



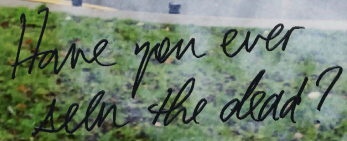
NOT JUST DIGITAL KNOWLEDGE

collaboratively developing immersive
experiences in cultural organisations

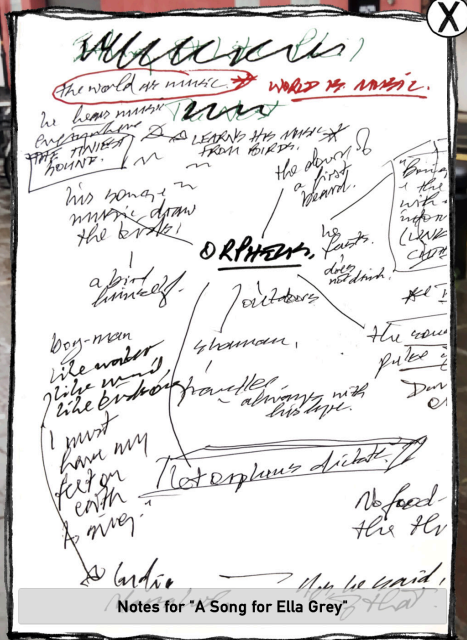
Culture Lab
Newcastle

 Newcastle
University

seven stories
The National Centre for Children's Books



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AN ANCIENT PLACE

OF LEAD & STONE & STEEL & SCRAP
SLUICE GATES, WATER, TUNNELS, MO...
CHILDREN, ARTISTS, BEASTS & BIR...

WHERE FUTURE GROWS
AND SHAKES ITS WINGS

Chapman Photography

Expanding creative digital capacity in the cultural sector

Expanding digital capacity is recognised as a priority by many cultural organisations

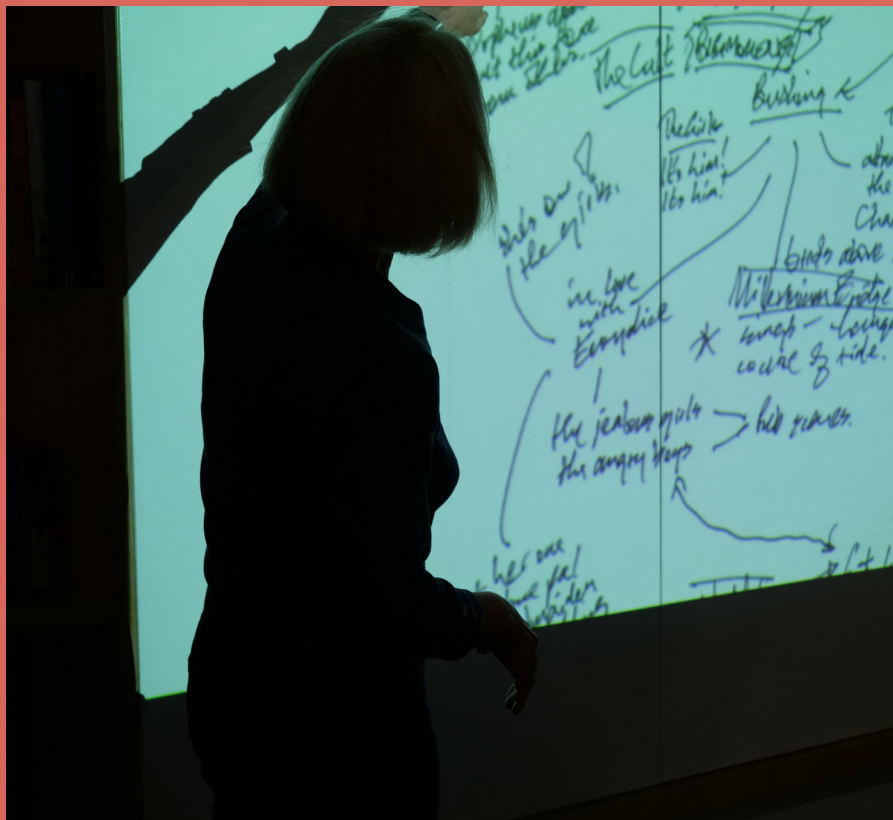
however cultural organisations' capacity for digital innovation is limited by lack of resources such as time, dedicated staff, and finances, particularly within small and medium-size organisations. Collaboration with technology firms, R&Ds labs, universities or with other cultural institutions is often seen as a solution to the lack of in-house resources. Nevertheless, we lack best practices, frameworks, empirical studies and

diverse models to appraise and structure collaborative innovation processes. Indeed, there are two dominant approaches which have been deployed so far:

- Researcher-led projects strongly relying on the facilitation of research teams
- Outsourcing tasks to technology firms on the basis of pre-defined briefs aimed at solving problems

In these established approaches the cultural organisation always remains in the role of end-user, while technologists act in the role of suppliers

The #CultureisDigital (2018) report by the DCMS advocates synergies between culture and technology to not only enhance engagement and access to cultural content, but also, significantly, to 'unleash the



creative potential of technology'. It also suggests that 'Content creation can also help to drive technical innovations, pushing the possibilities of the software and its experiential potential.' There is a strong potential for innovation processes that take cultural assets as a starting point, recognising the role of cultural content in shaping technologies, rather than just being served or communicated by them.

Further, it is often advocated that digital innovation in cultural organisations is not just a matter of learning technical skills but is rather a matter of embedding a certain kind of design-oriented, experimental, digital thinking. The process we are presenting here aims to contribute to the development of workable strategies for informing this kind of digital thinking.





What kind of collaboration?

The recommendations and examples of this document respond to the above demand for models of collaborative creative digital innovation and we propose solutions that:

- are sustainable (do not require extra resources, time and tasks on the part of the organisation)
- leverage the cultural asset (exploring the potential of processes where cultural content shapes the technology)
- replace the idea of knowledge or skills transfer with the creation of design spaces where processes of mutual inspiration and experimentation can take place within the day-to-day activities of the organisation (i.e. public engagement workshops based on the cultural asset)

PROJECT BACKGROUND



Children's Magical Realism for New Spatial Interactions: AR and Archives

Children's Magical Realism for New Spatial Interactions: AR and Archives was a seven month research project based at Newcastle University's Culture Lab with the involvement of the School of English Literature, Language and Linguistics and in partnership with Seven Stories, the National Centre for Children's Books. The project responded to UK Research Council's call to contribute to the 'Next Generation of Immersive Experiences.' The premise of this call was to ask how arts and humanities knowledge could productively inform the development of new immersive technologies thinking particularly about what this might imply for, among others, cultural organisations.

Our project responded to this challenge by bringing together two previously unrelated facets of culture, magical realist literature and

Augmented Reality. Our argument was that magical realist literature is rich in unusual and provocative ideas about space, place, movement and the unseen, and that this mix made it potentially a source of new ideas for designing interactions in AR. Our partners, Seven Stories, had recently acquired the archive of the author David Almond, who writes magical realist stories for children. This literary archive provided content to work with across the project.

Across the seven months of the project, we designed and built a smartphone app, Magical Reality, available for Android and iOS platforms which used AR technology to embed digital artefacts, developed from archival materials held at Seven Stories. Our approach drew on experimental design research to imagine ways that we could activate

the knowledge and imaginations of different parties to the development process, including ourselves.

To do this we conducted a series of 6 workshops engaging around 80 participants, mostly children but also including professional designers and developers and specialists at Seven Stories, directly. These workshops were planned and implemented by the university researchers, adopting the role of designers and developers, and colleagues from Seven Stories with expertise in archives and collections, exhibition design, creative events and storytelling.

These different groups had their own interests in the project, for instance the collections staff were engaged with the possibility of developing new uses for the archive materials and we planned to ensure that engagement

with the workshops had reciprocal benefits.

While each workshop had its own focus, a common theme was to use creative analogies to immersive technology to enable children to express themselves creatively and to respond to this creativity within the design of the app. Ideas of other worlds, magic, the fantastical and multi-dimensionality all featured prominently in our workshops with children. By doing so we hoped to gain insights for ourselves and our partners not only into the design of the app but also into the value of the spaces and places of David Almond's work.

VALUE AND PARTICIPATION



To be successful our project had to provide value for the different parties to the collaboration. These included:

- research value that will benefit the academic community interested in culture and innovation
- practical knowledge for cultural organisations on how future collaborative creative digital development can be managed
- recommendations for designers/ developers on how to work

with cultural organisations in a sustainable R&D process

- knowledge, learning and skills for children and other participants

Ensuring that future digital development processes have value for all parties is essential in order to make collaborations work. Tying them together is the recognition that inspiration, experimentation and a degree of open-endedness are shared values but that all are constrained by



some combination of time, money, resources and shared understandings of what they represent.

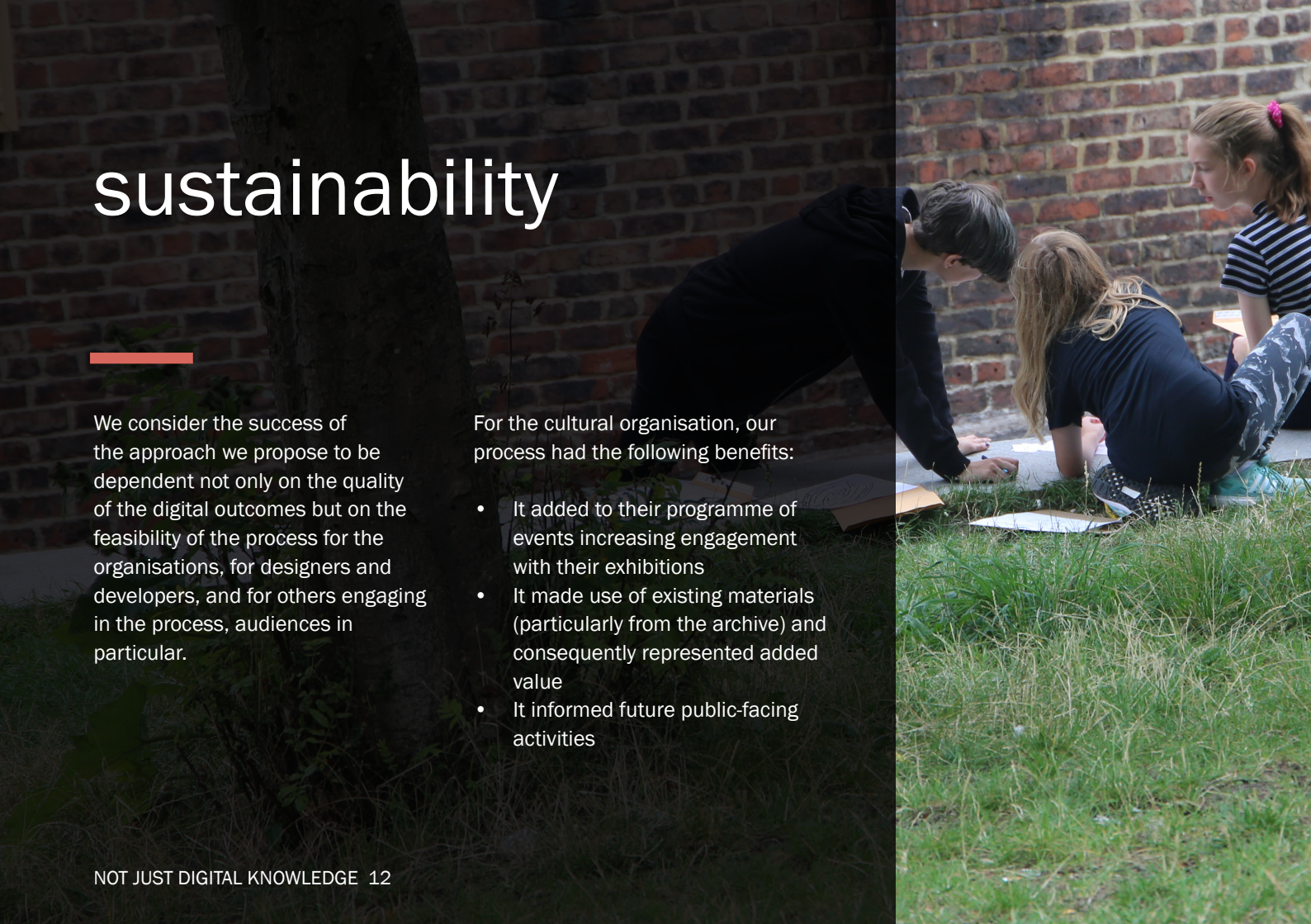
For cultural organisations, the challenge of engaging in an experimental design practice is a profound one but the benefits are equally significant. This developmental process asks for organisations to recognise that digital innovation implicates, potentially, all parts of an organisation and

its workers from the archives and collections, to marketing, to public-facing engagement work. It challenges organisations to think across departments to identify the relevant knowledge held there and the value that represents for engaging with digital activity. In return it adds value to cultural assets/content (in our case by broadening the reach and impact of archival items), speaks to new audiences (through new event formats) and speaks to a vision of the

organisation as digital innovators, not digital users.

For designers/developers working with cultural organisations, this process asks for cooperation in creating temporary, spontaneous spaces of development. Although this takes time, we argue that there is commercial value in packaging development processes like these and presenting them to potential client organisations.


sustainability



We consider the success of the approach we propose to be dependent not only on the quality of the digital outcomes but on the feasibility of the process for the organisations, for designers and developers, and for others engaging in the process, audiences in particular.

For the cultural organisation, our process had the following benefits:

- It added to their programme of events increasing engagement with their exhibitions
- It made use of existing materials (particularly from the archive) and consequently represented added value
- It informed future public-facing activities



“Our digital knowledge is patchy across the organisation, we have some but it is limited [...] and sometimes finding digital capacity across the different teams has been a challenge so that element of making space (within people’s workloads) is something I would reflect on further in relation to this project. “

Rachel Pattinson, Vital North Partnership Manager

Our events were relatively quick to plan, short to implement and engaged new audiences for Seven Stories.

They were characterised by:

- Being cheap to produce
- Being comparable to other activities produced by the organisation
- Extending audiences and answering their different demands
- Involving staff members from across different departments of the organisation

In the examples which follow, we describe two of our public-facing R&D events and note how they implemented what we believe to be a sustainable model that was useful for our cultural partners, fun for children and informative for designers.

CASE STUDY WORKSHOP

ARCHIVES AND LOST CIVILISATIONS

1



This 2-hour session was delivered at Seven Stories, the National Centre for Children's Books and we worked with collections staff to deliver a session which would be informative for us in identifying what interested participants in the archival materials, and useful for Seven Stories in considering new potential uses for the material held in their collections.

Aims

- To explore the possible shifts in meaning that archival items have when they are presented in a new context, specifically within a magical realist frame
- To experiment with a formats for planning workshops about archiving, based on fictional scenarios
- To give participants a chance to learn about archives and archiving



Activities

1. What is archiving: Seven Stories staff gave a brief introduction into archives and the work done around them. Participants were able to handle actual material from the David Almond Collection and we discussed possible future uses of them.
2. Looking Back: In this speculative activity participants were shown an unlabelled and weathered archiving box that contained a set

of enigmatic objects belonging to a fictional past in the surrounding valley. Participants were told that, in an attempt to make sense of its contents, the team concluded that the items must have belonged to a lost civilisation that inhabited the area long ago. In the activity that followed we asked participants to speculate as to the use of the items, the people who'd left them behind and what had happened to them.

3. Papers Left Behind: In this activity we revealed that the box also contained a series of papers with notes and drawings (in actual fact, these were facsimiles of extracts from the David Almond collection.) They were asked questions such as:
 - a. What were the circumstances for the collapse of the Ouseburn civilisation?
 - b. What was their most important symbol?

- c. What did some people believe in, while others didn't?
- 4. Papers in Place: Subsequently the participants were asked to take the found materials outside into the surrounding areas of the Ouseburn. We gave instant cameras and 'evidence sheets' which asked the participants to relate the items directly to their surroundings. Our hope in doing so was that they would create imaginative links between the archival items and the environment around them framed by the fiction we had developed. We asked them to identify:
 - 5. a. Words that change the weather.
 - b. Items that cannot be seen during the night.
 - c. Items that move on their own.

- d. Things that should be kept hidden from parents.
- e. Items that cannot be destroyed.

Through this activity we wanted to see if a light fictional framing could be successful in encouraging participants to see the archival materials as fuel for an imaginative process.

Among the findings from this research a number of observations informed the development of the app. For instance that the children we worked with:

Favoured the use of relatively unambiguous items from the archive in the support of generating more abstract narratives
Made sense of artefacts as collections not as single items
Attempted to thematise those collections inductively suggesting categories that bound items together
Strongly linked archive materials and physical places



CASE STUDY WORKSHOP

SPACE MAGIC AND DEVICES

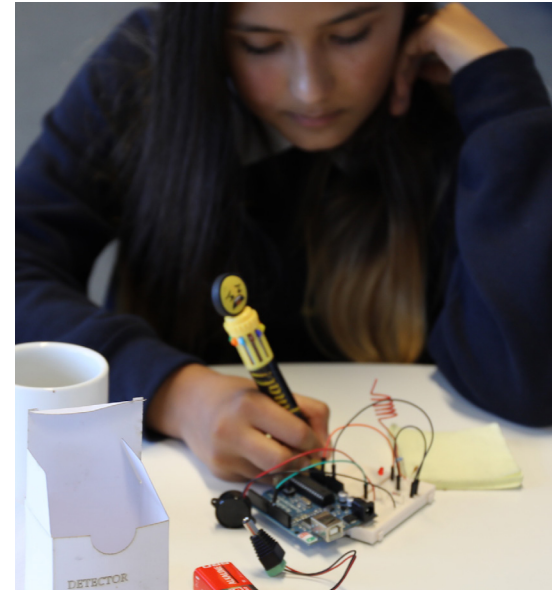
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This 2-hour workshop was delivered at a local secondary school to a group of 30 year seven (11-12 year old) children. Our main interest for the app development was in imagining ways in which we could dramatise encounters between children and technology and gain inspiration for possible interactions. To encourage this we structured a session which cast electrical infrastructure, for instance, electrical sockets, home appliances and light switches, as a site of the

unknown, mysterious or even perhaps haunted.

Aims

1. Generate insight in to children's capacity to relate magic, technology and features of the built or natural environment
2. To gain inspiration for future interactions as part of the app development
3. To demonstrate experimental design processes to participants



Activities

1. Listening for the hidden: After setting the scene with some images and examples from art practice we played a series of audio samples for pupils. These were recordings of so-called 'numbers stations,' thought to be coded transmissions from foreign intelligence but also subject to a number of more speculative explanatory theories. Then
2. Building detectors: We asked the young people to discuss the possible origins for the recordings before revealing the true background at the end of the activity. Our aim was to address the connections between technology and the unreal and to begin to imagine stories around these connections. We provided a kit of electronic parts and used these to construct a 'detector.' In reality the circuit detected Electro
3. Hunting: Pupils explored the classroom with their detectors looking for three particular kinds of space:
 - a. hotspots, places where the

Magnetic Frequencies (EMF) and caused a buzzer to sound and a light to flash. Rather than explaining the purpose of the circuit as a whole to the pupils we purposely kept it a secret and explained only the functioning of individual components.





devices were particularly active
b. big changes in reactivity
c. dead spots where the device didn't detect much

Our intention was to give the pupils a prop with which to see their familiar space in a new way. By adding a layer of simple technical augmentation (the buzzer and flashing light) we sought to give the children a space to imagine the unseen.

4. Storytelling: Pupils were asked to produce a short explanation for what they found during the Hunting activity. Their explanations should include the following elements.

- a. a character – who or what was involved in what they found
- b. an event – what had happened in this place?
- c. a message - what was the

character trying to say and to whom?

d. a reason for being there - why was it happening in that specific place?

In this final stage we were investigating the children's capacity to generate stories around a mixture of visible features of the environment and the results of technical augmentation.

This session was among the most productive for us in informing the development of the app. In particular we became interested in:

1. dramatizing search. Much of the pupils' storytelling involved characters in some way trapped in the infrastructure of the building and sending clues for

their rescue. The experience of a dramatized, tense or otherwise enigmatic search activity eventually informed the development of a compass item in our app's interface as well as other interactions which played with the physical approach to digital items in AR.

2. magic and horror. Although our interest was in the ordinariness of the settings for the fantastical in magical realism, the children strongly associated this combination of magic and the everyday with horror. The recognition that fear or at least mystery could be an interesting component to play with in interactions informed our use of smoke, filmic filters and the choice of some scary text from the archive.

MAGICAL REALITY

Developed by Diego Trujillo Pisanty with input from Tom Schofield and the participants to our design process, Magical Reality is a smartphone-based Augmented Reality experience that uses newly available features of modern mobile phones to embed digital objects in real spaces.

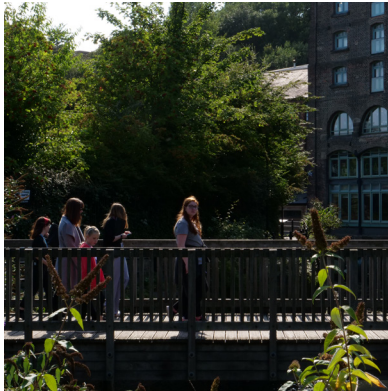
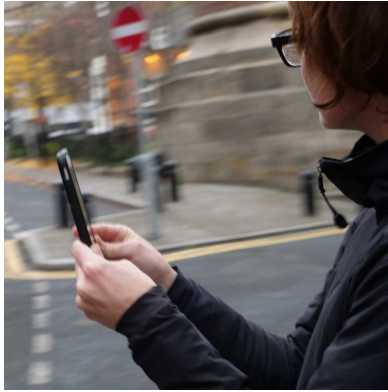




Users of the app rely on a compass to guide them to a set of objects placed in the Ouseburn Valley around Seven Stories. The objects were produced by taking notes and sketches from David Almond's archive and making them both three-dimensional and interactive. In designing the app we hoped to capture some of the features of interest of magical realism for example the blending of the everyday with the fantastical and to respond directly to children's perspectives on what was interesting about spaces when seen through a lens of both technological and literary magic.

<https://play.google.com/store/apps/details?id=com.digitalcultures.magicalReality>

<https://itunes.apple.com/uk/app/>



rethinking digital knowledge



“I avoided the model typical of the ‘Star Wars inspired games’ but rather I looked at how certain narrative tropes can influence interactions”

Diego Trujillo-Pisanty, Research Associate and app designer

The project leveraged different sources of expertise: the children’s approach to spatiality and to the interplay between reality and imagination; Seven Stories staff’s knowledge on literature and archival materials; the developers’ skills and the researchers’ inquisitive attitude in bringing different knowledge together. Rather than addressing this as a straightforward exchange of ideas,

skills and knowledge, the workshops tried to create open spaces where people could have unusual ideas. This was possible not only because of the exploratory, experimental nature of the project, but also because of the specific way in which expertise and knowledge was introduced. For instance, in leveraging the cultural asset at stake (David Almond’s literary archive) towards technological

innovation, the researchers did not focus on the particular plot, characters, places, but rather engaged in a process of developing generalizable narrative structures such as the ideas of ‘threshold’ (across layers of realities), ‘digging and searching for discovery’, or the ambiguity itself between the magical and the normal.

The evaluation of the project revealed that what is considered innovation as advancing knowledge differs significantly across the various stakeholders. For instance, whilst the process itself was considered the most innovative contribution by the researchers, the staff at Seven Stories valued the possibility to engage their audiences in new ways and to identify new approaches to connect archival materials and place-making practices. Finally, developers located innovation only around the app and its use of AR.

By embedding the innovation and research process in the public programme and public engagement activities of the organisation, rather than running it in parallel, as a separate task, the researchers ensured that the value of the project was always clear to the organisations’

“It was very new for us, we never used the archive in this way, in such a digitally immersive way. It is an interesting way of exploring geographical connections of the archive.”

Kris McKie, Seven Stories Collections Manager

“the value here was in getting inspiration and ideas, thinking in new ways, to have an example of what is possible.”

Gillian Rennie, Senior Curator at Seven Stories

different teams.

Through this report we have described one possible model for future collaborative engagement between cultural organisations, designers and developers and audiences. Key among our observations is that there was a strong congruence between experimental design research and prototyping techniques and the creative engagement work done by our cultural partners. The exploratory nature of the project

and the coming together of different sources of expertise (including that of the children) were highlighted by interviewed participants as very positive features in the process. This suggests a move away from established ideas of knowledge exchange and complementarity of skills, towards a proposition for setting up collaborative, open design spaces that encourage mutual inspiration and a dynamic implementation of ideas.

From the short but intense phase of project activity we have undertaken we suggest that:

- R&D activity can piggy-back off existing engagement work [in our project our design workshops took the form of public-facing events marketed as combining storytelling and technology]
- R&D activity should engage cultural organisations' staff across as many departments as possible to benefit from relevant knowledge [our research for the workshops took us to the archive to identify usable content, to storytellers to co-plan sessions, and to the exhibitions team to discuss possible tie-ins with the themes of on-going displays]
- Testing of prototypes can be presented in event formats that have

learning or other positive outcomes for participants

[our work with schools supported their ICT agenda and interest in a popular local author]

- A genuine collaboration supporting experimentation and a degree of open-endedness can have unanticipated benefits for the practices of the organisation [the collections team at our partner organisation identified future possible uses for their materials outside familiar territory of academic value and inclusion in exhibitions]
- Technology is not only an outcome of creative processes but can be a conduit of enquiry [our project treated AR as on a level with other ways of exploring spaces and creativity rather than being something that wrapped up those ideas in the final instance]

Additionally, we feel that a number of avenues for future research seem promising but are unexplored within the context of our project so far.

These are that:

- Digital partnerships with cultural organisations could become more independent from academic facilitation if more funding was allocated to exploratory projects, enabling developers to invest time in more open-ended processes
- The capacity to contribute to or even manage a mutually beneficial R&D process could be packaged as part of service offered by designers/ developers
- Digital partnerships can be conceived and presented in reference to the development of open spaces for ideation and generative thinking, as opposed to opportunities for combining complementary pieces of knowledge.

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digitalcultures.ncl.ac.uk

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