# Supporting residential communities with screen ecologies

**Proposers**

Holger Schnädelbach, Tom Lodge

**Partners**

Orbit Housing Association[[1]](#footnote-1)

Microsoft Research

**Previous research**

1. **Erith Park photobooth.** Thisis a scoping project in collaboration with Orbit Housing Association at Erith Park[[2]](#footnote-2), involving a single screen. **All work undertaken so far has been accomplished off the back of small pots of money from other projects (now completed) and there is no more funding available.** Our aim has been to establish a working relationship with Orbit housing, to assess the potential of Erith Park as a site for conducting research, and to install a basic prototype to help establish a relationship with Erith Park residents and management. We are aware of similar approaches from UCL and Newcastle's Culture Lab, who are also excited about the potential of Erith Park as a research environment.
2. **Screens in the wild** has investigated the network of four urban screens and its impact on communities. The deployed content included a public photo booth.
3. **Communities in the clouds** was a six month IT as a Utility network+ funded collaboration with Microsoft Research. It investigated the role of technology in high-rise and high density urban residential developments. It undertook detailed analysis of residential sites including forum analysis, workshops, onsite ethnography and interviews.

**Publications**

Mike Craven, Simons Lucy, Gillott Alinda, North Steve, Schnädelbach Holger and Young Zoe, [Evaluating a Public Display Installation with Game and Video to Raise Awareness of Attention Deficit Hyperactivity Disorder](http://link.springer.com/chapter/10.1007/978-3-319-20916-6_54), proceedings of Human-Computer Interaction: Interaction Technologies 2015. M. Kurosu, Springer International Publishing. 9170: 584-595.

Nemanja Memarovic, Ava Fatah gen. Schieck, Holger Schnädelbach, Efstathia Kostopoulou, Steve North, Lei Ye, [Capture the Moment: “In the Wild” Longitudinal Case Study of Situated Snapshots Captured Through an Urban Screen in a Community Setting](http://dl.acm.org/authorize?N98381), proceedings of ACM CSCW 2015, Vancouver, Canada.

**Nature of the activity**

We aim to build upon our previous research and our work with Erith Park to *investigate the roles of shared, situated screen technologies in creating positive and effective new residential communities*. We will explore how social, political, and place-based characteristics of residential areas can be reflected in linked screens at sites such as a community rooms, communal areas in buildings and devices in homes. A key part of this work is an investigation of how **media might be created and shared to promote deeper participation and engagement in communal activities.** Such activities include, moving in, living harmoniously, effective governance and tapping into desires for meaningful local place-making. We believe that ***situated screens with community-level infrastructure can provide a platform for the activities of residents and groups such as Orbit***. Our rationale, based on prior work, is that these screens hold strong potential to make place-related activities highly visible. Such technologies could also promote digital inclusion, a strong focus of current government initiatives[[3]](#footnote-3).

Orbit is one of the largest housing providers in the country with responsibility for over 37,000 affordable homes across the UK and see “building communities” as their role. This is especially true of Erith Park: a new flagship development whose origins are in a failed and recently-demolished council estate, Larner Road. Orbit view community building an essential part of reducing Erith Park’s ongoing management costs, by reducing antisocial behaviour and creating a place that people aspire to live in, where residents feel invested in community management. We have found that Orbit are receptive to any new initiatives around community building and keen to test the potential of technology to help to meet these goals.

**Overview of what we plan to do**

There are two parts to our proposed work:

**Development and expansion of situated screens**

Our aim is to rapidly test new ideas on the screen already installed in one of the residential blocks. The screen currently runs a ‘locked down’ web browser with running on a powered, networked android tablet. The tablet sits in the lobby of one of the residential blocks, so is frequently seen by its residents. We will aim for a turnaround time of three weeks to a month from a design concept to a prototype deployment. We expect that a rapid turnaround time will help sustain levels of engagement with the community and promote an ongoing dialogue and discussion around new ideas. There are several other possible locations for additional screens; Erith Park is composed of multiple residential blocks of flats, detached houses and communal areas with mixed tenure (housing association and privately owned) occupancy, so presents an ideal environment for extending the scope and use of screens.

**Participative design and ethnography**

Given that we are already ‘on the ground’ in Erith Park we already have several channels for engagement with the local residential community. Many residents will already be familiar with our photobooth app; this will provide a context for establishing participatory design exercises around the collection and distribution of community-oriented media. Erith Park also has a number of pre-organised community events (e.g. coffee mornings) which we will use to collect quick, lightweight feedback on designs and ideas.

We will also aim to understand the needs of the teams responsible for supporting communities: i.e.Francois Jensen (Community Officer) and Caroline Field (Regeneration Manager). In addition to getting their input during the participatory design exercises, we will undertake on-site ethnographic fieldwork where we will shadow members of the management team during a ‘typical’ day. This technique proved to be very effective in the ‘Communities in the Clouds’ project.

**Horizon mechanisms**

**Translation Programme activities**

* Societal translators
* Consolidation events

**Impact Campaign activities**

* Public engagement
* Press articles
* Public events
* Industry engagement

**Community building activities**

* Community-wide events

**Promised impact**

**Policy / Governmental impact**

Our work has already picked up interest as a novel approach to digital inclusion. Our photo booth app was **recently visited by Ed Vaizey, the Minister of State for Culture, Communications and Creative Industries and has been featured as a news story on gov.uk[[4]](#footnote-4).** The work also has strong ties with other government initiatives, such as the Sustainable Communities Act, whose aim is to provide communities with a vehicle for influencing government decision making. Given the attention that our work has already received, the problems it tackles, and Erith Park as a platform, we anticipate that any successes in the project can be easily promoted to get the attention of local government.

**Stakeholder impact**

The efforts of Orbit housing, the scale of the Erith Park project, their ambition and Erith’s history as a failed estate ensure that any work undertaken in this project will be highly visible and increase the likelihood of the project’s successes translating to larger rollouts or collaborations. Success will be measured by feedback from Orbit and their desire to expand our work within Erith Park and beyond. **If one or more of our deployments are successful (i.e used regularly by staff and residents) we hope to negotiate a longer deployment phase and wider rollout.**

**Community impact**

One stated aim of this project is to have a short turnaround time between community-led designs and working prototypes. We expect the outputs from these sessions to have a direct and positive impact on Erith residents. Some of impact of these outputs will be difficult to measure (i.e. how it affects the quality of community relations), but all deployments will be closely monitored to assess levels of interaction as an indicator of acceptance and use. In addition we will follow up deployments with feedback sessions. A second, though less quantifiable, metric will be the ongoing enthusiasm and desire amongst residents to influence and develop the design of new applications to run on the screens.

**Academic outputs**

**Planned publications**

We are unaware of any contemporary research that considers the role of situated screens to support the needs of residential communities in large urban residential estates. We expect to present our results as a discussion around the impact of situated screens and screen ecologies upon community cohesion and place making in large scale urban residential environments. We will target our publications at CHI and/or CSCW.

**Workplan**

To capitalize on our current installation we are proposing three themed ‘sprints’ where, in each, we will undertake a participatory design session, build and deploy a working prototype and collect feedback. The methodology is intended to promote focused engagement with residents to rapidly realize new ideas and concepts to help inspire subsequent innovation. Two of the sprints will be resident-focused; the final sprint will gather input from the Erith Park management team through direct input and the ethnographic fieldwork. The participatory design exercises will be half-day on-site events, though may be broken down into several smaller events, based on resident availability. There will be several follow-up feedback sessions that will either piggyback onto residents’ coffee mornings or will be run as short unstructured meetings.

**Participatory Design & Ethnography**

All participatory design sessions will be recorded and summarised on a website. This is principally as a resource for Erith residents, to provide further comments on proposed designs. We will also compile formal report, discussing outcomes from each of the sessions, which, alongside results from the ethnographic fieldwork, will form a basis for publication.

**Deployments**

All code from our deployments will be available on github. Each deployment will be accompanied by an evaluation of use, which will include measurements of usage from deployment logs and feedback from residents and staff.

**Testbed**

From experience in other community-focused projects, the time taken to engage with communities and relevant decision makers to getting a deployment underway is often prohibitive. Our vision for this project is as a foundation for future research located in urban residential environments. In getting public screens installed and accepted by the community, this project will be creating a valuable resource for future work to create impact in a wide range of significant contemporary urban research themes (digital inclusion, urban management, community participation and governance, digital content creation and so on).

**Initial estimate of timing**

The project will run for 6 months. Each of the three ‘sprints’ will run consecutively for two months. The ethnographic field work will take a maximum of four days.

**Resources required**

**People**

Tom Lodge: software development, 5 months fulltime.

Steve North: development and maintenance of network/infrastructure, 2 months fulltime.

Holger Schnädelbach: participatory design workshops, deployment evaluation: 10% (**costs covered by the Nottingham Research Fellowship**)

Alex Taylor: ethnographic fieldwork, participatory design workshops, 14 days (**costs covered by Microsoft Research**)

Francois Jensen: community engagement, 10 days (**costs covered by Orbit housing**)

**Travel and subsistence**

10 return journeys from Nottingham to Erith Park, South East London (2 people, 5 trips each)

2 visits to Microsoft Research, Cambridge

**Equipment**

Two 3G enabled android tablets.

Two tablet wall mounts

Costs for power, data and printing of leaflets, **posters and paper resources are covered by Orbit housing**

1. http://www.orbit.org.uk [↑](#footnote-ref-1)
2. http://www.erithpark.co.uk [↑](#footnote-ref-2)
3. <https://www.gov.uk/government/publications/government-digital-inclusion-strategy/government-digital-inclusion-strategy#executive-summary> [↑](#footnote-ref-3)
4. https://www.gov.uk/government/news/get-online-week-helping-communities-improve-their-digital-skills [↑](#footnote-ref-4)