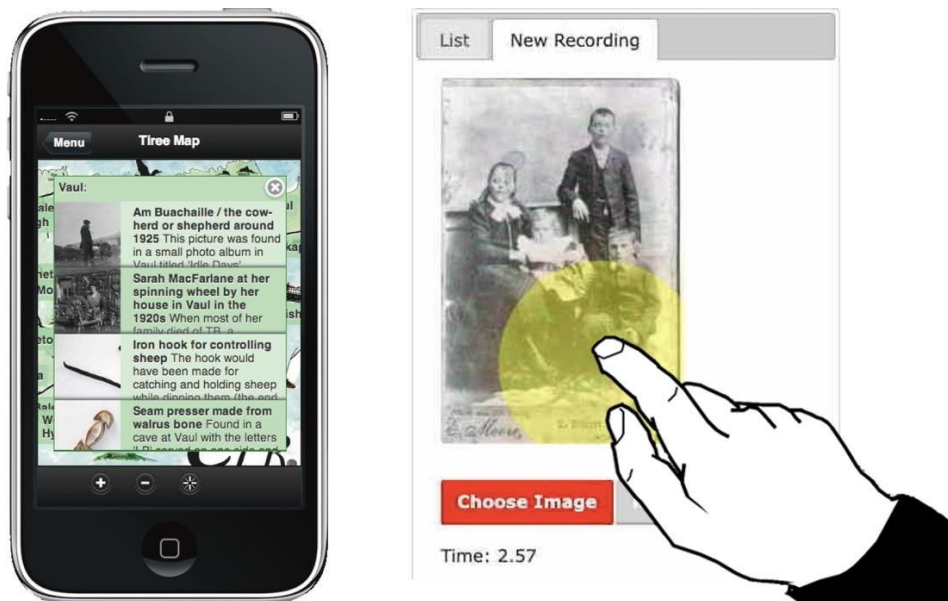


Figure 1: Left: Frasan – mobile access to a small island archive. Right: TalkOver – audio annotations of pictures

1.2. More than alt tags

Of course, accessibility is not just about visual impairments. Many recent interface trends, especially for mobile-phone apps, require high precision of touch-points and then combine this with poor feedback about what has happened. Together, these effectively shut out the elderly, or those less confident or physically able. Elsewhere I've argued that we need more 'nasal' interaction styles, ones that embody history and even more command-line or dialogue-like alternatives [10].

2. The Varieties of Heritage Experience

In an ideal world, maybe we would have different interface styles optimised for different physical and cognitive abilities as well as different age groups, social groups, and special occasions. Of course, even the same person with the same abilities may want to experience the same underlying material differently, if they are tired, injured, or simply would like another viewpoint. Furthermore, these should be interconnected, so that someone taking a largely visual tour would be able to talk about it to someone taking a more auditory or tactile visit, or parents sharing with children even when viewing different detailed material.

This sounds like a tall order, but twenty years ago, the Equator project explored shared physical and virtual visits to the Mackintosh Interpretation Centre in the Lighthouse, Glasgow [2], where some of the participants walked around the centre, some used remote VR and others plain (and given the time very plain) web views. While all of these were predominantly visual, it demonstrated that having a sense of collaborative experience is possible with very different experiences.

2.1. Infrastructure for Diversity

One way to cut this apparent Gordian Knot is through open infrastructure and tools to enable more easy capture, curation and authoring of both archive materials and the ways to experience them.

Many (so called) content management systems conflate the management of content itself with the means of reading or viewing it, for example, WordPress, used in more than 40% of all websites [12], categorises content primarily around the structure of the website. In contrast, Frasan deliberately took a data-first approach, ensuring clear back-end data with the understanding that this would enable flexible use later. Indeed, some of this data was used during the creation of locative narrative based on the island [15].

Of course, even with this back-end, Frasan only had one – visually based – interaction style. We need easy-to-use tools to allow the creation and maintenance of different front-end experiences. There are good examples of such systems, for example, Placebooks [3], which made it easy to create routes and stories about one's own area, but these usually live in their own closed silos, not connecting with other archives or data sources. This is in part because archival sources restrict sharing of content for IP-related reasons, and partly because of limited standards for APIs or limited use of such standards even where they exist, such as IIIF for images [1,19].

2.2. Access to Production

Creating alternative experiences is tough enough given the resources of a national museum, but it seems impossible for smaller projects, where even creating one good enough experience is hard given the budgetary and time constraints. Furthermore, for community heritage, there maybe limited technical expertise. Accessibility is often seen primarily in terms of consumption, but this implicitly assumes that only those with existing power, privilege and wealth can have a say. If we want to claim truly accessible heritage, this has to include openness to those creating material as well as those receiving it.

In previous publications, we refer to 'democratising digitisation' [4], that is the empowerment of individuals and communities by making accessible means to collect, curate and publish themselves. Initiatives such as the People's Collection Wales [17] make it easy to upload material into their archive, including sub-collections and stories, but for some of the reasons mentioned earlier, do not make it easy for communities to then reuse and remix this content.

In various projects, we have observed how the individuals and communities we work with have their own ways of storing and sharing materials, typically using off-the-shelf applications and services such as OneDrive, Google Drive, spreadsheets or Facebook pages. Ideally, we try to work with the data as it is with minimal changes, rather than demanding they change; privileging their ownership; a principle we call "the leaves are golden" [6]. Cloud-based filesystems, and indeed desktop filesystems, typically do not support rich metadata such as provenance, annotations, or semantic relationships. The design of filesystems has hardly changed since the 1970s making them problematic for heritage purposes, even if easily usable [9]. One challenge is to build tools that layer upon standard filesystems and applications to provide richer meta-descriptions.

On the capture side, it is always evident that as soon as a community member turns the page in an album or opens a digital photograph, they begin to talk, to tell stories, to point out people and places. As a way to make this easier to capture we created a small application TalkOver [7,9], which allows users to point with their fingers, mouse or stylus while talking about a picture; the locations are recorded and then highlighted when the recording is replayed (Figure 1, right).

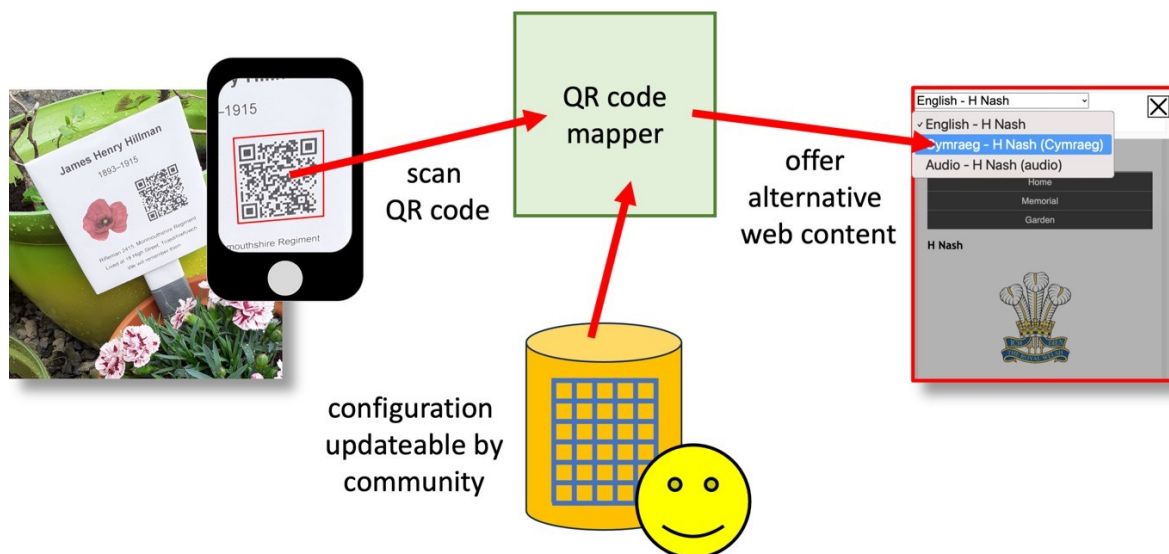


Figure 2: Flexible QR code architecture deployed at Troedrhifwuch

2.3. Connecting to the physical

Often, we want to connect digital content to physical locations, either within museums or outdoors and there are many technologies to enable this [8]. We have already seen how map-based interfaces, while good for visual users, are problematic for screen readers and may require radically different interaction styles, where direct use of GPS may be better. Another common way to connect to physical locations is via QR codes, which are also a visual (*sic*) cue that information is available as well as a means to access it. There are many bespoke individual codes in the environment, and also more substantial platforms and projects that use QR codes as their central technology, such as HistoryPoints [14] and MonmouthpediA [16]. These QR codes usually link to a single fixed URL – the web page they link to might have different accessibility features, but it is effectively offering a single experiential route.

In a recent deployment at Troedrhifwuch [18], we have used QR codes, but with a small twist. Rather than directly linking to a web page, the QR code links through a lightweight web middleware using a unique id, rather like URL shorteners such as TinyUrl (see Figure 2). A Google Doc spreadsheet allows easy (re)configuration of the final destination URL, but also allows alternative options, rather in the way early pre-web HyperText systems allowed one-to-many links [11,13,20]. This can include different language versions, but also audio, or experiences designed for children, past residents, etc.

3. Last words

Instead of creating second-rate experiences for those not in the central target group, we ideally want to create multiple ways to access local heritage, cultural sites and museums that offer different modalities and styles suitable for diverse people and personal contexts. However, this is not easy for small archives or local heritage projects when budgets are small and expertise fragmentary. We desperately need tools, technology and infrastructure that allow people to work with the materials they have, using methods they are comfortable with, to create diverse and rich experiences for others.

We've seen some examples that are small steps in this direction, including clear separation between data collection and curation at the back-end and the threading of this into front-end

experiences. However, there is lots of work to do and lots of opportunity for innovative and impactful research; so that we can indeed create exceptional experiences for everyone.

For more about this work see: <https://alandix.com/academic/talks/AMID2023-exceptional/>

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