Ulster
University

Museums, Crisis
and Covid-19

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Museums and Digital Media:

INNOVATION, ENGAGEMENT AND PRACTICE

Museums, Crisis and Covid-19:

VITALITY AND VULNERABILITIES

Based at Ulster University Museums, Crisis, Covid-19: Vitality and Vulnerabilities is a UKRI Rapid Response project (AH/V012819/1) focusing on **how museums can contribute to community resilience and wellbeing in a time of crisis**. It addresses sector adaptability as it adjusts audience engagement and collaboration (such as new collecting practices, programming and exhibitions) in response to Covid-19.

Going forward, this project will **lead and inform the sector as it adapts to effective community-digital possibilities that still embraces new thinking in participation and engagement**. Alongside this, the project will evaluate how we adapt our practices to be mindful of audience diversity, digital poverty, and the isolation challenges for vulnerable audiences arising from Covid-19.

ACKNOWLEDGEMENTS

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The Museums, Crisis and Covid-19 project has been central to helping us understand the real time impact of the pandemic on the museum sector and how creatively it has responded to that challenge. Through dynamic and inclusive digital approaches, museums have demonstrated that they play a vital role in supporting communities across Northern Ireland.

The project has helped the National Lottery Heritage Fund to better understand the digital skills and infrastructure needs of the sector and tailor our emergency funding responses. It will also guide our future support for the sector.

STELLA BYRNE, NATIONAL LOTTERY HERITAGE FUND

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SUMMARY

The Covid-19 pandemic has brought with it significant changes to working and living practices. This report draws upon the research considering digital adaptation and adoption by museums during the Covid-19 pandemic, undertaken by the UKRI funded Museums Crisis and Covid-19, Ulster University. Given the importance of its work as a measure of change, **this report is structured to respond to the four 'top digital priorities for the next three years'** as detailed in the Digital Attitudes and Skills for Heritage (DASH) survey (Newman et al. 2022). These priorities are:

ENGAGEMENT AND OUTREACH

During periods of lockdown, museums outreach work shifted to online media. This included the rapid development of online exhibitions, the hosting of webinars and online lecture series, and an increase in communication through social media. **Accessible online content, produced in coordination with existing exhibitions and museum values**, has brought museums into contact with new audiences.

RECOMMENDATION

It is essential that digital content development within museums comes alongside increased understanding of digital users and audiences, supported by adequate skills training and project funding to decrease barriers for users, make more inclusive content and generate accessible outcomes that drive engagement and footfall.

IMPROVE DIGITAL PRACTICES AT WORK

Our work echoes the 2022 DASH report, which found an **increase in digital confidence in the heritage sector across the UK**. We have found a similar increase in digital skills within museums in Northern Ireland. The experiences of lockdown have provided museum management with the digital tools to remain connected to staff working off site, offering increased accessibility to a workplace. Alongside increased digital confidence, museums have shown an increasing ability to integrate digital content development into existing working practices.

RECOMMENDATION

It is essential that funding continues to support the development of these skills within the existing museum workforce. This form of skills development is central to the delivery of hybrid experiences which ensures that the hybrid content is as accessible to diverse audiences as the physical spaces of the museum.

DEVELOP INNOVATIVE HERITAGE MATERIALS

At its most successful, the development of new, digital museum content has become **integrated into each part of museum practice, from strategic planning and collection management to exhibition design**. While there is an ongoing concern that digital material cannot replace the 'real' museum experience, high quality digital content can reach audiences for whom this might be an expectation (Giannini & Bowen 2019), creating new forms of dialogue between heritages and audiences (Galani, Mason & Arrigoni 2020).

RECOMMENDATION

We recommend that the development of digital content be integrated within the values and goals of museums, recognising that this content is not designed to replace the 'real', in-person museum experience, but can aid museums in reaching new audiences and creating new, engaging content.

OFFER DIGITAL EVENTS AND LEARNING OPPORTUNITIES

Digital events and learning opportunities provided by museums during the pandemic have demonstrated **a change in practice, but a continued commitment to the values of the museum sector**. This has included online delivery of education programmes, reaching schools who may previously not had access to in-person museum visits. Online arts and mental health festival, and the digital development of co-created exhibitions, are just a small sample of work undertaken across the sector in the past two years.

RECOMMENDATION

The development of new digital programming has provided museums with positive developments in their practice, some of which will be retained post-pandemic. Delivering digital opportunities alongside in-person museum activities will be a challenge for an already stretched museum sector. Such engagement must be supported within national museum policy and through funding.

Museums and heritage institutions, alongside people across society, were faced with a new, unfamiliar reality as lockdown measures shutdown most of the country. As these measures took hold, the museum sector responded with agility and innovation to rapidly adapt to these changes, including changing their approaches to digital museum provision and practice.

ENGAGEMENT AND OUTREACH

The imposition of lockdowns, the enforced closure of museums, and the continued need for some of those most vulnerable in society to isolate has required museums to **shift engagement and outreach activity online**. This process has allowed museums to continue to communicate with existing audiences and reach new audiences.

Social media platforms provided museums with opportunity to stay connected with their audiences through the pandemic.

1.1 Audience Engagement on Social Media

Social media platforms provided museums with opportunity to stay connected with their audiences through the pandemic.

For some museums this meant building on already active profiles, with the relatively small independent Somme Museum reaching 200,000 hits on their Facebook page in November 2020 alone.

A Council-run museum saw their audience numbers increase as they became more active, reaching 33,000 hits with social media content: 'That is the sort of reach that you don't get in a local museum. The reach has been international' (Anon05, May 2021).

This engagement was **most effective when incorporated into other aspects of ongoing museum work**. This integrated approach to social media content was detailed for us by a member of staff from Fermanagh County Museum, who told us: 'I was able to do more concentrated work on the collection itself, and we took an opportunity to do a lot of engagement work through Facebook and Twitter. We were trying to get more people open to the museum world. At the start of the pandemic [we posted] a mystery object and that got people engaged in terms of what this object is, what it would have been used for' (Sinead Riley, Interview May 2022).

This process allowed for a two-way engagement between the museum and their audiences during the pandemic. Via social media museums could **share their work, remain in contact with audiences, and reach new users**. Adopting more participatory modes of engagement with audiences through social media opens conversations with the audience, providing opportunity to make meaningful contributions to the museum and feel part of a community of interest. The hope here is that this engagement translates to museum visits as sites have been allowed to reopen.

1.2 Reaching New Audiences

Museum closures heightened the need for accessible online museum experiences. The development of an innovative range of digital content is testament to the agility shown by the museum sector in responding to the Covid-19 pandemic.

In February 2020, Ulster Museum launched the temporary exhibition CultureLab – Don't Believe the Stereotype (NMNI 2020). Having garnered significant press interest, not least through the presence of a blackboard from the Channel 4 series Derry Girls, the exhibition then closed to the public on 17 March 2020 to be replaced by a digital version.

Aaron Ward, Head of Audience Development at National Museums NI, describes the reach of this online exhibition: 'Within ten days of launching that website we had 30,000 unique users onto it. It slowed down slightly, but still I think we had, over the course of a year around 100,000 unique users. That presents a model that I think that we need to start using now. We must now, for everything, think of a digital version of that exhibition, not just one page, but something more immersive' (Interview, May 2021).

The development of an innovative range of digital content is testament to the agility shown by the museum sector in responding to the Covid-19 pandemic.

IMAGE WITH THANKS TO NO. 5 VICARS' HILL, ARMAGH

Exhibition content such as this **allowed museums not only to remain accessible to existing audiences but also to reach new audiences**. The sense of being 'able to connect to a wider audience' (Anon03, March 2021) was reflected across the sector. At the Northern Ireland War Memorial, staff found that using Google Maps to provide virtual walking tours to care homes generated greater interest than physical walking events had previously.

These hybrid approaches help to embed the voice of the museum in the lived spaces of the city and connect this shared history directly to those spaces that are still publicly accessible.

Events such as webinars, for both the NI War Memorial and local authority museum representatives, allowed museums to reach global audiences, such as the USA, Canada and New Zealand (Anon01, March 2021).

Accessible, online museum content, produced in coordination with existing exhibition programmes and museum values, has successfully brought museums into contact with new audiences during the pandemic.

1.3 Maintaining Digital Audiences

The successful development of any digital media provision within museums is reliant upon a clear critical evaluation of the 'emergence of, and future potential for', these new forms of engagement (Wellington and Oliver 2015). This point was touched on by one of our interviewees from a Council-museum who pointed out 'we want to keep these technologies so that they continue to help us to move forward and turn those visitors, those virtual visitors, into reality' (Anon02, March 2021). **Critical evaluation of the nature of the experience during the pandemic, is required to truly understand the digital audience experience**.

Accessible, online museum content, produced in coordination with existing exhibition programmes and museum values, has successfully brought museums into contact with new audiences during the pandemic.

Both social media engagement and online exhibition material have provided a means for museums to remain in touch with audiences, existing and new.

Both social media engagement and online exhibition material have provided a means for museums to remain in touch with audiences, existing and new. However, understandings of who these audiences are is limited. While there is a clear desire to translate digital audiences into in-person visits, the lack of data on these audiences can hinder this process.

This is in part a reflection of the rapid development of digital provision. In discussing an online exhibition, one museum manager said: 'I'm not sure how much engagement it got. It was so much work for the team, it seems a shame not to know that' (McGuicken, March 2021). Without website analytics, there is little means for museums to accurately assess the audiences they are reaching.

Building a layer of engagement on top of the core analytics could offer museums an approach to quantify the impact of the work they do. This can support strategic approaches to increase audiences and measure the importance of museums going forward.

This is equally true of social media, where analytical tools cannot provide fine grained data. Social media is also: 'very transient and it can be difficult to sustain engagement' (Aaron Ward, May 2021). This was noted at the North Down Museum. **If social media posts slowed down, interactions would drop off significantly**. The audiences 'just switch off as well. Then you have to start from that baseline again and work it all the way back up' (McGuicken, March 2021).

As pressures increase on staff time following the reopening of museums, maintaining high levels of social media output will become challenging. This can result in those audiences who were gained during the pandemic being lost.

It is essential that digital content development within museums comes alongside increased understanding of digital users and audiences, supported by adequate skills training and project funding.

Helping museums develop a voice online, as well as developing automatic content strategies for social media, could increase the user engagement and help drive footfall and traffic both offline and online.

Building a layer of engagement on top of the core analytics could offer museums an approach to quantify the impact of the work they do.

DIGITAL PRACTICES AT WORK

Through the expansion of online activity and the need to coordinate with a remote workforce, museum practice increasingly utilised digital modes of communication through the pandemic. This has brought with it **an increase in digital skills and confidence among museum staff**, which will support the development of hybrid activities post-pandemic. While often constrained by organisational and national level infrastructural limits, museums have successfully adapted their practice through the course of the pandemic.

2.1 Digital Skills Development

The pandemic has also seen an increase in the level of digital skills within the NI workforce, already evidenced in the results of the DASH survey (Newman 2022). The following examples from our interviewees support these results. At the Tower Museum, project partner Roisin Doherty has witnessed rapid upskilling among museum staff: 'The museum team, they upskilled in presenting skills and that gave confidence. They were thrown in at the deep end, but they were brilliant' (Doherty, Interview May 2022).

Roisin also saw herself as a part of this skills development: 'We've done digitization work, social media and video presentation as well, which was something that we were not really familiar with. I have gained skills and other members of the museum team [have gained skills] as well'.

> **When we've had to move things online, I think it's been quite nice for [staff concerned about digital skills] to see that they can get the support – be it from I.T. or marketing or interpretation – and that they can work together to create a good product.**
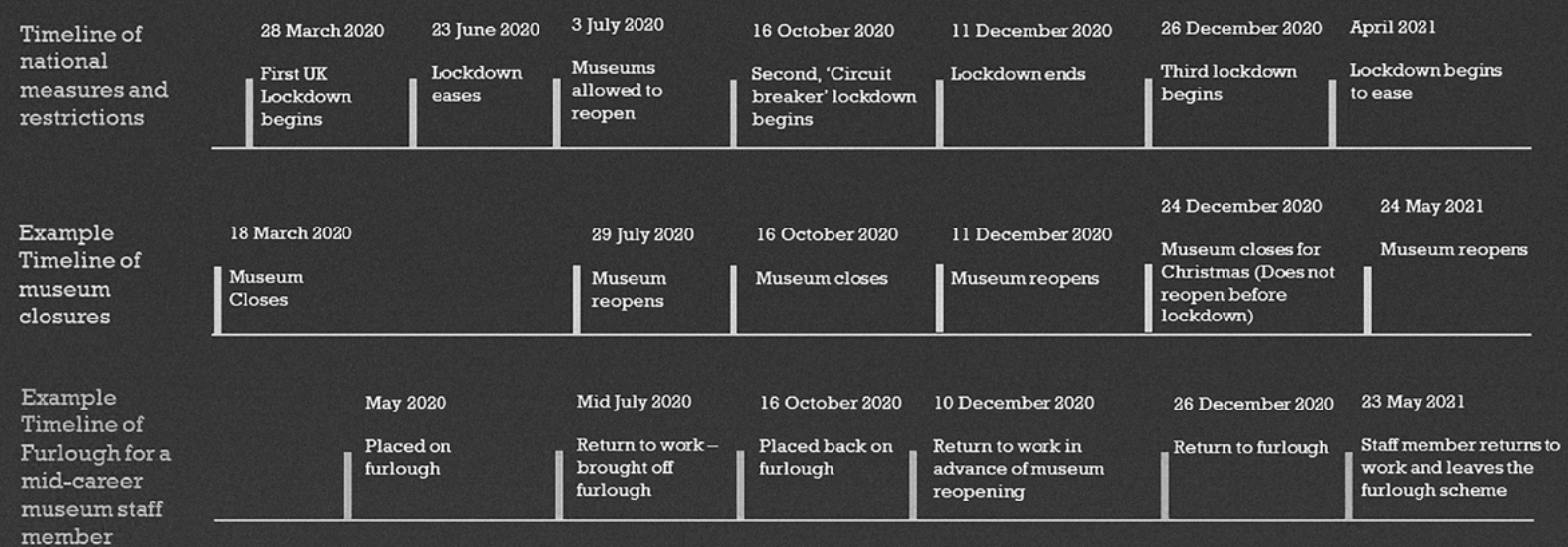
HANNAH CROWDY, NATIONAL MUSEUMS NI, INTERVIEW APRIL 2021

At National Museums NI, this skills development resulted in the launch of digital initiatives such as Museum on the Move, providing educational sessions to schools across Northern Ireland via Zoom (Rice 2021). These skills will continue to support museum practice post-pandemic. However, some skills development will take time. It is not simply a case of 'employing people with maybe more digital skills. I think things don't work that fast [...] I think we also need to look at upskilling a number of our existing local museum staff' (Anon04, March 2021).

Skills development, including in digital practice, has been supported as part of Covid recovery funding. The National Lottery Heritage Fund's (NLHF) 'Covid Recovery Employment and Skills Initiative for Heritage' has supported twenty-eight heritage organisations in Northern Ireland (NLHF 2022), with a number of these grants focused entirely on digital skills and communication.

It is essential that funding continues to support the development of these skills within the existing museum workforce. The pandemic has provided clear evidence that, with the right support, barriers to digital work and engagement can be removed.

With the right support, barriers to digital work and engagement can be removed.

Timeline of national measures and restrictions	28 March 2020	23 June 2020	3 July 2020	16 October 2020	11 December 2020	26 December 2020	April 2021
	First UK Lockdown begins	Lockdown eases	Museums allowed to reopen	Second, 'Circuit breaker' lockdown begins	Lockdown ends	Third lockdown begins	Lockdown begins to ease

Example Timeline of museum closures	18 March 2020		29 July 2020	16 October 2020	11 December 2020	24 December 2020	24 May 2021
	Museum Closes		Museum reopens	Museum closes	Museum reopens	Museum closes for Christmas (Does not reopen before lockdown)	Museum reopens

Example Timeline of Furlough for a mid-career museum staff member	May 2020	Mid July 2020	16 October 2020	10 December 2020	26 December 2020	23 May 2021
	Placed on furlough	Return to work – brought off furlough	Placed back on furlough	Return to work in advance of museum reopening	Return to furlough	Staff member returns to work and leaves the furlough scheme

2.2 Staying Connected

During periods of lockdown, and for extended periods of furlough for some staff, **there was a sudden disconnection from people and their vocation**. This has been keenly felt within the close-knit museum sector in Northern Ireland.

The value of digital media in allowing for flexible working practices and strong communication between museum management and their staff, within museum workforces, and between museums and volunteers should not be underestimated.

For one furloughed visitor services staff member at National Museums NI, a Microsoft Teams hub for all the visitors services staff provided a space 'where messages could be shared, where people could update each other on what they are up to. That was really beneficial' (Eva Lynch, Interview October 2021).

At the Ulster Museum, platforms such as Zoom allowed work to continue with volunteers in community projects: 'People were just able to chat. One woman said had she not come to a meeting that night she wouldn't have opened her mouth all day' (Anon06, June 2021).

While there was concern around digital fatigue and the potential for a detrimental 'knock-on effect for health and wellbeing' (Doherty, May 2022), this has been balanced by the important sense of connection allowed by digital communication platforms during the pandemic.

Digital communication holds significant value at times of crisis, particularly for those (both staff and audiences) who may be unable to engage in in-person activities. Elements of this practice should be retained post-pandemic.

2.3 The Hybrid Experience

Paul Mullan, Director National Lottery Heritage Fund Northern Ireland, intimated that 'a museum visit is not necessarily an in person one' post-pandemic. There will be a 'need for hybrid engagement and supporting that hybrid engagement' will be critical.

As we emerge from the worst of the pandemic, **there is a need to recognise the different health and wellbeing needs of museum audiences**. Some visitors may not feel confident returning to in-person events, or may be hindered by barriers such as a reliance on public transport, or care duties.

A **hybrid, integrated approach to museum content will be essential** in providing a museum experience to this variety of audiences.

As we emerge from the worst of the pandemic, there is a need to recognise the different health and wellbeing needs of museum audiences.

Digital content can contribute to enhancing visitor experience through making museum content broadly accessible regardless of individual circumstances. Much of the innovation required for the development of such content is present in the museum sector in Northern Ireland, evidenced through the pandemic.

Museums should be supported in the utilising existing content within new digital programmes. This form of skills development is central to the delivery of hybrid experiences and ensuring continued accessibility to a broad range of audiences.

2.4 Constraints of Infrastructure

Digital museum practice is constrained by available infrastructure. **The infrastructure involved in the creation and maintenance of a high-quality website 'is huge enough in its own right'** (Aaron Ward, Interview May 2021), before even beginning to consider content development.

While some organisations will have in-house IT departments to support this aspect of their work, smaller museums may be reliant on volunteer skills. At local authority museums, organisations will be vulnerable to the decade long impact of austerity. When council staff are stretched, digital museum support may not be a top priority

These museums will also be reliant on IT support that is not necessarily familiar with the needs of the museum sector. Curator Roisin Doherty praises the IT support they receive from their local council. However, there is a sense that the scale of the digital infrastructure required for the storage, maintenance and presentation of digital collections within museums is not always recognised. This results in IT departments within local authorities 'not working in sync with what the museum needs are. We need higher capabilities, higher memory for collections and images' (Doherty, May Interview 2022).

Systems, too, can quickly become outdated. Without consistent financial support for the maintenance of digital content, museums will rapidly find themselves falling behind as content becomes unusable.

Issues with digital infrastructure also impact on audience experiences. While museums might create digital additions to in-person content, through tools such as QR codes, mobile data signal outside of Belfast remains patchy, potentially to the detriment of audiences experience (Farrell-Banks 2022).

Similarly, outreach projects engaging with groups such as care home residents will be impacted by uneven access to Wi-Fi among residents. Any innovation within the museum sector, and cultural sector more widely, is constrained by infrastructural limits.

We recommend that digital infrastructure developments within NI take place with recognition of impact to the cultural sector. The development of a new museums strategy for Northern Ireland should include a recognition of the need for digital infrastructure development especially outside of the Greater Belfast area, where a large proportion of smaller museums are located.
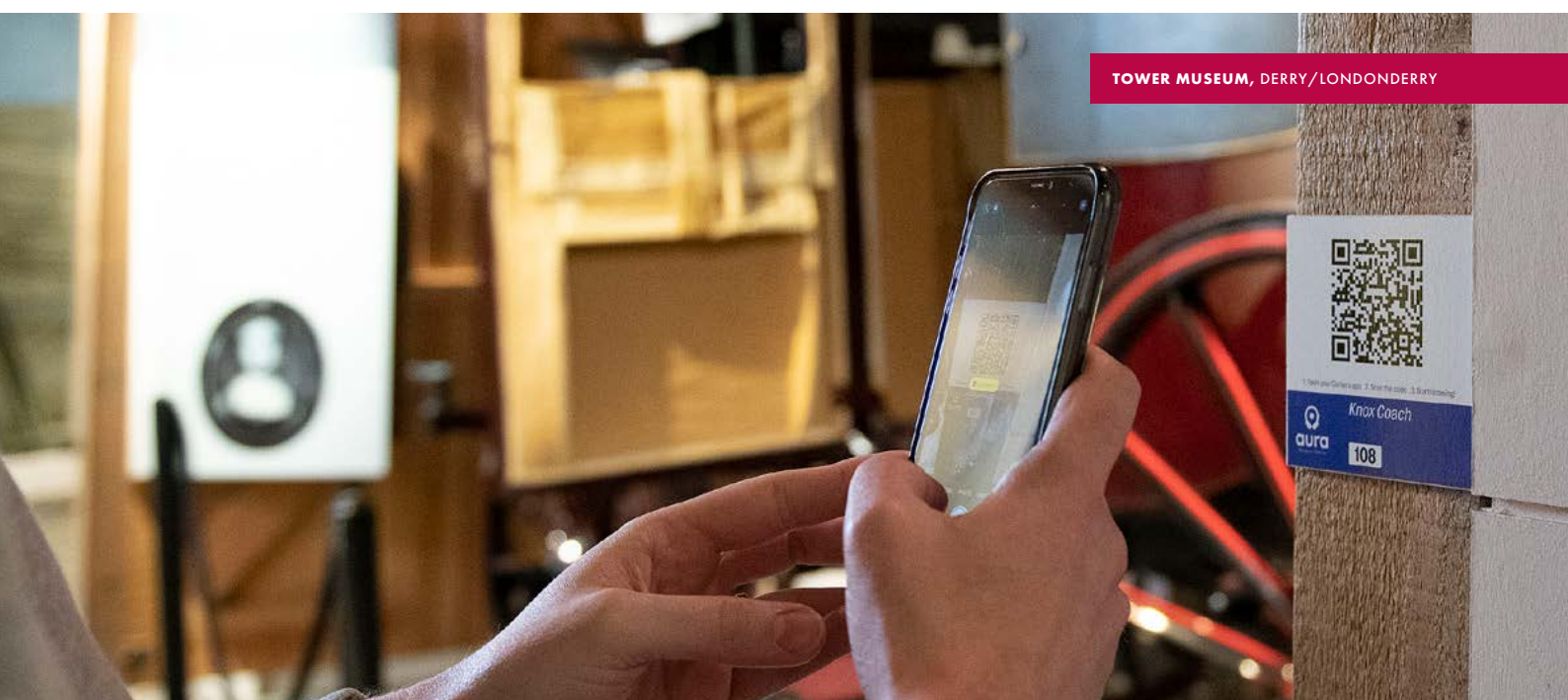
TOWER MUSEUM, DERRY/LONDONDERRY

DEVELOPING INNOVATIVE MATERIALS

The development of innovative new **museum content is at its strongest when integrated effectively alongside existing museum practice**. There remains a concern that digital media is a poor substitute for an in-person experience.

This exists alongside the recognition that the museum visit is a social experience and therefore difficult to replicate through digital means (Light et al. 2018). However, there is an increasing perspective that **well designed digital content can provide something unique from a museum visit**, attracting new audiences in the process.

As museums have reopened "Our focus has changed from trying to stay engaged, getting engaged, to how do we use what we've just learned?" (Anon02, March 2021). There is a desire to utilise skills developed during the pandemic in the development of new museum materials.

3.1 Integrated Approaches

As with any innovation and content development, there is a requirement that museums 'be thoughtful' about the content they create and how they reach particular audiences (Anon01, March 2021). **Digital content production has been at its most thoughtful and effective when integrated within a broader museum strategy**, as was the approach at National Museums NI. This approach is supported by the use of existing collections and materials in the production of digital content. At the Somme Museum, periods of museum closure allowed staff to re-engage with their collections, using this work as the basis for social media content.

> **We can't just say 'it's all about digital'. It's _and_ digital, it's a few pieces together'.**

BRONA MOFFETT, HEAD OF EXPERIENCE AND ENTERPRISE, NATIONAL MUSEUMS NI, JULY 2021

> **A change in practice resulted in digital content being 'built in from the planning and development stages' of an exhibition.**

HANNAH CROWDY, NATIONAL MUSEUMS NI, APRIL 2021

These methods of integrating existing knowledge and practice into easily packaged digital output and engagement are an effective means of producing engaging content while giving audiences a view into the day-to-day practice of museum work.

This integration of pre-existing practice with continued digital content development is enhanced by cross-sector collaboration. The Making the Future collaboration between National Museums NI, Nerve Centre, Public Record Office NI, and Linen Hall Library, of which the Don't Believe the Stereotype exhibition is a part (see section 1.2 above), is a clear example of the added value that collaboration can bring. The digital skills brought to this project by a creative media body, like the Nerve Centre, adds to the agility, reach and impact of the museums and heritage they partner with.

We encourage the development of multi-agency collaborative projects across the NI museum sector, supported through funding opportunities

3.2 Authenticity

The impact of digital media on the sense of authenticity and the question of touch and distance within a museum visit has been the subject of much debate across the sector (Pine and Gilmore 2011). Concerns around these limits of digital content have been reflected in our interviews.

This concern with distance from what is 'real' can be countered through being attentive to an integrated approach digital content design. Tom Maguire (2021) has explored the role of digital interpretation in blending 'physical and digital experience' of their collections, noting that experiences such as an online virtual tour of Ballymoney Museum allows visitors to get both a sense of the spatiality of an exhibition and an opportunity to get closer to objects on display.

At times, the distance enforced by physical barriers within a museum – the glass of a display case, a rope – can be overcome through digital media, allowing visitors to an online exhibition to feel they are moving closer to an object. Innovative developments during the pandemic have expanded museums perceptions of the value and potential for digital content.

In recognising the value of high-quality digital content, integrated within the values and goals of an organisation, **museums have opportunities to bring audiences closer to their collections**. This innovation is focused not on replacing the 'real' museum visit, but instead on adding to this through the possibilities afforded by digital media.

> **People value seeing real objects and making those connections with the real objects.**
>
> **ANON04,** MARCH 2021

> **There still isn't really a substitute for the real thing [being in a museum].**
>
> **HANNAH CROWDY,** NATIONAL MUSEUMS NI, APRIL 2021

OFFERING DIGITAL EVENTS AND LEARNING OPPORTUNITIES

Like other museums around the globe, **in Northern Ireland museum services went online, delivering audiences new programming**. The following are a snapshot of the range of digital events hosted by the museum sector in Northern Ireland during the pandemic. These events have taken place in addition to various online talks, seminar series, and other forms of digital engagement already discussed in this report. This is a fundamental change in museum practice that can reshape our understanding of how museums operate.

The reach of a museum stretches beyond its presence as a physical space, drawing in new audiences in the process.

The reach of a museum stretches beyond its presence as a physical space, drawing in new audiences in the process. These events offer an example of this shift in museum practice. Further details on these events can be found in blog posts on the Museums, Crisis and Covid-19 project website.

4.1 Head and Heart Festival

Reimagine, Remake, Replay (RRR) is a Northern Ireland based youth project which seeks to connect young people and heritage through the use of creative and digital media (RRR 2022). During the pandemic, RRR shifted from 'inhouse delivery of 6-8 week programmes within 9 museums' to solely online activity (Lavelle 2021).

In addition to regular online meetings for RRR participants, the group coordinated a Mental Health Arts Festival online, Head and Heart. Following the success of the first festival in 2020, a second festival followed in 2021. RRR has three youth steering groups, focused on LGBTQIA+, Climate Action, and Arts and Wellbeing. Members of these steering groups planned and coordinated the festival, with RRR partner museums contributing to the programming of the event.

Reimagine, Remake, Replay has been invaluable for changing, especially on that individual level, how young people can see museums as a place for them.

NIAMH KELLY, RRR YOUTH COORDINATOR, MAY 2022

In addition to 'illustrating the unique value of linking heritage with wellbeing to foster community bonding' (Lavelle 2021), **the digital delivery of these festivals offers a clear example of the forms of high-quality engagement possible through digital media**.

A youth coordinator from RRR, Niamh Kelly, has since used the experiences gained and opportunities from RRR to subsequently gain funding for her own project, Coming of Age in Covid-19 (Kelly 2022). This online exhibition has been produced through a process of engagement with young people in Northern Ireland, supporting creative reflections on how the pandemic impacted their lives.
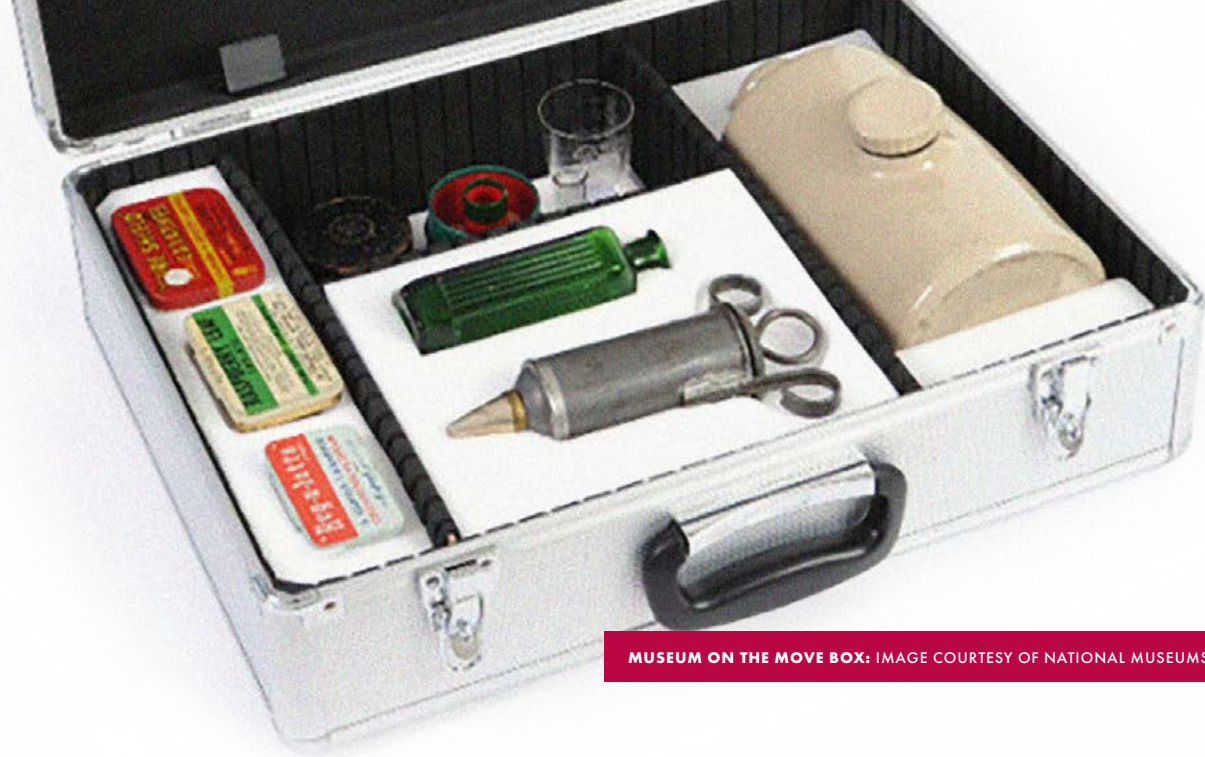
4.2 Museum on the Move

'Collections matter to many people, and for them to be a source of understanding and empowerment, people need access to them' (Museums Association 2020). **Education and outreach are at the core of museums toolkit for providing people with access to their collections**. The lockdowns and closures precipitated by the pandemic placed a significant barrier between schools and museums. Louise Rice, Education Manager at National Museums NI, sums up the impact on museums education for schools: 'Staying connected to schools, when almost every conventional route to reaching them was disrupted by lockdown, presented a major challenge for learning teams in museums everywhere.'

The lockdowns and closures precipitated by the pandemic placed a significant barrier between schools and museums.

"Covid created barriers to engagement, by preventing access to our museums, but for lots of schools, that's the reality. They can't access our museums, whether it's because of lack of funding or because they are just too far away.

LOUISE RICE, EDUCATION MANAGER, NATIONAL MUSEUMS NI, JULY 2021

In response to the pandemic, National Museums NI created a programmed entitled Museum on the Move. Education and curatorial staff created 25 loan boxes of objects themed around the NI schools curriculum, with these used to facilitate the delivery of interactive learning sessions.

The delivery of education sessions over video call has had the positive impact of allowing National Museums NI to reach rural schools who may never have considered an in-person trip to one of their sites.

Schools who participated in Museum on the Move found the sessions "gave access to things that teachers don't have skills, knowledge, resources to provide themselves." It, too, was seen as having lasting benefit as " an elegant solution to the rising costs of buses for trips", going on to say that the sessions improve access "to these artefacts in a way that takes the pressure off households." (Feedback provided to National Museums NI)

Innovations such as this, adopted as an enforced change during the pandemic, are now finding positive impact as long-term features of museum education provision. **Collections matter within museum education, and Museum on the Move helps provide access to these for new audiences.**

RESPONDING IN UNIVERSITY PRACTICE

Within Ulster University, we have sought to respond to the digital needs of the museum sector by **embedding skills development into our teaching practice**. We have explored this in two directions. Firstly, in introducing archives and collections to undergraduate Interactive Media students and, secondly, through providing interactive media development sessions to our MA Museum Studies students. These projects are an initial demonstration of the impact of project data, and the time given to the project by individuals across the museum sector, on teaching practice within the University.

5.1 Interactive Documentaries

As part of the project, Year 2 Interactive Media students based at Ulster University's Coleraine campus worked with the museum services department at Causeway Coast and Glens Borough Council to develop a range of interactive documentaries. Originally conceived in support of the council's NI100 programme, the documentaries launched in Spring 2022.

Connecting students with curators in the local museums and heritage sector allowed these students to **put their digital storytelling skills into practice when working with archival material**.

The group of students worked with archival material on topics including the North West 200, Corfield Photography Factory, WWII Coleraine Battery, and the Ballymoney Show.

In addition to demonstrating the diversity in storytelling that can be achieved through developing interactive experiences, **the work also demonstrated the value of archival content to the digital design sector**.

This echoes the comment of a participant in an NLHF/Heritage Alliance digital skills workshop, where a museum sector worker with a background in programming noted that museums are in possession of 'raw material' of huge value to other industries.

Not only the objects within museum collections, but the stories that they can tell, can be of huge value to industries beyond the museum sector. By bringing skills in working with archives and in collaboration with the museums/heritage sector to undergraduate interactive media students, work such as this embeds a knowledge of the value of museums across disciplines within our university community.

The co-creation methodology used in this project, had at its core, an ambition to add value to the museum experience, by bringing the visitor or user of the museum, into the process of developing digital assets for the museum.

Coleraine Battery World War Two

A Brief Overview

The Coleraine Battery or 6 Light Anti-Aircraft Battery RA (SR) was made up of over 200 men from Coleraine and Mid-Ulster. From 1939 – 1945, these volunteers left behind their homes to fight for their country across Europe and beyond.

COLERAINE BATTERY IMAGE: INTERACTIVE DOCUMENTARIES AVAILABLE AT: INTERACTIVE-DOCS.ENDOFYEARSHOW.COM/

> **For the last 7 years I have been part of the Northern Ireland Fire & Rescue crew that provides safety cover during the NW200 race week. So, this project with the museum to create an interactive experience of the race and his history, is a really exciting opportunity for us to use our own experiences of the race to develop a really insightful interactive experience for new audiences.**

CHRIS MARTIN, YEAR 2 INTERACTIVE MEDIA STUDENT

While the museum guided the project at an organisational level and ensured the authenticity of the storytelling devices, **the students brought with them not only their skills in developing digital media outcomes, but also their personal thoughts, experiences, backgrounds and imagination into the heritage setting**.

5.2 Designing In/For/With the Museum

In a series of blog posts, project CI Alan Hook has detailed an approach to interactive design in/for/with the museum (Hook Blog 2022). This work gives particular focus to the accessibility and usability of interactive media. The approach to design is built from two key principles: browser is best, and 'make stuff for my mum'. The first concern here is with avoiding expensive to develop apps that may become obsolete following upgrades to mobile phone operating systems. The second, is concerned with ensuring a tool can be used with minimal digital literacy.

Additionally, the work sought to place the values of a museum at the heart of the design process. Working within these foundations, in March 2022 we held a workshop with our MA museum studies students, providing the skills and knowledge for these students to produce content for an interactive, open access intervention at the Ulster Museum. Through giving these MA students an introduction to interactive design and sound recording for digital media, the workshop sought to provide students with the language through which to understand design for interactive media.

At the core of the workshop, however, was an exploration of the values that students placed on museums. Participants were asked to begin by completing the phrase 'A museum is…'. Where our interviewees within the museum sector have spoken at length about the need for digital content to reflect the values of the museum, here we sought to put that into practice.

The goal of the workshop has been the production of content for a prototype, browser based interactive engagement with the museum space. **By producing interactive content that does not require the download of an app, this work hopes to offer museums a route to overcome the engagement barrier of a dedicated app** (see Light et al. 2018: 420).

The workshop sought to provide students with the language through which to understand design.

The teaching of digital design skills – or, more importantly, a level of digital design knowledge and literacy – is focused on the values at the heart of museum practice.

Audio content has been scripted by museum studies students, with interactive design students providing support for recording and design. The results of the collaboration will be released via our project website in summer 2022.

Within our museum studies programmes, the teaching of digital design skills – or, more importantly, a level of digital design knowledge and literacy – is focused on the values at the heart of museum practice. Workshops such as these **allowed students to gain digital skills in a manner focused upon their own vocation**.

With digital media and online museum content become increasingly important to the sector, we view it as essential to incorporate this skills development into museums & heritage education.

THE FUTURE OF DIGITAL MUSEUM WORK

This report has highlighted some of the remarkable, rapid innovation demonstrated by the museum sector in Northern Ireland in their use of digital media during the Covid-19 pandemic. **The challenge now facing museums is in continuing to reach new audiences** through utilising practice developed during the pandemic.

6.1 Skills and Practice

Digital confidence has increased during the course of the pandemic. This is reflected by and reflective of the increasing use of digital media in museum practice. The increasing use of social media and digital communication platforms to remain connected with audiences has fed back into an increased confidence in the use of these technologies among museum staff.

The development of resources such as the Digital Heritage Hub (CultureHive 2022) is ensuring increased access for museums to support in developing their own skills and content. Funding for skills development, such as that provided by NLHF, is supporting the continuation of this skills development post-Covid. Embedding these skills within the museum sector workforce, rather than drawing only on external expertise, is central to the future development of digital museum experiences.

6.2 Exhibitions

Increasing confidence in the use of digital media, the continuing process of upskilling within museum staff, and the ongoing development of audience engagement with digital museum content will ensure that significant numbers of museums will explore the possibilities of digital content and engagement. While driven in part by experiences during the Covid-19 pandemic, this is also part of a pre-existing shift towards a museum model 'driven by digital culture' (Giannini and Bowen 2019: 30). At its most effective, these developments are integrated into existing practice and exhibition design.

This work comes with the significant risk of overworking staff, as museums seek to provide both in-person and online content. To ensure that positive developments adopted during the pandemic can continue, it is essential that museums are given adequate funding and supporting in skills training. **The development of digital infrastructure across NI should also take place with the cultural sector as a whole in mind**.

6.3 Collections

While museum practice shifts, the core role of a museum does not. Whether engaging in in-person or online activity, museums in Northern Ireland remain focused on the conservation, research and communication of their collections for the enjoyment, education of audiences and for the benefit of communities connected with them.

Engaging digitally with collections, in their management within the museum and presentation to the public, can alter perceptions of the collections themselves. It has been suggested that there is value in considering collections as 'assets' rather than objects (Pirrie Adams 2018: 292). This can be productive in encouraging a perception of collections as not solely physical items, but 'objects, texts, images, media and records of immaterial culture' as all comprising the collection. In considering the role of contemporary collecting during Covid-19, we have seen the development of collections that include all of these forms of assets (see Museums, Crisis and Covid-19 Report 'Museums and the Pandemic: Revisiting Purposes and Priorities').

The increasing use of digital media to manage collections also encourages the integration of collections management into public-facing museum communication. This has included the creative use of social media during periods of museum closure, where museums used periods spent working on collections management as a tool for the sharing of information via social media platforms. This integrated approach to digital collections management and museum communication is a positive development. Digital practice within a museum co-exists, in these instances, with the role of the museum as a space of public communication.

6.4 Audiences

As museum audiences become 'increasingly immersed in digital activity' (Giannini and Bowen 2019: 30), museums can respond in developing their practice to reach these audiences. During the pandemic, however, we have witnessed museums in Northern Ireland reaching new audiences that may not have been otherwise as immersed in that digital activity. **For those who were isolating at home, online communication became a ubiquitous part of their lives, allowing museums to reach these audiences**.

These new digital audiences remain, however, largely unknown. There is limited data on who is engaging with online material, how they are accessing it, and where they are accessing it from. This creates a significant challenge in retaining those audiences post-pandemic. **As digital practice within the museum develops, this must come alongside the development of better tools for understanding and engaging with these new audiences.** Without this, there remains a significant danger of museums limited resources being used in the development of digital content that does not meet the needs or expectations of their audiences.

While museum practice shifts, the core role of a museum does not.

CONCLUDING REMARKS

Digital media has been exerting an influence on museum practice for decades. However, the impact of enforced closures and remote working during the Covid-19 pandemic resulted in **a reliance on digital media that had not been experienced before**. Despite the significant challenges presented by these closures, the museum sector in Northern Ireland responded with creativity and ingenuity.

The forms of practice and innovations outlined within this report are the result of the labour of a dedicated workforce, many of whom have given significant time and energy to our project research.

As museums have reopened, many institutions are seeking to retain the positive developments in their digital practice. The retention of these forms of practice can be an important factor for the continued success of museums in Northern Ireland, allowing them to become more accessible to a wider range of audiences. As museums continue this mode of engagement, there is a need to develop forms of evaluation to assess which of the digital content was the most successful, reached the widest audience, and had greatest impact for users. Furthermore, performance indicators and measures of museum success will need to take digital engagements into account. As we move in that direction, and digital becomes a core practice, museums should be supported to investigate barriers to and gaps in digital engagement.

The museum offer on digital platforms will require continued skills development and resources, as outlined in the recommendations of this report. **To support this work, we actively encourage the development of a new museums strategy for Northern Ireland**, including recognition of the need to integrate digital practice into museum work across the country.

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RESEARCH DATA

These reports are the results of 18 months of data gathering, analysis, continuous dissemination, and sector engagements. Since February 2021, the project conducted two focus groups, twenty-five in-depth interviews, and a start-of-year survey with individuals from across the Northern Ireland museum sector.

In addition, three work-in-progress briefings and workshops provided mid-project feedback and input from project stakeholders, including museum staff, advocacy bodies, and representatives from Department for Communities. Presentations were delivered to Northern Ireland Museums Council, the Museums Association, Irish Museums Association, Pandemics and Beyond, and Ulster University, each of which generated new insights.

Pilot projects have included a digital skills workshop for heritage postgraduate students, the development of interactive documentaries with media students, the prototype of a digital AR tool, and guided wellbeing sessions within heritage space. This data has been supplemented by attendance and interactions at sector workshops and regular informal discussions with project partners and individuals from the museum and related sectors.

Interviewees

Aaron Ward	Head of Audience Development, National Museums NI	11 May 2021
Brona Moffett	Head of Experience and Enterprise Development, National Museums NI	2 July 2021
Ciaran Lavelle	Head of Collection Services, National Museums NI	30 May 2022
Clare Maguire	Service Manager, Youth Engagement Service, Derry-Londonderry	6 July 2021
Colin Catney	Chief Operating Officer, National Museums NI	1 March 2021
Elaine McEnarney	Curator Armagh Banbridge & Craigavon Borough Council	15 March 2021
Eva Lynch	Development Officer, Northern Ireland Museum Council	18 October 2021
Hannah Crowdy	Head of Curatorial, National Museums NI	21 April 2021
Heather McGuicken	North Down Museum Manager	23 March 2021
Lisa Rea Currie	Heritage Officer, EastSide Partnership	3 November 2021
Louise Rice	Education Manager, National Museums NI	16 July 2021
Michael Fryer	Outreach Officer, Northern Ireland War Memorial	30 April 2021
Niamh Kelly	Youth Ambassador, Reimagine, Remake, Replay, Project director, Coming of Age in Covid-19	12 May 2022
Paul Mullan	Director of Northern Ireland, National Lottery Heritage Fund	9 August 2021 / 11 May 2022
Roisin Doherty	Curator, Derry City and Strabane District Council	6 May 2022
Sinead Reilly	Fermanagh County Museum	10 May 2022
William Blair	Director of Collections, National Museums NI	1 March 2021

Anonymous Interviewees

Anon01	Local Authority Museum Manger	8 March 2021
Anon02	Local Authority Museum Manger	12 March 2021
Anon03	Independent Museum	24 March 2021
Anon04	Advocacy Body	31 March 2021
Anon05	Local Authority Museum Manager	4 May 2021 / 20 October 2021
Anon06	Curatorial, National Museums NI	7 June 2021
Anon07	Curatorial, National Museums NI	19 October 2021

Focus Groups
(10 March 2021, 28 April 2021)

FGS1	Heritage Freelancer
FGS2	Independent Museum
FGS3	Local Authority Museum
FGS4	Local Authority Museum
FGS5	National Trust

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PROJECT REPORTS, JUNE 2022

1. Museums and the Pandemic: Revisiting Purposes and Priorities
2. Museums and Digital Media: Innovation, Engagement and Practice
3. Museums and Community Wellbeing

WORK IN PROGRESS BRIEFINGS, DECEMBER 2021 - JANAURY 2022

1. Finance and Furlough
2. Museums, Covid-19 and Digital Media
3. Museum and Community Wellbeing