The Political Sensorium

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ABSTRACT
In this position paper we outline some of the key themes and background research which may help form a better understanding of the relationship between technology and political activity. The paper is written in an attempt to articulate a better understanding of the relationship between political processes, urban environments and situated technologies. The paper is written from a UK perspective, although the ideas have a broader relevance for relatively developed western democracies. To this end we analyse the political and digital divides which are present in western society focusing on local politics in Newcastle upon Tyne in the UK as a case study. Following a brief description of the problem domain we briefly give an outline of an ongoing project Viewpoint which has created a mobile voting system which we are currently deploying in various locations in Newcastle Upon Tyne.

Categories and Subject Descriptors
H.5.0 [**Information Interfaces and Presentation (e.g., HCI)**]: General

General Terms
Design.

Keywords
Politics, political engagement, architectural design, ubiquitous computing, situated displays.

1. INTRODUCTION
Democracy, as espoused by most Western countries is adapted, more or less, from the model of popular government invented in Athens c.500BC. The Athenian model creates a network of power and communication enacted through the body politic where political representatives have direct relationships to the people they serve and where the political system is performed both on the streets of the city and in designated forums for debate, speeches and decision making. This model has, however, been scaled up for

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heavily populated and spatially dispersed territories. The notion of true representation has, it could be argued, been lost as elected members are responsible for larger numbers and a greater diversity of people and opinions, leading to a problem of citizen distrust in the political system which manifests itself in poor and falling voter turnout in both local and national elections. We propose that a key the problems of western democracies resides in two divides:

The political divide

We know that local council elections rarely attract more than 40% of the electorate [1] and statistics for Newcastle City Council, for example, for the 2008 council elections show turnout in some boroughs of less that 26% [2]. This backs up a survey commissioned by the Electoral Commission in 2004 which showed that only 42% of people in the UK, of voting age, knew the name of their MP (compared to 52% for an equivalent poll conducted in 1992) and whilst 78% of those asked said they were interested in political issues during local elections only 51% expressed the intension of voting in the next general election [3].

The technology divide

In contrast to the decline of political participation, there has been an emergence of technologies which offer an unprecedented access to political information from a rage of online sources. E-democracy offers the promise of a new type of civic engagement from online petitions through to web based surveys, forums and 'right to reply' web sites. While heralded as generating a new type of digital democracy, these technologies are noted for their limited impact on political engagement, particularly in local politics [4] and it has been suggested that there is a relationship between the growing political divide and the effects of the technological divide [5].

2. INTRODUCTION BRIDGING THE TECHNOLOGY AND POLITICAL DIVIDES
We propose the creation of a 'Political Sensorium' to help repair the disconnections between the population and their elected representatives and to provide a bridge between the virtual and physical spaces of political discourse. We need to develop technologies and interfaces which support local political discourse and the inclusion of members of society who are otherwise excluded from aspects of the democratic process. The causal relationship between the technology and political divides is complex and multifaceted, however, our methodology follows a rationale that a primary cause of political disengagement is a perceived gap between Local Councils' day to day decision making processes and the places in which those decisions take

effect. This gap leads to the perception of inefficiency and unaccountability in the way in which resources are allocated [6].

3. KEY CHALLENGES

Having isolated the challenge we have identified three key issues need to be tackled through the design, development and implementation of novel technologies and platforms:

· The socioeconomic groups who are least likely to engage in politics are also those that have least connection to the WWW or the skills or interest necessary to access online services offering political discourse. This leads to a 'digital divide' which further strengthens the effect of the political divide [7].

· Web based technologies are often placeless, designed to be "anytime and anywhere", and do not reflect the local condition of much political discourse and the importance of physical and informal meeting places and situations. This contrasts with studies which show that a key factor in political engagement is perceived as 'institutional proximity' [8], in other words, how close does the decision making process appear to be from the place in which the decisions have an impact.

· The mass media and many web based forums tend to favour non-deliberative types of discourse (activism and campaigning). This means that particularly contentious issues often get significant media coverage and those with a skill for activism and media engagement get the loudest voice [9]. Support for deliberative discourse is therefore a pressing issue particularly in the context of local decision and policy making [10].

4. SKETCH FOR A DESIGN PROPOSAL

Imagining that we use local council politics in the city of Newcastle upon Tyne as a test-bed for the design, implementation, deployment of technologies to support participatory budgeting we can sketch a design for the sorts of technologies and interfaces which might be applicable. Figure 1. shows a sketch scenario which explores user interactions with devices called PoliBoxes would act as ambient interactive displays presenting lo-fi information pertinent to local political issues and will be used to 'take the pulse' of the local community by feeding responses back to elected members.

The vision is for each PoliBox to become akin to a nerve ending for the body politic, allowing for constant and reflexive feedback of lo-fi political data and reaction. They would act to make political discourse a pervasive but ambient feature of various different public spaces. To this end we aim to increase community awareness of political decisions and directions through novel information graphics using aggregated data from the council and to provide mechanisms for eliciting quick responses and feedback.

The aim would be to infuse public spaces with political discourse and, in the first instance, to increase community awareness and engagement on simple issues such as whom their elected members are and the decisions they take on issues related to budget allocations. The success of such implementations could be measured in terms of 'dimensions of awareness', measuring community knowledge, community members' propensity to vote both before and after the PoliBox deployment and by measuring both the nature and amount of community engagement with the PoliBoxes themselves. To this end we propose that such an implementation would have a broader research value in tackling the problems laid out in the introduction, namely:
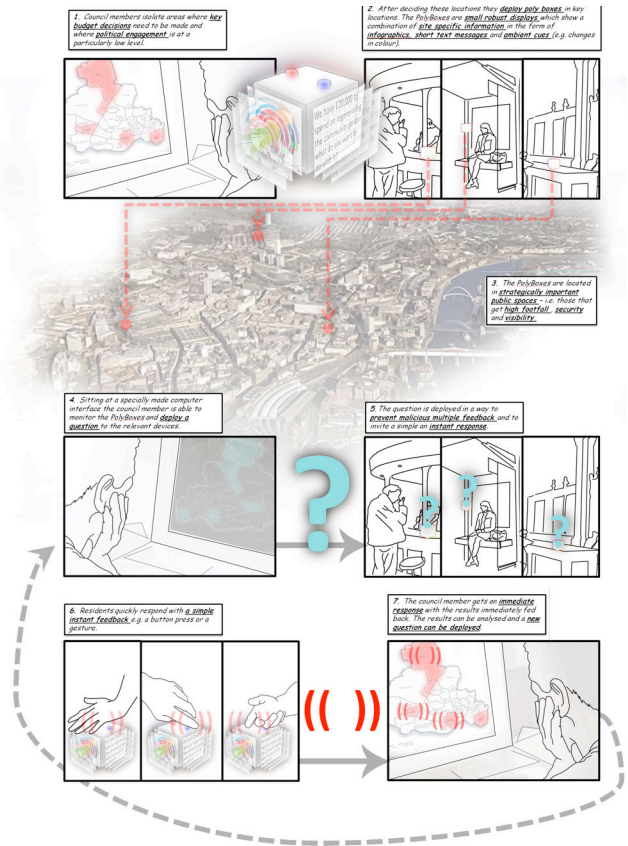

Figure 1. Interaction design scenario for the proposed PoliBoxes

· *Interaction design and the technology divide*

To help develop a new generation of situated computation devices which do not need, even basic, technological knowledge to operate but are capable of presenting political information in clear and accessible ways and allowing for simple and direct interaction methods. Furthermore, a measure of the success of the devices would be whether they are cheap, secure and robust.

· *Information architecture and institutional proximity*

By taking an architecture led approach to the proposed problem we are able to gain a sophisticated understanding of the relationship between space and place and the situated nature of social and institutional interactions. In practice this involves both a design sensibility and formal methods of analysis such as space syntax which map and analyze social and spatial conditions. As Greenfield and Sheppard state "*On one level you could say that architecture is one of the oldest situated technologies*" [12] and in the context of this proposal architecture is used as a synthesizing discipline to integrate work from Interaction Design and HCI. We aim to make contributions to emerging fields which study 'networked mobilities' [13] and the design of urban computation.

· *Technologies to support situated deliberative debate*

By drawing on literature from political science on the nature of deliberative debate and the problems of mediated communication we could also aim to support a new field of enquiry on situated technologies for the support of deliberative public discourse. To do this, the implementation would focus on using the PoliBoxes to

generate discourse on issues of local and proximate (to the PoliBoxes themselves) importance but where the topics do not attract activism and where the device itself can be used to generate a feedback loop of questions and responses (deliberative discourse).

In terms of developing novel technologies, this project would also have broad intellectual agenda in the context of a growing interest in the application of ubiquitous technologies to social and environmental challenges at an urban scale [14,15]

5. EXAMPLE DEPLOYMENT: VIEWPOINT

We have started to explore some of the issues raised in this paper through two the design deployment of two mobile coting systems under the title of Viewpoint [16] device emerged as a response to feelings of disenfranchisement encountered when working with a community in Preston, England. While attempting to engage the community in designing technologies, researchers on the EPSRC funded Bespoke project found residents were often unwilling to express their opinions and highly sceptical of the likelihood that participation would result in any tangible benefits. This is a common issue facing contemporary civic engagement: the relatively high effort required discourages participation, reinforced by a perceived lack of results.

To address this, Viewpoint was designed firstly to offer a new, lightweight method of participation, and secondly to attempt to make the outcome of the participation more visible, with the intention of encouraging further engagement. Distinctive devices were installed in three public locations around the community, where local organisations could post weekly binary choice questions. Members of the public were able to place a vote using two large buttons on the front of the device. Once the poll had closed, a response had to be posted, which would then also be visible on the Viewpoint device.

Over a two month trial, nearly 1,800 votes were placed by residents on eight different questions. Organisations who posted questions were "overwhelmed" by the number of responses, although the format of the device did present some problems. Viewpoint explored one extreme of a design space that balances quality and fidelity of data collected. While traditional consultation methods, such as focus groups or town hall meetings, can gather high fidelity data from a low quantity of participants, Viewpoint was able to capture data from a high quantity of participants, but at low fidelity. Specifically, the requirement for questions to have binary choices limited the topics that they could ask about, while the inability to follow up on answers from residents and explore their motivations limited the usefulness of the data.

Both iterations of a second generation Viewpoint device has been developed to maintain the simplicity of the original design while also allowing more flexibility. Rather than a binary choice, questions could have up to five possible responses, or allow answers to be entered on a sliding scale to indicate strength of feeling. The desired option was selected using a rotating wheel, with a button at the centre to place the vote. These devices were also smaller and lighter, allowing them to be more mobile.

Three of these second generation devices will be deployed in a residential area of Newcastle, where environmental campaigners are collecting data about modes of transport in order to lobby for pedestrianisation for small shopping street. A fourth device is planned for installation in the city's central library, where it will be used to gather feedback on the library's services. A final device is being installed in another residential area, where it is being moved around different community venues. In this final case, future questions will be sourced directly from members of the public. In several of these use cases, we see Viewpoint moving away from consultation towards activism, allowing members of the public to collect data to support their arguments and present their views to the authorities.

6. CONCLUSION

The study of Political engagement in the context of new technologies is an emerging field but, through this sketch design of a technology deployment we have attempted to illustrate the sort or project which might reframe our understanding of public space and institutional place. Such a project has the potential to make contributions to HCI and Interaction Design and broader application the evolution of democracy in the digital age. While we are informed by theory across a range of disciplines, from architecture and political science to HCI, a project of this nature cannot be conducted within the closed environments of the lab and will only make sense when deployed in locations which are politically, economically and socially challenged and challenging. The viewpoint devices offer a compelling stating point for this research and insight into an important topic for pervasive computing and architecture.

7. ACKNOWLEDGMENTS

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