

# Communication in Infrastructuring, or Tales from a Collaborative Project

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## ABSTRACT

We present empirical examples of approaches to communication taken by the consortium of a large scale participatory design project in Europe, framed in terms of organisational communication in an infrastructuring process. The examples are understood generally in terms of the goal of fostering internal communication practices away from hierarchical relationships, which align with the political goals of participatory design and of the project. More specifically they are also understood in the framework of strategies and tactics in terms of actions taken within an infrastructuring process. The examples relate to the role of the words consortium partners use to describe and talk about the project across different disciplines; the metaphors we construct to assist the design, development and communication; and the use of tags to assist filtering and management of mailing lists.

## CCS CONCEPTS

• **Human-centered computing** → **Collaborative and social computing**;

## KEYWORDS

Infrastructuring, organisational communication, temporary organisation, wiki, metaphors, tags

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## 1 INTRODUCTION

Recently, HCI scholars have increasingly looked at the tradition of Participatory Design (PD) of digital technologies [27], a growing interest visible in papers and workshops in recognised HCI venues, as CHI [32] or TOCHI [1]. Much could be said about the contribution to the design, implementation, and evaluation of digital technologies provided by PD but there are two main aspects that have characterised the field in the last decade that are worth mentioning.

First, PD's origins include a strong political commitment, since the work with trade unions in Scandinavia in the 1970s [16]. This political commitment has been recently strongly revived, both in the theme of the 2018 Participatory Design Conference – “Participatory Design, Democracy, and Politics” – and in more recent publications dealing with institutions [17, 29] or contemporary political economy [28]. The political angle of PD is relevant to recent HCI research on the political economy of digital technologies [11, 20] and on the so-called digital civics [33], as in both these areas of inquiry are issues of the relationship between digital technologies, collaborative action, and forms of transformation of the status-quo.

Second, a principle way through which PD scholars have engaged with the political dimensions of the design, implementation, and evaluation of digital technologies is a contribution to the concept of infrastructuring, another theme of interest for HCI scholars [18]. In PD, infrastructuring is seen as a way to support specific forms of political relations, as agonistic public spaces [3], specific relations among dispersed groups contributing to design and development [6] and, more generally, as a process in which technologies are part of processes that are not only technological but include

dimensions of meaning-making, in what have been called design games [10].

We combine these two themes looking at the process of infrastructuring in a participatory design project that characterises itself as being explicitly political in relation to themes of political economy. We look at the communication practices, from the perspective of an infrastructuring process involving PD and HCI scholars, among the members of a design team (a project consortium of an EU funded project called Commonfare) contribute to the attribution of meaning to the designed technologies.

## 2 STRATEGIES AND TACTICS IN INFRASTRUCTURING

Pipek and Wulf's [23] work on infrastructuring serves as our point of reference in HCI and PD, where they present designed (and used) digital technologies as work-oriented infrastructures. With this term, the authors referred to technologies that, as infrastructures, support work by people and that become visible, in their technological component, when a *breakdown* occurs. *Infrastructuring* reflects infrastructure in a state of reconfiguration. It points to the ecology of socio-technical elements that participate in this process, from existing standards, work cultures, available opportunities, innovations in practice and technologies and so forth. Such ecological perspective highlights that the process of infrastructuring involves the whole spectrum of people who interact with the technologies part of an infrastructure (not just the designers and developers), distributing agency on the shape an actual infrastructure has in a specific moment to diverse social actors and technical components.

Significant effort has been made by the HCI and CSCW communities to discuss infrastructuring as a concept, including special issues [22]. The contribution we wish to focus on is that of Bodker et al. [5] and Lyle et al. [19, 20] who enrich the ecological perspective of Pipek and Wulf with an understanding of actions of people surrounded by the technology, be they designers, users, or other stakeholders, through the concept of *strategies and tactics* (drawn from De Certeau [7], and, in HCI, more widely disseminated by Dourish [9]). As concepts, strategies and tactics allow for an interpretation of people's actions discussing the bases of their agency in any specific time: when social actors have their own space and resources through which they can project in the future, they are acting strategically; when they act in a space and with resources defined mainly by others, they are acting tactically. This difference has implications also for the kind of actions people can engage in, and it is not fixed in time or social context. For example, company managers could act strategically and make certain decisions, such as the introduction of new technologies, or tactically adopt existing technology used by competitors, because of their position of power in relation to

their workers. If the workers at the company exercise strong control over their work, they could refuse the introduction of the same technology and, later on, management would need to act tactically to respond to the situation.

When considering the meaning of technology we design it becomes clear that the flow of meaning of communication practices has a role in defining the infrastructure itself. Nevertheless, little has been done to understand how communication itself could be strategically or tactically defined. We focus on this aspect, responding to the question: How does strategic and tactical communication relate to the shaping of an infrastructuring project?

Here, we follow a critical/radical humanist paradigm approach to communication, to provide a broader discussion about the role of communication in PD projects. Critical humanist (or radical humanist) research is grounded in the view that reality is socially constructed and it has the goal of locating oppression and strategies for resisting oppression [21]. We understand the Commonfare project and its consortium as a temporary organisation [30], and that organisational communication is therefore highly contextual and culturally dependent (e.g. [31]). Organisational communication is focused on building relationships, and is commonly divided into interaction with internal organisational members – internal communication – (e.g., [34]) and interested external publics – external communication (e.g., [25]).

Although we are aware that the dominant paradigm in organisational communication is the functionalist view [24], an objective and orderly view of society, the radical humanist approach is coherent with the politics of PD. This view helps us to be critical about the design of a future thing inside an infrastructuring project, understanding that “oppressive organizational structures and conditions are reified through organisational ideology, symbolic expressions of power, and enacted realities of social domination” [24].

In alignment with our critical theoretical approach and also our empirical work, it is also the work of Arthur A. Felts [13] who draws on the concept of “communicative competence” developed by Jurgen Habermas to analyze organizational communication failures or dysfunctions. Felts's contribution towards the sketching of a theory of organizational communication [13] is relevant for our analysis for a number of reasons. First, Felts discusses communication errors as “ecologically atypical”, meaning that those errors are not natural. This atypicality is associated with hierarchical structure. Second, by drawing on Habermas, Felts suggests that one possible way to address communication problems is the creation and fostering of symmetrical relationships, in which individuals may develop the “ability to communicate more freely without the fears or one-sided privileges that inevitably arise in settings that emphasise hierarchical status.”

### 3 THE COMMONFARE PROJECT: STRATEGIES AND TACTICS OF COMMUNICATION

Commonfare is an EU funded participatory design project that aims to tackle societal challenges such as precariousness, unemployment, and low income, by promoting a model of welfare – called Commonfare – based on four main pillars: unconditional basic income (UBI), management of both common good and commonwealth, alternative sharing economy, and an alternative, digital currency [15]. To achieve such goals, the project is designing a digital platform – commonfare.net – whose goals are to 1) increase accessibility and inform users of existing welfare state provisions ; 2) enable the sharing of good practices that respond to the challenges of precarious living ; and 3) build a complementary currency to support the platform’s internal economic sustainability and encourage development of grassroots welfare good practices, including a UBI.

The project is engaged in pilot action in Croatia, Italy, The Netherlands, with different population demographics considered “at risk of poverty or social exclusion” [12]. Bassetti et al. [2] unpack the interdisciplinary nature of the Commonfare project and its consortium, which itself is quite heterogeneous, involving: three academic partners (providing design, social and technical expertise), two technical partners (providing design and development expertise) and three pilot partners (three non-government organisations, local to each pilot country, whose expertise includes political activism, advocacy, research and art). The work of the consortium is structured into different teams (focusing on aspects such as design and communication).

The empirical examples presented here occurred between the 6th and 13th month of the project, and are drawn from sources categorised as internal documents including: minutes of general assemblies (whole consortium), reports from focus group self-evaluation (conducted with consortium partners), and working documents (among consortium partners).

#### Organising with a Glossary

During a focus group self evaluation of consortium partners six months into the project (January 2017), members raised concerns about words used (including ‘user’, ‘stakeholder’ and ‘story’) and their baggage in terms of disciplinary backgrounds, and how this baggage aligned or conflicted with the political values of the consortium. The consortium decided to create a glossary – eventually implemented using a wiki – to allow for clearer explanation of the words that would be used, and allow for discussion around their choice. This example in particular has been presented in an infrastructuring context by Lyle et al. [20].

Upon completion of the initial wiki with some words and discussion drafted by consortium members at the University

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of Trento, user accounts were set up on-demand for anyone in the consortium wishing to participate and make use of the glossary. While a number of accounts were created, the glossary was not widely adopted or used – very few edits or additions had been made 18 months after its introduction.

#### Organising with Metaphors

On July 2017, following up on the research and design work carried out within the pilot countries, the communication team developed a working document to summarise the work done by the design team and communication team. The document – named “Interpretative metaphors for the design, development, and communication of Commonfare.net” – served to make sense of the data and insights coming from the socio-economic and design research conducted in the first year of the project (see [14, 35]). The document’s stated goal was “to identify a set of metaphors that can help designing, developing, and communicating Commonfare.net” so as to translate the wealth of data into “sensitizing concepts” [4], that is, analytical generative tools that provide a general sense of reference and guidance in approaching design and communication work [26].

The metaphor elaborated through this document has been that of ‘ecology’, which has been used to describe the platform as a “collaborative ecology of tools for autonomous, practicable, and poetic lives”. The imagery of the ecology – from which the authors of the text drew upon feminist technoscience studies [8] – has been an effective interpretative tool to achieve two main aims, providing: 1) a strong connection with the field of inquiry and action, maximising the possibilities for the implemented technology to be useful for people involved in the fieldwork activities and for other people in similar social conditions to be more interconnected; 2) the capacity to innovate the domain of digital platforms for social innovation, going beyond the replication of established patterns of platform design, on the basis of the challenges that the empirical work has brought to established ways of dealing with precarious lives, even linguistically.

The description of the platform as a “collaborative ecology of tools for autonomous, practicable, and poetic lives” reflects the metaphor of “practicability of life” as proposed by pilot partners is a central tenet for the Commonfare project. This represents the search for autonomy and the capacity of conducting lives that are free of discrimination, which emerged from design workshops conducted with research participants experiencing precariousness in the pilot countries.

From a design point of view, understanding the platform as an ‘ecology’ means, for example, to be aware that Commonfare.net stands between different locations and times, while instantiating and transforming relationships. At the same time, the tools that the platform provides – information,

stories, the digital currency – help to construct different relations, synergies and processes among people and the tools themselves. When thinking of the concept of ‘practicability’, for example, this has been considered as an attribute of the tool or the content provided by the tool itself: the content of a story may result in making lives more practicable (that is, liveable) while the use of UBI, as a tool, may help people to exchange information and services, thus making their lives more practicable.

### Organising (Email) with Tags

On March 2017, the consortium decided to adopt another tool to improve the internal communication with regards to the load of emails. It followed up on the suggestion of one of the partners towards the need to increase transparency in the consortium internal communication, using the mailing list more often, and, at the same time, taking into account the need to minimise the overload of emails. All the partners agreed to adopt a list of tags (prepared by two members of the consortium, and in the format of *hashtags*) to be used in email subjects to help readers filter what is of immediate interest to them and requires attention. At the same time, the use of tags has been thought as a useful trick to retrieve relevant information if needed.

The list of tags was divided into three main categories: grant-related, activity, and other. *Grant-related tags* served to identify the specific work package or team to which the communication is directed (e.g. #design, #pilot, #coordination); *activity tags* referred to the specific task (e.g. #action, #notes, #notification), and *other tags* considered other possible meaningful terms to be included in the subject line (e.g. #deadline, #reading). An example of an email subject line structured with these hashtags is as follows: “#coordination: #suggestion for email subjects, #action needed - #deadline: your next email”

In introducing this communication tool to the consortium, the project coordinators recognised the effort of learning the tags required to the consortium and, at the same time, they stressed the advantage of being able to filter and organise information. The reaction of the consortium to the tags has been generally favourable although, in practice, tags have not been always used by all the partners. For instance, while the coordination group, and research partners, have been overall responsive to the use of the tags, that has not always extended to other partners on multiple occasions.

## 4 DISCUSSION AND CONCLUSION

In all three cases, the adoption and appropriation by the consortium has varied significantly, but were all responses to the circumstances of the project at a given point. Returning to Felts [13], these empirical examples can be understood as attempts throughout an infrastructuring process to create

and foster symmetrical relationships by creating spaces in which consortium members are able to contribute to making sense of the project. While the system of funding necessitates a hierarchy of responsibility and structure in the project, the examples presented have served to engage consortium members in a collaborative process of sensemaking, is more reflective of PD approaches, and the politics of Commonfare.

In infrastructuring terms, the call for action can be understood as the visibility of the communication difficulties – be they in terms of understanding the words and metaphors we use or the way communications are organised – and therefore a point of infrastructure in which the consortium was able to intentionally engage in a process of negotiation (see also [19, 20]). While the reactive nature of the actions suggest a tactical response, the examples emerged from strategically planned consortium gatherings (such as general assemblies), and the varied use and adoption of each suggest the need for further space of reflection within the consortium. Having said this, the individual actions themselves can be distinguished by whether they served to help define the space of the project (strategic), or to act and appropriate that space (tactical). With this frame, and at the risk of limited nuance, we would position: the glossary as tactical (because although it raised the collective consciousness of the consortium to be more considerate of their language choice, the limited real adoption of the wiki is evidence that it did not serve to define the space of the project); the metaphors as strategic (the document served to articulate the space of action beyond the general assembly in which it was first raised); and the tags as strategic (by building communication competences as suggested by Felts [13], opening up opportunities for how the consortium appropriated and sorted their email).

These three empirical examples serve as stories about the articulation work of Commonfare in the area of communication, in order for those carrying out tasks towards the goals of the project to have a greater sense of understanding in an interdisciplinary infrastructuring project. As HCI researchers, we understand our own field to be interdisciplinary, in addition to the complexities of engaging in collaborative projects with public, industry, and other academic partners. Research that helps HCI researchers understand how temporary organisations consisting of interdisciplinary, heterogeneous partners respond and negotiate the complexities of the group overall serves to allow the design work to be more inclusive and reflective of their values and goals.

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