

# The Importance of Politics: the Role of HCI in Mixed-Reality Communities

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## ABSTRACT

In this paper we describe the political role that Human-Computer Interaction (HCI) can play in helping “mixed-reality” communities. Usually when referring to a grassroots movement or another community a group of physically present individuals comes to mind. However, contemporary life has led many individuals away from their location of activist expertise. Thus, mixed-reality communities can be formed, which combine the physical presence of the remaining community with the virtual presence of their remote members. These communities can facilitate existing or emerging HCI technologies to achieve communication among their members and enhance participation.

## Author Keywords

Virtual presence, digitalisation, democratisation, participation, mixed-reality communities, grassroots movements.

## ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

## INTRODUCTION

Grassroots movements, as long as they involve democratic procedures, depend also on the way technology is implemented. One extreme application of this idea was the use of information in the *ecclesia* of ancient Athens (especially during ca. 800-500 BC). The *ecclesia* was a general assembly of the citizens and was the cornerstone of the *polis*, the Athenian system of administration. There, all

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information which had not been validated was completely discarded. The Greek infrastructure of that time supported this use of information, as e.g. the road network was deliberately sparse to eliminate spreading information [1].

Roman roads and, much later, printing technology facilitated disseminating information. The general public of the time considered all printed information as high-quality information [2]. Research has shown similarities with contemporary perceptions of the Internet; that is, perceptions that information is of high quality just because it is published on the Internet [3]. However, publishers of printed and online information can avoid accountability for the content they provide. Consequently, printed and online information can often be low-quality.

Advancements in Human-Computer Interaction can help grassroots movements avoid low-quality information, thus enhancing their democratic functions. In this paper we examine the use of existing and emerging technologies from mixed-reality movements, that is movements which have physically and virtually present members.

## POLITICS, AUTONOMY, MOVEMENTS

We can define politics as “the conscious, critical and self-critical, rational activity, which concerns the institution of society as a whole” [4]. This definition has various implications.

### Freedom

Firstly, this definition implies that freedom is a prerequisite for politics. Each individual has to have the freedom to reflect on the institution of their society. Moreover, freedom to question this institution and propose different, other, or new institutions is implied.

### Imagination

Secondly, this definition implies that politics is not, in its entirety, a logically reducible activity. Human beings are unpredictable, since in moments of hesitation, passion, confusion, desire, or indecisiveness we seem to be more imaginative than rational. The fact that we have *imagination* is what makes us really different from other

species [5]. We often act in a particular way just because we imagine that we will so solve our problem at hand, despite having no rational evidence to support our actions. Of course, not *all* human activity is imaginative, and that is why we are able to rationally reflect on our actions.

Imagination can function via *individual imaginary values*, unique for each one of us, and via *social imaginary values*, which are valid for a society and effectively form/shape each individual. During the course of history some societies have imagined that sacrificing some of their members would e.g. improve the weather conditions, or that exterminating people of a different religion—or race or sexual orientation, for that matter—would “purify” their countries or even the world. On the contrary, other societies have imagined regimes of freedom, equality, fraternity, and of respect to human rights.

### **Autonomy**

Another implication of the aforementioned definition of politics is autonomy. Choosing the imaginary values of freedom over the ones of extermination requires a level of understanding about the institution of society itself.

In particular, each society itself sets its own founding social imaginary values [4,5]. Understanding this simple fact is critical for questioning and thus improving the institution of each society. If one argues that the institution of a society is complete because it was accomplished by an out-social entity, e.g. a supernatural entity, or a flawless expert authority, then there is not much space left for politics.

Thus, politics is partly identified with self-governance. That is, politics and autonomy are both means and ends of societies. They are iterative activities that establish a democratic regime, and not activities that are accomplished once and last for long.

### **Universality**

Last but not least, this definition of politics implies universality. There are two types of universality implied which are in the scope of this paper.

Firstly, politics is concerned with the institution of society as a whole. Social life is complex, complicated and interconnected, so it's improbable that a group will be able to reflect and decide on specific aspects of a society without missing other aspects. Moreover, a society might find that one particular decision or behaviour is reusable. Thus, reflecting on society's institution as a whole is both more efficient and more complete [6].

Secondly, all citizens are required to participate in politics. If we want to be really socially free and autonomous, this freedom and this autonomy has to be general. That is, participation in politics has to be general.

## **SOCIETY AND TECHNOLOGY**

If our grassroots movements decide that the aforementioned definition of politics is interesting to them, the way they choose to use various technologies will be affected. This change in use will happen because social values and technology are interdependent.

Society and its imaginary values have an important role in forming technology. Firstly, each scientist bears the imaginary values of the society in which they have lived [7,8]. Secondly, the imaginary values of a society reveal its priorities in scientific research and technological applications [8,9]. A recent example can be found in the change of government in Tunisia on 15 January 2011, after the Jasmine Revolution. Tunisian Internet Agency (French initials: ATI) director Kamel Saadaoui described the situation on filtering and blocking websites: “Tunisia has a lot of young, open people who know how to go around filters via hotspot proxies, so really it's useless to block. Whatever we do, there are ways to get around it.” Thus, there is no technological reason to implement a filter, since it can be bypassed. However, such a filter still exists, because, according to the same official: “The limits are symbolic. It's a message from the government that we are a Muslim and conservative society and that we would appreciate if you didn't go to these [filtered] sites” [10].

Thus, technology is not a neutral tool which can be used at will. Politics comes first, in a way already described by Aristotle: “it is [politics] that ordains which of the sciences are necessary in a *polis*, and which each citizen should study and up to what point” (own translation) [11]. Samuel Hartlib stated in 1641 that “the art of printing will so spread knowledge that the common people, knowing their own rights and liberties, will not be governed by way of oppression” [12]. However, that would happen only when and where politics allowed printing to undertake this role. For example, Jews were already banned from German printing guilds from the 15<sup>th</sup> century CE [13].

To bring politics back into consciously shaping our science and technology, wondering/*thaumazein* about our world should also be present [14]. This is not trivial, since we are in times of a “disenchantment of the world” (Entzaubern) [15]. There is no apparent priority in science and technology, and new advancements are implemented because they are feasible, rather than desired.

Grassroots movements have to find means to accomplish their ends in this difficult situation. The existence of an end might facilitate the use of technology, since grassroots movements should be setting priorities concerning what technologies they use. In contrast with being a consumer *en masse*, such as an individual, grassroots movements as such are less imposed to commercial technology. Thus, artificial needs are more difficult to emerge there. If so, it can almost always be reduced to behaviour of individuals.

The advantage that grassroots movements have is not always obvious and conscious. During the recent protests in Egypt (January 2011) the role of Human-Computer Interaction has been a persistent topic of debate. The way the protesters disseminated information through social networks concerning their demands brought back on the surface the political purpose of technology: “these phones were built to be social” [16], platforms “to Create a Government-less Internet” [17].

**HCI AND MIXED-REALITY COMMUNITIES**

We will support the idea that movements are not consciously aware of the way they interact with technology. Specifically, we support that movements are not conscious of the *meaning* their interactions have with technology. In particular, we consider the case where the Greek Graphic Designers Association (GGDA) strongly denounced the terms and conditions of a contest for a new logo [18]. A digital movement was spontaneously formed which also denounced this contest. It was the first case in Greece that a digital movement was formed, especially in Twitter. This movement supported GGDA’s terms by hijacking the logo contest, and simultaneously launched a mock-up logo contest to ridicule the original contest.

A number of participants of this movement answered a questionnaire concerning the aftermath of this experience (see Figure 1). A total of 10 participants answered, among others, that the aftermath/conclusion was for them “the fun” by 30%, “ridiculing someone” by 30%, that “digital actions can affect the physical world” by another 30%, and “supporting a cause” by 10%.

The answers the same participants gave about what they believed the aftermath was for *Others*, was quite different. In this case, 70% believed that the aftermath for the others was “the fun”, while the other options got 10% each.

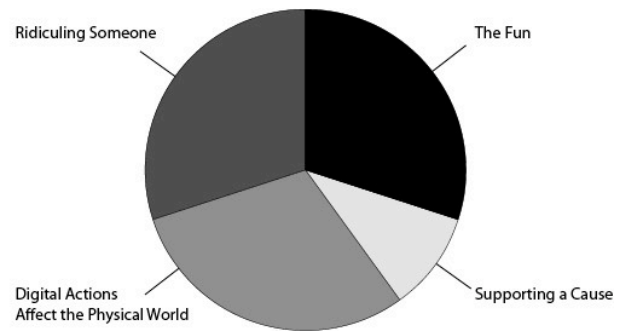
That is, a virtual community seems to be able to have an *interaction meaning mismatch*: members of the community might think they interact in a different way than the community.

Moreover, it is important to note that while most participants gave a positive meaning to their participation, they thought that other participants were mostly indifferent. This interaction meaning mismatch could lead to a lack of trust between community members and, ultimately, to low-quality information.

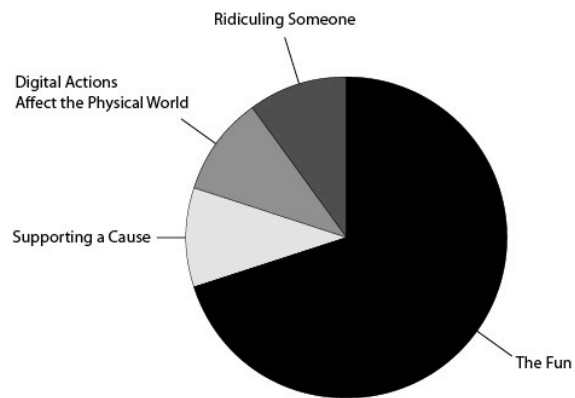
One of the reasons this situation should be avoided is the contemporary way of life. While it is difficult to monitor such activity, grassroots movements suffer when a number of their members have to leave the physical place where the movement is active. In order to continue to get value from their remote members, grassroots movements can form *mixed-reality communities*: physical reality members and

their virtual, remote members. Contemporary HCI technology can facilitate participation and collaboration among the members, and help retain high-quality information from and to remote members. In cases of small groups, HCI technologies might even safeguard the very existence of a group; especially in cases where the remote member is an expert on a vital field.

To avail from HCI, a mixed-reality community should propose the use of HCI technology as a matter of *politics*. That is, as a matter of consciously and collectively deciding what technology is needed and why.



a) What was the aftermath of this digital movement for you?



b) What do you think the aftermath of this digital movement was for others?

**Figure 1. Aftermath of a digital movement for the Self and for Others.**

**CONCLUSION**

Grassroots movements are dependent on high-quality information and imaginary values. To manage these dependencies in a meaningful and useful way, grassroots movements have to adopt a suitable definition of politics.

After proposing one such definition and examining the implications it has on the function of movements, the effects on the use of technology are discussed. In particular, politics drives the selection and the use of technology. This is also true for HCI technologies. Grassroots movements are not always conscious of the political nature of Human-Computer Interaction, thus leading to an *interaction meaning mismatch*. Evidence is presented in the form of answers to a questionnaire by digital activists. To avoid the aforementioned mismatch, grassroots movements can form *mixed-reality communities*, incorporating high-quality information and expertise from virtually present members. The mixed-reality community can propose HCI technologies as a political issue.

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