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# Digital Heritage to Address Contemporary Social Problems

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**Abstract**

The Byker Estate in Newcastle has a rich history and architectural heritage, but also suffers from many problems and divisions, some of which are related to this heritage. In this position paper, we describe a project that aims to increase Byker residents' awareness of the estate's heritage, the ways in which it affects them in the present, and how it can be harnessed for the benefit of residents.

**Introduction**

Heritage is not just consigned to the past, but also affects our attitudes towards current situations, and can be a source of both close bonds and bitter disputes. This has been particularly evident during our work in Byker, an area of Newcastle in North East England. Byker is well-known for its unique architecture and history, but also for numerous social problems. This unique architecture and the estate's protected status are often seen as the cause of problems rather than something to value.

In this paper, we briefly introduce an ongoing project aiming to harness the Byker Estate's heritage to increase understanding and tolerance of residents' current issues, while empowering local people to make the most of the estate's interesting background. This

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**Figure 1.** Tom Collins House, part of the Byker Estate.

will be achieved through both traditional means and technology-driven interventions.

### **The Byker Estate**

In the 1960s, Byker was considered by city planners to be a slum, consisting of small, low-quality terraced houses that were poorly maintained by unscrupulous landlords. In a radical move, the city council opted to bulldoze and rebuild the entire area, hiring Anglo-Swedish architect Ralph Erskine [3] to design it. Erskine was renowned for his participatory values and careful attention to the way buildings were situated within their environment—values that will be familiar to many in the HCI community. Between 1969 and 1982, he built the Byker estate, a striking set of colourful buildings designed to stimulate community and, above all, be a pleasant place to live. Public spaces and communal hobby rooms were provided to encourage social interaction, for example, and cars were confined to the perimeter road, allowing children to play freely in the streets.

Like any radical change, particularly ones that so profoundly impact people's home lives, there are differing opinions on its success. The photo journalism of Sirkka Konttinen [5][6], for example, paints a picture of a happy, cohesive community that was torn apart and forcibly re-housed. While the plan was to recreate existing communities in new buildings, life-long neighbours instead found themselves separated and dispersed around the city, as the more spacious Erskine estate provided fewer homes than the previous terraces. It has been claimed that less than a fifth of the previous residents were actually re-housed there. The sense of community has been further eroded by a turnover rate for residents, as the estate is comprised

of council-owned social housing, which is often used to re-house problematic tenants from other areas of the city.

Whether or not the estate was a good idea, it has not aged well. The council was poorly prepared for maintaining buildings so different to their traditional housing stock and arguably did not embrace the values by which it was designed. Furthermore, the world has changed considerably since it was built. Communal facilities for garbage bins cannot accommodate the multiple bins now required by the city's recycling policies. Installing telephone lines and Internet connections is difficult. The car-free design is at odds with modern levels of car ownership, in addition to making access difficult for emergency services. This has even led to calls for all or parts of the estate be demolished. In response to this threat, a small group of residents who are passionate about the estate's architecture successfully campaigned for English Heritage to give the estate Grade II\* listed status in 2003, which protects buildings of special interest and places limits on what modifications can be made. This was a controversial decision that divided residents, particularly as it has made modernisation more difficult.

The unique circumstances surrounding Byker have made it a point of interest for fans of architecture and Erskine's ideals, subcultures drawn to its distinctive style, and indeed researchers looking for interesting deployment sites. But to the residents of the estate, Byker is not a curiosity, but a home. This invasion is not always welcome and residents rarely see any benefit from this external interest. Although much has been promised in terms of improvements to the estate by various parties, many residents perceive little actual

benefit and are highly sceptical of new initiatives and promises.

### **The Role of Heritage**

Over the past six months, we have been collaborating with Northern Architecture [7], a local organization dedicated to raising awareness of architecture in North East England. The group has been awarded funding to work with the Byker estate, producing materials and conducting activities to make the most of the estate's unique heritage. This will focus on what is special and important about the estate, what the estate's assets are, but also the difficulties for those living there.

The project will involve speaking to current residents, members of the original design team and interested parties in Sweden. More importantly, it will encourage dialogue between these groups, helping to provide insights to current residents about the design process, and insights for designers into the legacy of their work. As outputs, the group plan to create an exhibition space on the estate celebrating its history, in addition to guides aimed at both residents and visitors providing information about Byker's history. Residents will be invited to events where they can share and archive their stories and mementos, which will take their place in the exhibition and a permanent archive.

The goals of the project are two-fold. Firstly, it is hoped that making residents more aware of the estate's heritage will help them to understand *why* the estate is the way that it is, why the limitations are important, and how improvements might be made that remain in keeping with the estate's heritage and protected status. A second goal is to provide information for visitors, and to do so in a way that directly benefits residents. For

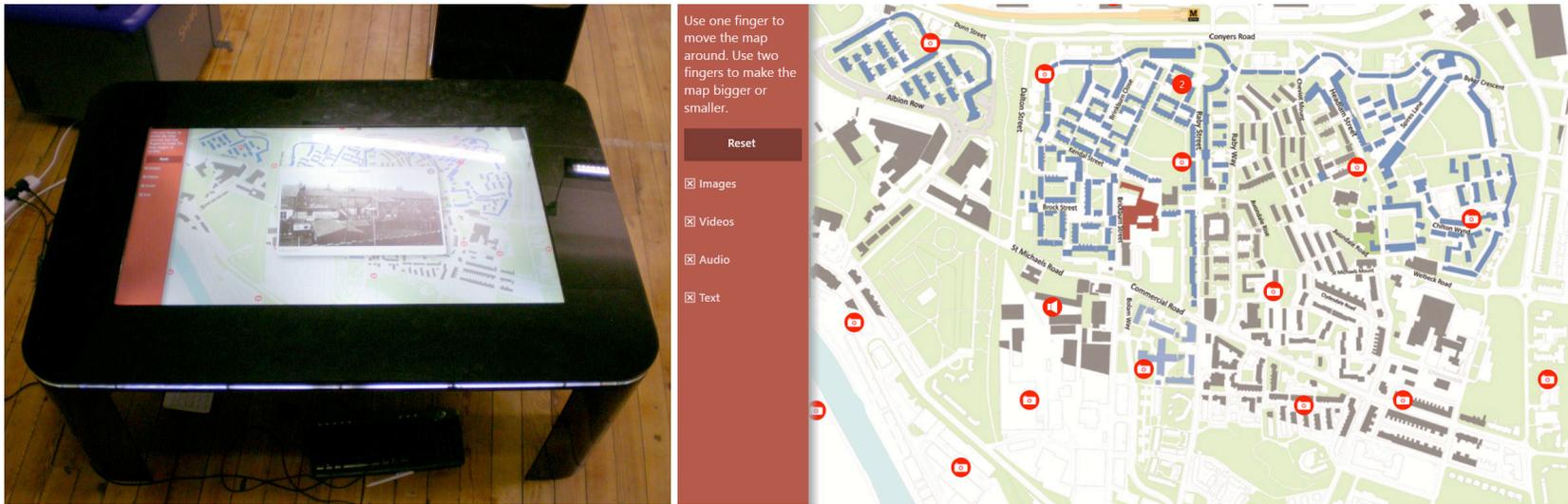
example, one possibility is to provide employment opportunities for residents acting as guides for visitors interested in the estate's past.

A key goal in all of these is to create a legacy for residents after the project's conclusion. Although the project itself will only operate for a short time, it has been designed to ensure that it has a lasting effect. The archive generated will remain accessible, and it is intended that the core team of participants and volunteers involved in the project will continue their activities, using the resources built during the duration of the project to continue its objectives.

Clearly, this alone cannot solve the complex problems in the estate. However, what the project can do is raise awareness of the estate's unique history and attempt to help foster a sense of civic pride, and to encourage residents to see how Byker's heritage might offer value and opportunities rather than simply creating a burden.

### **The Role of Technology**

Technology has a considerable role to play in the delivery of the project, and we have been cooperating with Northern Architecture in developing technologies to help achieve the project's vision. At its most simple, technology is aiding communication between residents and remote parties of interest, including those in Sweden. These meetings will be teleconferenced and recorded for future use, possibly becoming part of the archive itself. There is also clear potential for digital technology to play a role in providing the visitors' and residents' guides. Location-aware technology in particular can be used to make relevant content available in-situ [2][8], while augmented reality has



**Figure 2.** Prototype interactive table allowing content to be placed on a map.

previously been used to bring sites of historical significance to life [10].

However, we have been careful to overwhelm the project, which is not primarily technology-oriented, with cutting-edge technologies that may impede its goals more than benefit them. Instead, we have been helping to address issues around the exhibition space on the estate. Much of the content will be digital, as the space will not be able to meet requirements for atmospheric conditions and other archival standards, requiring engaging ways of displaying this content. Furthermore, the exhibition space is only temporary and will not be available after the end of the project, so digital archiving will allow the exhibition to display items that cannot be physically obtained or safely

displayed and to continue displaying this content on the web when the exhibition space is no longer available, as well as widening the range of content that residents can archive to include multimedia.

Our role in the project has been to cooperate with Northern Architecture in developing a novel installation for the exhibition space to make this digital archive easily browsable on-site in an engaging way. Previous research we have been involved in has achieved this through public displays [9], personal recording devices [4] and other types of interactive exhibit [1]. We are in the process of developing an interactive tabletop exhibit (Figure 2), which will allow residents to browse content using a multi-touch map interface of the state itself. This format was chosen as both our past

experience and that of Northern Architecture suggested users engage easily with maps. Photos, videos, audio and text are pinned on the map geographically based on either the location where they were recorded or locations they refer to, in a manner similar to Google Maps. Users are able to zoom and pan the map using touch gestures and individual items of content can be opened by touching the pin on the map.

In addition to consuming content, visitors will be able to bring their own content to add to the display. A facilitator will be on hand to scan photos, record audio or video, and upload digital materials. These will be added instantly to the exhibit. Special events will also be organised to raise awareness of the exhibition, where residents will be encouraged to bring items or record stories for inclusion in the collection. This content will be collected in such a way as to make it possible to archive it on the web after the deployment has concluded and the exhibition space has closed.

### **A Democratic Heritage?**

Our research interest in this deployment largely concerns behaviours arising around the deployment and the role that this technology is capable of playing within a larger attempt to raise awareness of the community's heritage. We are interested in not just what type of content emerges, but also how people respond to it, and how this responses plays into the contemporary issues that we described previously.

As the majority of the content will be sourced directly from residents, the collection could be considered to be a *democratic* representation of what the community considers to be important. However, this brings with it additional considerations. A community is still a

collection of individuals, and to some the estate's history will have nothing to do with the Erskine buildings, but rather the historic Byker that existed there first. Conversely, many residents will only know Byker as it exists today, and while some support the estate and have fought for its survival, others feel that the estate is not fit for purpose. These differences in opinion are cause for potential conflict, particularly regarding the curation of the collection. For example, the volunteers that have already been involved in the project are naturally those most enthusiastic about the estate's architectural value, which has caused concern amongst those who perceive the estate less favourably.

We would hope that the exhibition will help residents to recognise what they share as well as the ways in which they differ. By doing this, it may be possible to move past the limitations and conflicts created by the estate's heritage and instead focus on how it might be harnessed for the benefit of the community.

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