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Halabi, Ammar; Zimmermann, Basile; Courant, Michèle

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Conflict in a Digital Place

Ammar Halabi
Department of Informatics, University of Fribourg, Fribourg, Switzerland
ammar.halabi@gmail.com

Basile Zimmermann
Institut Confucius, University of Geneva, Geneva, Switzerland
basile.zimmermann@unige.ch

Michèle Courant
Department of Informatics, University of Fribourg, Fribourg, Switzerland
michele.courant@unifr.ch

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Abstract

This paper discusses the issue of conflict over the Internet. It focuses on situations where disagreements between users connect with specific choices in the design of a digital infrastructure, and it argues that engagement in design activities can be used as a tool to analyse and probe such issues. It presents an ethnographic study of VOCI, a community of students based in Syria that witnessed a major conflict between its core members during the early 2010s. This conflict evolved around issues of control and governance, and eventually translated into a shared concern of how access and ownership of digital places are configured. This article introduces the design of Modus, a platform for shared proprietary rights over the Internet, as an alternative way to manage digital ownership.

Keywords: Conflict, HCI Design, Digital Ownership, Community Informatics, Infrastructure Studies, Syria

I. Introduction

Conflict is a core dynamic inherent to social groups, and disagreement is an important part of collective human interaction. Within families, among friends, colleagues, locals in a neighborhood, between collaborators in a project, organizations, governments, ethnic groups, or nations, people deal with sensitivities and tensions on a daily basis. Sometimes, such interactions become cases of outright open struggle and violence.

How does the use of digital platforms shape disagreement and conflict? With the increasing pervasiveness of the Internet and social media in everyday interaction, most of us are familiar with cases of heated comment threads on Facebook, of infuriating e-mail exchanges, or of online

community breakdowns. In this paper, we examine the online interactions leading to an open conflict in a local voluntary community in Syria during the early 2010s.

This community, which we will refer to by the acronym VOCI,[1] consisted mainly of university students based in Damascus interested in exploring the collaborative potential of the Internet. Through the analysis of this major disagreement within VOCI, in Syria during a period of crisis, we explore how digital tools impact the coordination of a group that started as a non-formal grassroots initiative centered around a shared interest and purpose.

While struggle and disagreement have been studied by scholars in various disciplines for a long time,[2] such issues have not been much in focus in studies of groups and communities using ICTs. Indeed, research accounts tend to report on the resolution of frictions rather than on their emergence. On the one hand, there is a known tendency among researchers to construct science as a neat and ordered process, where well-structured stories and neat conclusions free of messy and inconclusive tensions are part of what makes a good scientific contribution (as the social studies of science have shown over the past decades, see Latour 1987). On the other hand, and in community-oriented ICT studies more specifically, interest in the welfare of communities created an inclination to consider "community" as a positive category almost by definition (especially when we compare it to entities like "the corporate" or "the establishment"; see Averweg and Leaning 2011). In such context, issues of conflict and clash become unwelcomed pieces of data for research, since they oppose an ideal image of what the analysis should be.

To this day, only a small collection of works concentrate on tensions among people using digital platforms and their impact on the interactions among members (e.g., Smith 1999; Kollock and Smith 1996). This line of work recognizes conflict as an important dynamic in the making of communities and their appropriation of digital technology (Goodwin 2008; DiSalvo 2011). Certain streams in ICT and design research have also started exploring the ways community-oriented projects stimulate communal participation, and how negotiation and controversy shape conversations among various stakeholders as they design technology (Andrade and Urquhart 2010; Halabi et al. 2015; Heeks and Stanforth 2015).[3]

As many concepts concerned with a wide variety of social phenomena, the notion of conflict is difficult to capture in one satisfying definition (Rahim 2001; Schmidt and Kochan 1972; Thomas 1992). In the following lines, sensitized by our fieldwork and the close connection we found

[1] This acronym stands for: "**Vo**lunteer **C**ommun**i**ty". For the sake of safety and privacy of our informants, the real names of the community, its members and its groups, as well as some gender identities have been anonymized throughout the article. Colleagues who would like to refer to this study and need additional information about this aspect are invited to contact us.

[2] The study of conflict is vast and distributed across multiple disciplines. As a brief historical backdrop from sociology, see Mayo (1933) and Parsons (1949) for a perspective that considers conflict as disruptive to social order; Coser (1956) and Ritzer (1975) for a view on conflict as a core element of social life; and Dahrendorf (1958) and Deutsch (1969) for a third perspective that attempts to reconcile the previous two.

[3] These works are inspired by sociology and STS's attention to negotiation, disagreement, material circumstances and power differences of various actors involved in the making of technology.

between every day collaboration and conflict, we adopt a view of conflict as strongly connected to collaboration between parties.[4] We characterize conflict by the actions carried out of an actor's own will against the resistance of other(s) (M. Weber 1978, 38), and with the awareness of parties involved of discrepancies, incompatible wishes, or irreconcilable desires (Boulding 1962). This fairly broad definition acts as a signpost pointing toward specific elements in the data we collected: antagonist parties, their interactions, and their interpretations and discourse around these actions. Furthermore, although we do not normatively view conflict as a sign of instability or dysfunction – disagreement can be a useful resource for collaboration (Deutsch 1969; Dahrendorf 1958)– the case of VOCI that we demonstrate below concerns clearly a situation where community members went through considerable hardship.[5]

We will here discuss a case study from our fieldwork with VOCI members between 2012 and 2014. At that time, we witnessed a major conflict which revolved around issues of representation and management in the community. This situation spun a controversy about the digital environment that the community occupied, and how the ownership of digital platforms should be configured. We describe and analyze the way members of VOCI organized themselves online, how they disagreed and clashed, and how we engaged in these activities with regard to ICT design. In doing so, we deliberate on possible implications for the future design of online environments. Specifically, we aim to contribute to the study of controversies and conflict in digital places. We argue that designing technology with people of possibly diverging interests (i.e. sometimes involved in conflict) helps in probing and interpreting those interests, and thus achieve insight into the making of community as well as of technology. To ground our argument empirically, we describe in detail the context of the case, then the controversy, and finally our engagement through a design conversation.

II. VOCI

Collaborative community building in Damascus

With the spread of the Internet and the increasing use of digital media in the 2000s, various groups in Syria have found in them the means to self-organize in ways that were not available before. Notably, in the recent events that began in 2011, Syria witnessed a rise in the number of informal groups and formal organizations, with mandates covering a wide spectrum, from humanitarian relief, through education, political activism, media and journalism, to militarization (Anbar 2012; Bosman 2012). The launch of VOCI by a group of students in Damascus took place amidst such trends.

Our choice to focus on the activities of VOCI strongly relates to Ammar Halabi, the first author of this paper who is Syrian and speaks Arabic. Ammar lived most of his life in northern Syria, in the

[4] This is in line with Dahrendorf's view on conflict. An overarching theme in his work is that both conflict and consensus must be taken together in understanding social interaction (Dahrendorf 1958).

[5] Many make the case that even when conflict is perceived as beneficial to group performance, the experiences of people involved in it are often unpleasant, stressful, and painful (e.g., see the edited volume by Kolb and Bartunek 1992).

city of Aleppo, and he shares a relatively common background with the members of VOCI. When this research work started in 2011, as a team we were interested in doing something relevant and meaningful to the situation in Syria in a period of turmoil, and exploring the design of digital tools to support collaboration and community building appeared to us of paramount importance.[6] While we didn't plan doing research specifically on the uprising and war, we expected that the events in the region would render various interactions and interests more visible.[7]

In the autumn of 2011, after learning of VOCI's activities online via Facebook, Ammar contacted its moderators and later met with them in Damascus. In those early days, as the community was being initiated, the moderators recognized several common interests and possibilities for collaboration, and Ammar was invited to join the discussions. Ammar progressively became an active member by participating in group activities, as well as by sharing reflections on present challenges and future opportunities. Since the focus of this research was on the use of digital tools, but also because it was difficult to travel to Syria for security reasons, most of the observations were conducted online.[8]

The approach to ethnography that we rely on for this study is inspired by Collins' notion of *participant comprehension*, where "one interacts with one's respondents as much as possible with a view to internalizing their world as much as one is able to" (Collins 2010, 771). Although the fieldwork was challenging because of the ongoing situation in Syria, the personal connection of Ammar with community members was very helpful in interpreting what the members were going through. He shared with several members their interest in the role of digital tools to support collaboration and community building. Furthermore, as part of our research approach, he participated often in ways that were integrated with the research work (Ammar has *contributory expertise*, in the terms of Collins and Evans, 2002). As such, conducting observations involved continuous contact on a daily basis, mostly in Arabic, while participating in community activities through e-mail, Facebook groups, personal messaging, collaborative documents, and online chat (mostly text, but sometimes voice- and video-based).[9]

Around the time that we started to get in touch with its members, VOCI had been forming gradually since early 2011. Founders and active members had been expressing in various forms that they were engaged in "collaborative community building" (بناء المجتمعات التعاونية), a phrase which

[6] See the reports of the Syrian Center for Policy Research on the effects of war on Syrian communities (2015, 2014).
[7] In a similar way with the systematic study of controversies, a common trick in STS where researchers pay attention to unexpected or unusual events in order to analyze social events. For instance, a car accident gives precious data about the driver, the car, and the interaction between the two that would have remained invisible without this unfortunate event (Callon 1980, 1987; Star 1999).
[8] One can certainly argue that being with the community in Damascus would have yielded more nuanced data. At the same time, since some other members of VOCI were also dispersed within Syria or abroad, added to the fact that the community had much online activity, the situation forced Ammar and others to articulate their work through online media with the advantage of being able to archive much of the interactions among members. If Ammar had been present on-ground then his work would be qualitatively different, but we are not sure if it would be more suitable regarding the design objectives of this research, since our focus is precisely on online activity.
[9] This article is mainly based on Ammar Halabi's PhD thesis. For more details about the fieldwork, see Halabi (2016, chapters 3 and 4).

eventually became a signpost for most of their activities.10 VOCI founders started by holding peer-to-peer presentations on topics related to various subjects: collaborative hardware making; 3D printing and the democratization of manufacturing; modern medical practice through social networking (e.g., Figure 1); collaborative and social programming using GitHub; and so forth. Through the course of the first two years, these weekly presentations became their signature event.

Figure 1. A VOCI meeting on open medical research. In this meeting, the presenter introduced the discussion using a TED video of Jay Brander on open-source cancer research (Bradner 2011). Photo courtesy of VOCI (March 2012), anonymized by researcher.

These times were charged with anticipation in Syria, especially among the youth. Although we do not elaborate much on these aspects in this paper, the escalating violence and the humanitarian crisis in their country had a heavy toll on the activities and motivations of VOCI members.[11] Several individuals whose activities we describe below often expressed how much their efforts in the community were meaningful and valuable to them, as a way of taking matters into their own hands in face of the surrounding turmoil. In short, VOCI was a collective initiative exploring collaborative practices and technologies: collaboration was both a means and an end. By mid-2012, the community had grown to involve around 15 moderators overlooking various sub-groups, more

[10] "Impact" (تأثير), "progress" (تقدم), and "development" (تنمية) in particular were terms that members used often to describe their ambitions in their collaborative projects.

[11] For additional details, see Halabi (2016, chap. 2 and 5).

than a hundred active and members attending on-ground events, and around 5,000 members online on the Facebook groups.

a) Excerpt from a wiki article in Arabic titled "Dental Implants", written by the "VOCI Medicine" group. November 2011.

b) A discussion on the Facebook page of the "VOCI Hardware" group. The discussion concerns the "first open free and open-source book in Arabic about the Arduino microcontroller". May 2012.

c) An event page by VOCI members announcing a presentation in November 2012 on "Open Manufacturing". Members exchanged comments on the place and time of the event. The presentation was held in Damascus. November 2012.

d) An event page by VOCI members for an online workshop on electronics and Arduino. This page itself was used as the site of the event where mentors exchanged instructions and conducted experiments. November 2012.

Figure 2. Screenshots of various uses of online platforms by VOCI members

From the beginning, while the main activities took place on-ground, VOCI members used Facebook extensively to discuss ideas and news, announce events, conduct online workshops, and attract new members (see Figure 2 for a brief set of examples). In parallel, VOCI relied on several online platforms that were administered by its founders and moderators: wiki sites dedicated to exploring concepts around collaboration and open-source cultures, blogs to post about latest activities,

Twitter accounts, and a YouTube channel to post videos recordings of events. Within this arrangement, Facebook was a central node: members reported there on the latest updates happening on the wikis and the blogs, announced upcoming events, reflected on past activities, and brainstormed what to come next. To capture some of the sense of locality in space, in the remaining of the paper we will use the term "digital place" as an umbrella term to refer to the various kinds of online platforms that VOCI members were using to coordinate their activities.

Based in the Department of Informatics at the University of Fribourg (Switzerland), Ammar spent months participating in the organization of VOCI's online events, contributing to the discussions around past experiences and future possibilities, and assisting in moderating some of its groups. Since moderators were also engaged in observing their own interactions, reflecting on them, and negotiating future activities, Ammar often found himself immersed with other members in reflecting on the current status of VOCI and in conjuring up images and plans about its future.

VOCI members constantly navigated a space of ideas and possibilities as resources where limited in terms of time, place or equipment (as one would expect anywhere). Members often had their different preferences, visions and interests that needed to be balanced. As they brainstormed and planned activities, their discussions where ripe with tensions that ranged between simple fleeting moments of friction (e.g., a member posing a different opinion: "We need to hold the talk in the evening because everyone that week will busy during the day."), to more sensitive and lasting incidents (e.g., confrontations questioning the right to do something or control a resource: "I am going to quit moderating this group as it seems my attempts are futile when other moderators keep drawing the attention of members to issues we have not agreed on."). Sensitized by such observations from VOCI, as well as from other local communities and voluntary groups where this kind of interaction is frequent, one becomes rather skeptical about frameworks that describe grassroots movements, online community building, or digital engagement (or indeed, any social aggregation or organization) as harmonious endeavors emerging solely from a united will for a greater good or a will to belong. While we recognize such motives and interests, they need to be considered within, not above, a variety of interests, preferences, and conditions that clash as often as they harmonize.

Our conceptual base here aligns with Actor Network Theory (ANT) (Callon and Latour 1981; Akrich, Callon, and Latour 2006), an approach in science and technology studies that seeks taking into account at a same level all sorts of entities involved in a given situation (humans, but also non-humans, including machines). We examine how these entities align and aggregate to organize their relationships, and also how they come to clash and oppose each other. We consider conflict neither as exceptional nor as necessarily bad: it is everywhere, and it is always present as a potential that cuts through most of everyday interactions. We believe that this return to the basic building blocks (i.e. to actors and their relationships of alignment and misalignment) is needed to achieve a

balanced perspective that accounts for diverse interests and motives, and for understanding the dynamics of conflict that otherwise might get bracketed aside.[12]

We now turn to an episode of conflict in VOCI's life, which, contrary to everyday fleeting moments of disaccord, evolved into a prolonged open struggle around authorship and control. As we will see, this major disagreement between three of its moderators and founders eventually questioned the very existence of VOCI.

Conflict in VOCI

In late 2012, as VOCI was promoting ideas on collaboration and open-source initiatives, several core members became increasingly interested in moving from what they called "spreading knowledge" (نشر المعرفة) to "practical application" (التطبيق العملي). To achieve this, they worked on a plan for establishing a permanent space with the necessary equipment and organization to support various group activities, such as developing software, building hardware, or writing content.

In the early morning of 22 November, as discussions around establishing a permanent space were ongoing, something unusual happened: moderators suddenly declared on the main Facebook page that they were officially grouping into a new "Management Team".[13] The main reason, they explained, was to represent the community in its move to establish a community hackerspace.[14] Strikingly, as people quickly realized, this new Management Team did not include a core founding member. Salem, as we will call him in this paper, had been at the forefront since VOCI had been established. He was well-known among members, and people were used to seeing him personally as well as online in most of VOCI's activities. His absence was rather unusual, and indeed, within hours of this announcement, Salem started a series of public posts on his Facebook profile saying that he was neither involved nor aware of this decision (see Figure 3). While several core members –including Ammar– were aware or might have noticed signs of the problem unfolding in the days before, for most VOCI members this came as a complete surprise.

[12] This view of conflict as a present potential in the details of everyday life is shared with some studies of conflict focused on the ethnography of mundane interactions (see Kolb and Bartunek 1992; Mikkelsen 2012).

[13] The moderators labeled the new grouping as VOCI's "management and coordination team" (فريق إدارة وتنسيق).

[14] VOCI members had been discussing the ideas of Hackerspaces, Makerspaces and Fablabs since the early days of the community. These notions were part of the repertoire of concepts related to open-source / open-access movements that they presented in their talks, documented on their wikis and discussed on Facebook. They were interested in the similarities and differences between these forms of organization, especially with regard to what infrastructure they needed and what activities they could support. The VOCI Hackerspace would not see light until the beginning of 2013. It was gradually shaped according to the resources available and the interests of members, most of them being undergraduate students with high aspirations about their future and that of Syria. It was initially envisioned to be a temporary space (one day per week), divided into timeslots for planned workshops, as well as open hours that could be reserved by members to work on group projects of their choice. This was meant to be a test-phase to move later towards a more permanent space.

Figure 2. An excerpt of Salem's comments on his personal Facebook wall regarding the announcement of the new Management Team. November 2012, translated from Arabic.[15]

[15] Since the post was public, it is retrievable with search engines using excerpts from its content. To protect the anonymity of VOCI members, we provide a translated English version directly in the screenshot (which we edited for this purpose). For Arabic speakers interested in nuances of the original text and the use of specific colloquial vocabulary, the key terms used within the text were the following: تم حظري "I was blocked"; صلاحيات "privileges"; انا كنت مفوض "I delegated"; مضغوط عليهم "under pressure"; ديروا بالكم "beware"; هناك خرق "there is a breach"; تعابيره متجهمة "looks gloomy"; مو اخلاقه "this is not his attitude"; لك هي خيانة "this is a betrayal"; ما في شي كنت حاظره عليه او على المجموعة "I have not denied him or the group anything".

Right from the start, what would be known later as an open conflict[16] between core members of VOCI took the form of a technical issue. As one can guess in reading Salem's comments in Figure 3, VOCI moderators had previously shared passwords to the assets they managed online. They also shared administrative privileges over community's Facebook groups (most of which had been launched by core founders). Within these arrangements, Salem had an administrator status in many of the digital spaces of VOCI before the new announcement by the Management Team. He soon realized that other moderators had actually revoked his admin privileges, and blocked his accesses to every digital place inhabited by VOCI members. On Facebook, for instance, Salem had lost his privileges to moderate discussions in the groups, and he wasn't even able to view them anymore.[17]

Before his expulsion, Salem had gained a strong voice in the community. Members and moderators had always showed consideration and respect towards him. His reputation was grounded in his history as one of VOCI's core founders, and in his status as an admin in several online groups. As he had been living in Europe since late 2011, his primary means to participate in VOCI's activities was mostly online. In other words, blocking Salem digitally was not a small issue, and neither he nor many other members stood still in face of the measures against him. Within a matter of a single day, Salem started calling out: he demanded from those who he could reach publicly through his Facebook wall to raise their voice and to question why he was banished. He also established an advocacy Facebook group to campaign for his rights to access and moderate the groups, to which he invited around 150 VOCI members.

As the word spread, the Management Team received an increasing volume of queries and complaints. The next day, the Team made a long public post on VOCI's official Facebook page to comment on their decisions. Among other things, they accused Salem of organizing events abroad under the name of VOCI without properly consulting with members in Damascus or properly acknowledging their efforts. They also argued that Salem stood against their vision to establish a local hackerspace or to institutionalize VOCI as an NGO, and that he did not duly contribute to the daily chores involved. In their conclusion, they offered Salem a chance to return to VOCI, but not as a moderator: he would have to act as a regular member, devoid of managerial status or admin roles. Moreover, this would be possible only after he acknowledged his mistakes towards the community. Unsurprisingly, for those familiar with his strong personality, Salem refuted their claims, refused the terms they stated, and denied their authority.[18]

[16] VOCI members we observed referred to the event using various labels, including "conflict" (نزاع), "disagreement" (خلاف), "struggle" (صراع), and "crisis" (أزمة).

[17] At the time of observation, admins of any Facebook group (including the group founder) had equal rights, including the ability to block each other. This meant that it was possible to block Salem even on Facebook groups that he had himself founded. Facebook redesigned this functionality in September 2013 to make group founders unblock-able by other admins (however, admins could still block each other or be blocked by the founder).

[18] As the reader can imagine, the conflict was very emotionally charged, and several members, including Ammar, attempted to mediate between the parties. For a fuller account on this, see (Halabi 2016, chap. 6).

To reflect conceptually on this major disagreement within VOCI, a first aspect we want to emphasize here is the connection between issues of conflict and issues of community governance. While there were palpable emotions, especially the frustration of some moderators who perceived Salem as having too much control over the community, there were also underlying differences in how various parties wished to see the future of the community. On the one hand, Salem preferred waiting two years before organizing VOCI as a for-profit organization. On the other hand, several moderators saw the hackerspace and organizing VOCI as an NGO as an urgent matter. The difficulty faced by the group of moderators to resolve this issue contributed to a struggle to take over control in attempt to enforce a certain version of VOCI.

Only a few studies exist on conflict and the use of ICTs in local communities, but there are interesting echoes of similar governance crises. For instance, both Goodwin (2008) and DiSalvo (2011) highlight the potential tensions coming from diverse interests, conditions, preferences, and power differences in local communities, leading to conflict around control and authority. Smith's (1999) study of a virtual online community also notes that power asymmetry between regular members and moderators was an underlying cause for disagreement, which resulted in an escalating debate about the use of power online.

We can also find a strong link between conflict and governance in studies of open source software (OSS) and of Wikipedia. OSS projects manage to regulate and institutionalize conflict with certain governance structures and practices, by following certain protocols for conflict resolution (discussion, voting), or by resorting to the authority of moderators and project leaders to arbitrate when discussion becomes difficult. In fact, the roots of conflict are often considered to be within practices of authority that the community finds inappropriate (e.g., non-consensual decisions), and within debate over who has authority to decide in cases of disagreement (see Jensen and Scacchi 2005; van Wendel de Joode 2004a, 2004b; S. Weber 2000).

A number of studies on Wikipedia specifically question the role of policies which remain under active interpretation, and how power plays come into the picture during the enforcement of those policies in order to resolve conflict. Two main aspects emerge here regarding conflict in digital places. First, as online community members are faced with the increasing challenges of coordination, including situations of conflict, they seem to develop certain policies and rules of operation, as well as mechanisms to enforce them (Kittur et al. 2007; Kriplean et al. 2007). Second, authority and power often play an important role in dealing with disagreements and in the interpretation and enactment of such policies (e.g., through the intervention of highly ranked and respected mediators) (Kriplean et al. 2007; Matei and Dobrescu 2010).[19]

[19] We believe that the explicit link between conflict and governance might be a common observation when studying self-governing communities in digital places. In addition to the mentioned studies of OSS and Wikipedia, Ammar witnessed a disagreement between members of an undergraduate university forum in a major Syrian university. Some members demanded to be involved in the management of the forum, but their request was rejected by the admins. Later, these members ended up creating their own forum, and the community split between the two in way similar to the situation of VOCI which we describe in this paper.

Such explicit formalization of policies was not particularly apparent in VOCI, as members took pride in adopting fluid and informal forms of collaboration, but a closer look at the ethnographic data indicates that certain patterns were established in the way of doing things: there were ad-hoc documents and project plans serving as exemplars for subsequent projects, and there were moderators with certain privileges who managed the community's digital places. The escalation of the conflict can be explained by an inability to contain it within a regime of policies guaranteed by an authority. Indeed, the very fact that the conflict happened among the founders, high up in the community hierarchy, made it difficult to find someone with enough leverage to bring the parties to a discussion table.

Having established a link between conflict and governance, we now return to the main narrative to comment on the role of digital places in situations of disagreement between members of an online community. About a week after Salem's suspension, VOCI witnessed yet another turn in events: Salem suddenly regained control over the community's Web hosting and domain name accounts! As he was the official registrant and owner of these assets, he had managed to reclaim access by contacting customer support.[20] This shift in control stirred further controversy. From the point of view of the Management Team, the sites belonged to VOCI. They argued that they were the ones who were actually present on ground in Damascus, and who contributed the most in terms of time and effort. Therefore, they claimed, they had right to represent the community and demanded the sites to be handed back to them. Salem, however claimed to be the legitimate steward of these assets. In his view, he was the original and main founder and was putting no less effort in supporting the community. He presented himself as safeguarding the community's true spirit and message of openness, and even more so after the Management Team's action against him, which he considered dishonest, deceitful and immature.

The Management Team faced a dilemma: since they had a backup of all digital content, they could easily create a new set of mirror Web sites that they would control. However, the domain names (e.g., voci.org) were unique and valuable. Considerable time had been invested in promoting their reputation, both online and during on-ground events.[21] Duplicating the Web sites also worried the moderators, since this would result in two divergent sets of online spaces speaking in the name of the same community. It would provide different visions and claims of authority, and render the fragmentation and turmoil even more visible to the outside world. Eventually, the splitting in digital space and in discourse took place. The Management Team ended up purchasing a new domain name, and they deployed the backups they had on a new server. In a similar move, as we have seen earlier, Salem had created a number of new Facebook groups under the name of VOCI.

[20] At that time, there were several domain names and websites associated with VOCI and its different initiatives, all of which were owned by Salem who had a credit card and thus was able to complete the online transactions required for purchase and registration.

[21] In May 2015, when searching for "VOCI" on Google, the link to the old domain name appeared second (although activity on it ceased since early 2012), while the new main domain name (the equivalent using the pseudonym would be "vocis.org") came in the fifth place.

There is far more to discuss about the conflict in VOCI, the roles and positions of various members, the difficulties they went through, and the initiatives they made to resolve the issue. But in order to move to our analysis of the main ideas about conflict in digital places, we close the description of our ethnographic data here.[22] To conclude the story, we note that while Salem managed to regain control over the original Web sites and created a new set of Facebook groups, the Management Team kept him blocked and attempted to resume activities in Damascus after copying and developing the old Web site content on a new server accessible via new domain names (URLs). The commotion gradually cooled down towards the end of 2013 where the topic became rarely mentioned among the parties involved, albeit being revived occasionally through Salem's wall posts made "in memory" of the actions taken against him in November 2012.

We see in this case that Salem was *physically* suspended from VOCI's servers and Facebook groups, and in his campaign to regain his privileges, he frequently demanded that access to the groups and his original admin privileges be returned to him. In other words, the conflict in over control and governance in VOCI boiled down, at the technical level, to a conflict over accessing and controlling digital tools. Similar dynamics (albeit not explicitly discussed) can be seen, for example, in Goodwin's (2008) study of conflict in the Mosley Egroup, where disagreement over governance in the group led to debate about controlling the digital platform. Eventually a subgroup in the Egroup branched off to establish an independent online group with different rules of conduct. Another example is Smith's (1999) field-study on conflict among members of an online multi-user dungeon (MUD), where members used the features offered by the platform to express their dissent. Some members wrote malicious scripts to destroy the digital objects created by other members, and others chose to sound their voices in group chat to demand freedom of speech and fair governance when they disagreed with moderators. Moderators also used their access privileges to control content on the platform and to block users whose behavior was considered unacceptable, and eventually, several members left the MUD and created their own spin-off MUDs, seeking different norms of interaction, implementing differing rules of conduct, and taking control of their own digital spaces.

One lesson we learn from the conflict in VOCI is that while individuals involved in such disputes over control see their problems as stemming disagreements with other people or their standpoints, they are often simultaneously concerned with control of access (as exemplified in Salem's comments in Figure 3). People recognize their struggle as related to controlling the infrastructure, especially the physical means to enable them to speak and act. In a context where digital tools are main keys to access a voluntary community, conflict over authority and legitimacy translates materially to conflict over controlling and using those tools.

We will now use the observations above as a point of departure for discussing the design of digital ownership and its consequences. As designers, witnessing VOCI's difficult situation, we were interested in crafting viable alternatives for controlling digital access. In science and technology studies' terminology, our aim is to adjust the *script* (Akrich 1992) embedded in the digital structure

[22] For a fuller account, see Halabi (2016, chap. 4 and 5)

pertaining to how digital governance can or cannot be organized. Originally, our design plan was to discuss these issues with core members of VOCI to confront our analysis and design ideas. We now turn to the next episode where we discuss this design engagement.

III. Designing a disagreement tool

The conflict in VOCI had given rise to a controversy among members with distinct positions on various issues: Who has the right to participate in governing VOCI? Should matters of moderation and governance be discussed internally or publicly? And how to manage the rights to access online spaces and distribute them among members? The answers to these questions have concrete implications in terms of how ownership and control of online spaces are to be configured. To approach these questions, we chose to engage in a design activity with VOCI members, with the goal of producing alternative management tools for communities using online media. As we will argue later, we believe that a design engagement has a specific analytical and performative value, because it not only produces a different perspective on the issues at stake, but it also helps motivate the parties involved toward a discussion based on their real experiences. Besides, design engagement is a way to reflect on past events, and to provide alternatives of a future which in turn can inform the design of new tools for conflict.

In a nutshell, we started by prototyping an online social platform that we named *Modus*. The main purpose of Modus is to allow a group of individuals such as moderators in VOCI to share the ownership of digital platforms and services, while minimizing the possibility of excluding moderators against their will. Here is a brief, imaginary scenario to illustrate Modus from a user's perspective.

> Sarab is a volunteer who initiates a small project to collect and distribute medical aid in Aleppo. To reach out to potential donors and benefactors, she starts a Facebook group page with the help of Wisam and Sami, and begins posting about recent demands and availability of aid. She also sets up a blog at the domain name "aleppoaid.org" to introduce the project publicly. To help moderate these accounts, Sarab navigates to http://modus.org where she creates a new account. Within Modus, she creates a new group titled "AleppoAid", and invites Wisam and Sami to join. In the meantime, she registers the Facebook page and the blog on Modus as shared digital assets. Once Wisam and Sami join, they automatically become equal owners of these assets. Any change in Modus around the status of the group or the shared platforms (e.g., inviting a new member, revoking sharing rights of an asset, or registering a new one) needs to be agreed upon by existing members.

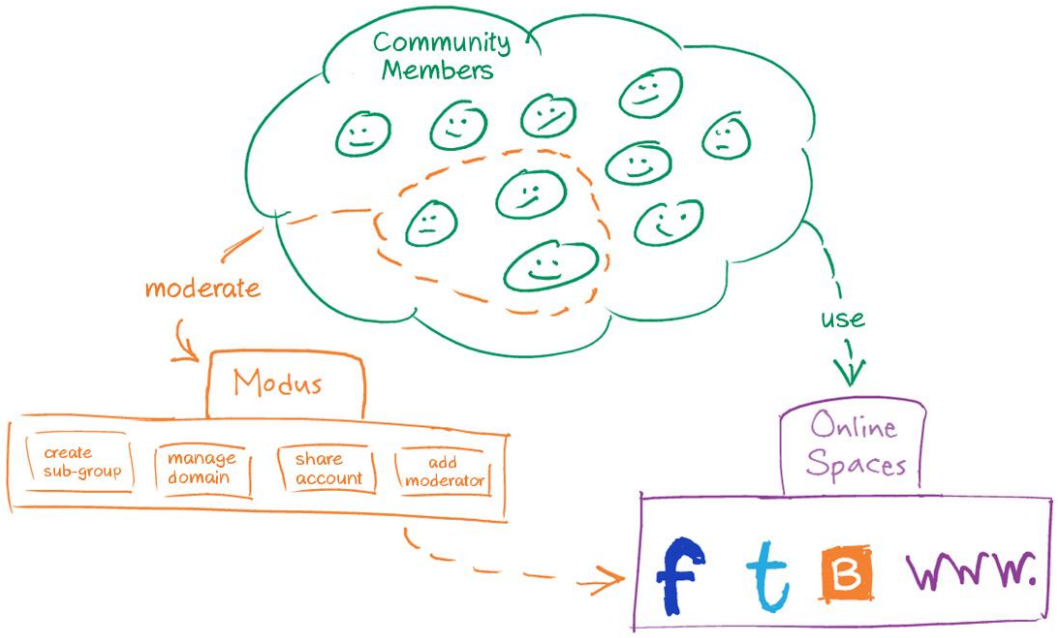

Figure 3. Modus as used by moderators to manage shared online spaces. The actions indicated inside the orange box representing Modus are regulated by a collective decision-making process that involves voting and deliberation (Halabi 2016, chap. 8).

An important factor in the conflict within VOCI, and in various groups inhabiting digital places which we discussed earlier, is the possibility of a member excluding another member. In short, the core design of Modus is intended to affect the exclusion process by making it more complex. An exclusion becomes subject to checks and balances, and therefore encourages members to consider alternatives. Given that VOCI moderators had their major episode of conflict recently, we expected that they would have a lot to say about such design concept. To initiate the discussion, we created a non-interactive prototype of Modus and used it as reference point. The prototype consisted of a set of screenshots arranged sequentially in a PDF to illustrate the interaction of two hypothetical collaborators creating a group on Modus, sharing domain names and social media accounts, and then forking (splitting) the group.[23] We shared this initial version along with a survey with six VOCI members, including the three founders (among whom the core conflict occurred), two other moderators, and an occasional contributor. This motivated a set of responses, which we continued to discuss in an open-ended fashion over e-mail and online chat. These discussions yielded a space of possible positions around the matter of conflict, control and ownership in digital places.

As a participant, Ammar also contributed to these exchanges. He acted as a researcher interested in analyzing and consolidating various positions (including the one we developed being analysts), making our approach an *engaged* method. While our design position geared towards action (on

[23] A documentation of this early non-interactive prototype (which is commonly referred to as "paper prototype" or "wireframes" in design practice) can be found in Halabi (2016, appendix D).

participatory action research, see Montero 2000; Sabiescu 2010), our goal here was also to seek a degree of reflexivity, which we include an account of our participation in the conversation.[24]

The various aspects and settings of Modus are too many to be discussed in their entirety in this article. To illustrate our argument, we select two core features relative to the controversy in VOCI: shared ownership, and group splitting. We connect these two features with a discussion around participation and privacy in governing communities and their digital places. Sensitized by conflict and controversy, we highlight the tensions between varying stances among those involved in imagining an alternative infrastructure for ownership (for a detailed discussion of all issues and features, see Halabi 2016, chap. 5, 6 and 8).

Shared ownership

With the initial prototype of Modus, we coined a single possible user role: a group member. Specifically, once a member is accepted in a sharing group by other members, this person cannot be excluded against his or her will. This design renders the actions of both parties in the case of VOCI difficult to replicate: the new Management Team would not be able to exclude Salem, and Salem would not be able to make decisions about the domain names without consulting with the rest of the moderators.

This choice for equal membership based on peer-invitation also engages with a core discussion about governance in VOCI: whether to choose a "direct-democratic" form of ownership and control where every member in the community has equal rights, or a selective form of governance where only certain members are moderators. The tension between these positions had already prevailed within our research team before converging on the initial prototype. Michèle Courant for instance, having experience in working with local neighborhood communities in Switzerland, leant towards forms of governance that are open for all to participate. Other researchers in our team argued for leaving this question to be resolved by community members themselves, focusing instead on means to lessen the potential for digital exclusion in case of dispute.

As we carried these concerns to our discussion with the participants using the prototype, founders and moderators also had their differences. For instance, Salem strongly criticized the existing form of central management, and argued for forms of ownership that would be "decentralized" (لامركزية), "available to all" (متاحة للجميع), and "transparent" (شفافة). He argued that associating the public image of VOCI with certain members, and assigning management tasks exclusively to them, was against the pluralistic principles of collaboration on which VOCI was based. To him, concentrating such power in the hands of a few was a recipe for corruption and hegemony. The moderators in the Management Team, on the other hand, preferred a form of management that would start from a

[24] Borrowing from established reflexive practices, especially in critical and interpretive frameworks in sociology and anthropology (e.g., ethnography, participant observation, feminist and postcolonial studies, among others), various design approaches have argued for problematizing the position of the researcher/designer in the field (e.g., Dourish 2006; Dimond 2012; Bardzell and Bardzell 2013; Irani et al. 2010). This is a sensible consequence of HCI and Design research upon having to move from the research lab out to the field, where participation in the phenomenon of interest begs discussing the role of research activity itself as an element that has to be examined.

central core, where existing moderators would make the choice for inviting new ones. Going beyond the discussion around the prototype, the moderators explained that while the issue raised by Salem constituted a plausible rhetoric, it did not correspond to reality, and especially when it came to moderating the community. They argued that not everybody in the community was equally committed, equally interested, or equally qualified for taking on the chores of moderation. They saw a risk of diluting meaningful decision-making activities if these were to be completely opened. They further posed that they themselves were qualified to be moderators, as they did most of the work and due to their long experience with the community.

The dilemma of authority, and the tension around who has the power to control, is present in studies of groups in digital places mentioned earlier (Goodwin 2008; Smith 1999), and it can also easily be observed in studies of OSS projects and in Wikipedia (e.g., S. Weber 2000; Kriplean et al. 2007). In fact, this issue is so generic and ubiquitous in situations of conflict, that it is difficult not to see it even when it is not discussed explicitly. Struggles around issues of control and power among group members are a component of most conflicts: fights to control land between ethnic groups; struggles between a union and an employer to determine working conditions; adolescence and growing independent from the nuclear family; or competition between political factions. Indeed, one can argue that entire scholarly traditions in the social sciences trace struggles as a way to analyze human society (e.g., feminism; post-colonial studies; controversy studies in STS; cultural studies; political science). In this sense, our choice to establish equal membership among moderators is an attempt to level the field of control, at least when it comes to controlling basic vital resources for the group: the keys to digital places.

This divergence between VOCI's moderators around the ideal form of governance pushed us to reconsider our original design idea. We re-reflected on Ammar's observations and experimentation with moderation in VOCI. We came to view that trust and personal relationships were vital in building strong ties among moderators, and a central form of control seemed meaningful to us in such context.[25] At the same time, building on our understanding of conflict in VOCI, we saw a necessity to flatten out differences in access and privilege *within* the governing circle in order to reduce the possibility of excluding other moderators in case of a dispute. Furthermore, we agreed with Salem's critique around the possibility of hegemony, but we felt that once ownership among core moderators was shared, hegemony over other members could be mitigated. In voluntary initiatives for instance, community members can choose to become less engaged or exit and establish their own groups, which is commonly known as "voting with one's feet" –a powerful resistance mechanism in OSS projects and in business practices (van Wendel de Joode 2004a, 2004b).

As we further modified the design concept, we maintained our interest to find a working combination that could be seen as fair by the different parties. We generally approached the

[25] We have witnessed the importance of moderators in various encounters with local voluntary groups, both through discussions with members or with researchers observing them. Recently, Renken and Heeks (2013, 2014) have attempted to conceptualize "project champions" in ICT4D and IS, here understood as key individuals for the success of ICT initiatives.

dilemma of power and control by merging the various concerns that we have encountered to some extent. In this regard, the current design of Modus is targeted at equalizing digital ownership among moderators and at reducing the possibility of digital exclusion, but it also leaves open the question of central versus distributed governance for community members to decide.

Splitting a share group

Another core feature we coined in Modus was splitting. The design of the platform allows members to create a subgroup and to obtain partial access rights to shared digital assets. Here, our concern was to account for difficult cases of conflict: even though members cannot exclude others, every member can choose to leave the group at any time by creating a new subgroup. This way, one has the right to form an independent subgroup and still maintain the right to using the name of the community, something that was impossible in the case of VOCI. In such a situation, Modus gives the new subgroup the right to own a subdomain name of the domain names owned by the mother group. For example, in the imaginary scenario above, if Sami chooses to split AleppoAid, the new subgroup can be named "Sami.AleppoAid", and Sami would consequently own the subdomain name http://sami.aleppoaid.org.

When we discussed this feature with VOCI members, splitting also became subject to diverging opinions. One moderator in the Management Team considered it a viable option, but another was concerned with its possible abuse. He argued that it could lead to uncontrolled splintering, and he believed that the right to split the community name should be strictly regulated instead of being available to individual moderators. Salem on the other hand, following a rationale similar to his position on distributed governance, argued that anybody in the community should be able to start an initiative without consultation with others, and everybody should have the right to split.

The issue of resolving conflict around ambiguous communal ownership connects with the well-known mechanism of “forking” in open source software (OSS). In short, “forking” allows branching a software project by copying its code, and can therefore constitute a core exit option to deal with situations of major disagreement between project members (Raymond 1999, 1998). This option does not render a situation conflict-free when taken, as the parties involved maintain their differences around the course of the project, but it does contribute to making digital assets more divisible. It provides a viable option for conflicting parties to establish independent jurisdictions over different lines of code that have a common origin. Juxtaposed with VOCI’s experience, where the community ended up managing two different sets of Web sites, forking makes it possible for any member registered within Modus to split the group. It therefore puts responsibility on moderators to maintain consensus to prevent a disintegration of their community.

While we initially connected the issue of splitting to issues of ownership and control, it is interesting to note that members of VOCI involved in the conflict also related it to privacy and public image. This concern with preserving community integrity through discretion was especially controversial during high peaks of the conflict, as the Management Team offered to talk to Salem only privately in order to keep the issue contained. For Salem, that was unacceptable, and he did not wait long to establish public spaces under the name of VOCI to campaign for his cause. In other

words, the splitting of VOCI, incarnated in the constellation of new parallel-spaces, claiming different rules of operation and constructing a different identity while discrediting the established one, was a public physical and rhetorical manifestation of the conflict between Salem and the Management Team. It was a public performance – clear and audacious.

Members of the Management Team expressed mixed opinions regarding the privacy of governance in Modus. While they maintained that closed-door management discussions are important to get things done and to preserve the intimacy of sensitive matters, one moderator pointed out that they should also be made available for public scrutiny. Salem, on the other hand, argued that all discussions related to managing public activity should be public. For these reasons, with the next iterations of Modus, we suggested that while nothing initially forces moderators to make their discussions public, splitting a group would allow dissenting parties to render the disagreement publicly visible (for similar reasoning about the effects of forking in OSS projects, see van Wendel de Joode 2004a, 2004b).

IV. Engaging with conflict through design

In this study, as we navigated through issues of ownership and control, we found ourselves wondering about the current infrastructure of the Internet. Clearly, parts of the general design do not facilitate implementing solutions for shared ownership. For instance, to build a system for shared domain name ownership is not a trivial matter: the current domain name system (DNS) that maps names (URLs) to Web sites allows a given domain name to be assigned to a single owner (a natural person or a legal entity, see Lipton 2010, 305). Under this scheme, a local voluntary group needs to establish their own legal entity (such as a civic association) with internal bylaws crafted to guarantee common ownership. Such procedure is hardly realistic, since local collaborative communities often start as small grassroots collectives that cherish informality in their organization and governance. This kind of difficulty becomes even bigger when the freedom of association and self-organization is crippled as in VOCI's case, where establishing the collective occurred in Syria during a period of crisis. In other words, digital tools, and the way they support certain forms of ownership and control, have significant consequences on how conflict among their users can (or cannot) be managed. For these reasons, we suggest "opening the black-box" to rethink the very mechanisms of communal ownership on the Internet.[26] In order to give flesh to this argument, and as a reflective exercise on the key obstacles in VOCI's conflict, we discussed a possible workaround: the delegation of ownership to a platform that we entitled Modus.

One way to understand how black-boxed aspects about technology were conceived and framed is to tinker with them, by imagining and implementing alternatives. In this sense, to design is to engage in understanding conflict situations on digital platforms. As discussed by scholars in science and technology studies (STS), the making of a new technology always involves struggles and negotiations between various parties with various interests (e.g., Bijker, Hughes, and Pinch 1987;

[26] Our use of the expression "opening the black-box" here comes from science and technology studies, where it refers to a close examination of established socio-technical relations (Latour 1987).

Bijker 1995). When making certain actions more time-efficient and opening new possibilities, design choices empower certain parties, often at the expense of others (Winner 1980; Akrich 1992; Woolgar 1991; Zimmermann 2015, 2005). Attending to this dynamic, HCI and design literature also recently turned to problematizing the roles of designers (e.g., Vines et al. 2013), and processes of negotiation and alignment in the design process (e.g., Björgvinsson, Ehn, and Hillgren 2012a, 2012b).

Since the activity of design is itself a locus of controversy, there is a compelling potential that adopting active design engagement opens arenas to learn about issues of conflict.[27] On these lines, some scholars of participatory design have invested in the capacity of collective design practices, especially those involving different groups of stakeholders in design discussions, to highlight tension and conflict in ICT design projects (see Le Dantec and DiSalvo 2013; Bodker 1996; Muller and Kuhn 1993). Typically, such perspective envisions participatory and community design efforts as political endeavors that require careful listening, balancing, convincing, legitimizing and prioritizing while trying to achieve a working design vision.[28] The challenge here then revolves around finding ways to harmonize various interests to reach a common design vision among the parties involved. The designed artifacts become a form of consensus, or at least a probe to uncover and highlight hidden struggles.

Our involvement in VOCI, with regard to the design of Modus described above, provides a concrete example of how such engagement can happen. Eventually, the conflict in VOCI, and along with it the controversy around authority, representation, and the configuration of digital access and control, cooled down by 2014. With time, the parties involved got tired with the situation which did not shift much: the Management Team kept their measures against Salem, while he remained in possession of the original domain names. On the other hand, the controversy is still alive in the discussion in this paper around the design effort that we are carrying forward. This shows that design of artifacts such as the prototype we discussed with VOCI members can act as a reference for communication and negotiation among people with different experiences and interests.[29]

Indeed, design is concerned with the future: deliberating on the *ought to be*, and *that-which-does-not-yet-exist* (Nelson and Stolterman 2012, see section I), and intermediate design artifacts capture imagination of the future state of technology and facilitate communication and modification (see DiSalvo 2014; Disalvo et al. 2014). It is then no wonder that much of the education and training of

[27] Design as a form of inquiry, or Research through Design (RtD), has been actively discussed in HCI design research - see Gaver (2012); Zimmerman, Stolterman and Forlizzi (2010); Fallman (2007); and Cross (2001). A common theme in viewing the type of knowledge that design-oriented research can offer is that it is capable of producing theories that are speculative, provisional, and diverse, which helps in critically exploring alternative future desired states through the design of technology.

[28] For relevant examples on the formation of publics through participatory design, see Dantec and DiSalvo (2013) and DiSalvo et al. (2014).

[29] Design researchers have been attending to the role of artifacts in driving the collaborative design process forward (Susanne Bodker 1998; Björgvinsson, Ehn, and Hillgren 2012b). Such reflection on design practice has been preceded by STS scholarship looking at the role of material objects in the making of scientific facts and technical artifacts (Latour and Woolgar 1986).

designers revolves around creating artifacts and collaborating around them: sketches to externalize ideas, personas to put a face on user descriptions, wireframes to visualize and critique interfaces, interactive prototypes to test with users and to communicate with developers, and many others (e.g., Buxton 2007; Rogers, Sharp, and Preece 2011). These representations and objects help make intentions more explicit, design visions more concrete, and stimulate conversation and negotiation among the parties involved (see Bodker 1998; Larsson 2003). In other words, design prototypes and other design artifacts can be used as probes to inspect and analyze conflict and controversy and to act on it.

There is often a temptation in reporting on design linearly though, as a more-or-less clear problem statement that informs a more-or-less clear solution. After all, a clear and linear design account cleans up the mess, simplifies issues and often makes them presentable in a concise and assertive fashion, in a way similar to how scientists produce clean scientific facts that are sanitized from the controversies that led to them. Attempting to probe conflict through active design engagement however requires explicit reflection on fieldwork practices and on how people are involved in the small and big politics of design projects. If reported with reflexivity on the diverse interests and positions involved, design activity can yield in different directions for shaping technology, as well as an understanding about values and standpoints of the various parties involved.

Save from certain reflective niches in design scholarship (see DiSalvo 2011; Keshavarz and Mazé 2013; Forlano and Mathew 2014), written accounts on design are often presented linearly from cause (observations) to effect (design recommendations), with little sense of how the interests of various stakeholders converge or diverge. By comparison, anthropology and sociology have been long dabbling with this kind of problems. Science and technology studies (STS) are especially inspiring here, with strong attention to controversies as a method for both observation and analysis (see Pinch 2015 for an overview). This helps us frame the design endeavor itself as a controversy, with a specific attention to unusual events, breakdowns and conflict as revealing dynamics when looking at social interactions.

The idea that we are trying to put forward here is to look at design activity symmetrically: to search for moments of agreement and disagreement with the same breath, and to seek contributions that made it to the design story and contributions which were silenced. By engaging with and reporting on design activities geared towards change, scholars can participate reflexively in conversations with the people involved as a way to learn more about the issue at stake, and also contribute reflexively to these issues (see Neyland 2016 as an example of such engagement).

The design of the DNS or the designs of popular social platforms have tangible political consequences on the distribution and practice of authority within groups using them. In this paper, we have tried to question how certain modes of digital ownership enable or restrict options available to users, and what implications they have over control and conflict. We believe that reflective design enables researchers to draw links between technical details and broader social and political phenomena. Engagement in a design activity helps expose choices and interests, and it creates a space to report and discuss them. Moreover, design as a concrete outcome (e.g., a prototype or a functional tool), can serve as a probing instrument to elucidate issues of contention

among various parties. In this sense, every design activity offers an opportunity to inspect conflict, and every conflict offers an opportunity for design.

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About the authors

Ammar Halabi is an associate researcher with the Department of Informatics at the University of Fribourg, Switzerland. Building on a background in computer science, HCI and sociology, his recent work focuses on the design of digital tools for communities, collaboration and conflict.

Basile Zimmermann is Senior Lecturer in Chinese studies and Director of the Institut Confucius at the University of Geneva, Switzerland. His current research projects focus on China studies methodology and science and technology studies. He is the author of *Waves and forms: Electronic music devices and computer encodings in china* (MIT Press, Inside Technology, 2015).

Michèle Courant is a senior scientist in the Department of Informatics at the University of Fribourg, Switzerland. Her work spans the study and design of digital systems for interaction and collaboration, seeking a responsible practice of science and technology in teaching and research. She draws on interdisciplinary approaches from artificial intelligence, HCI, cognitive science, and systems science.

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