### Ksenia Ermoshina

### PhD candidate at the Center for Sociology of Innovation Mines Paris Tech

## How to code utopias?

## Civic hackathons as formats of political and technical innovation

This communication aims at examining a particular format of collaborative innovation called *civic hackathons*. Civic hackathons are short competitions (usually about 48 hours) where participants, coming from different fields of expertise, programming, scientific, militant, legal, - work together to prototype software solutions for a wide range of socio-political challenges. More and more civic hackathons are held every year all over the world, and a National Day of Civic Hacking was established in 2013, promoting a usage of programming code as a ubiquitous problem-solving tool capable to “change the world” producing not only new software, but also new subjectivities and a particular form of citizenship (Irani, 2015). But how precisely does this *mise en technologie* occur? How do we translate a public challenge (handicap, ecological catastrophe, discrimination, corruption…) into a piece of software? And what does hackathon as a format of collaborative innovation do to both civic participation and coding practices?

In my communication I would like to explore different operations of translation that occur while a social challenge is being put into code. I argue that the format of a hackathon acts itself as a *translating device*, as it frames coding practices within a particular material, spatial and temporal *mise en scène*: pitch of ideas, demonstration of prototypes, judging, *livecode*, collective discussions, meal and drinking. As a translating device, civic hackathons alternate coding practices and make participants redefine public problems to make them translatable into interfaces: both the sense of “hacking” and of “civic” are being reinvented.

My communication is based on the fieldwork I’ve conducted from 2012 to 2015 for my PhD thesis, focusing on an ethnographic study of civic hackathons in Russia and France, and an interest towards translation practices. I made non-participant and participant observation within 5 civic hackathons, using visual methods where it was possible, in order to be able to reconstruct the interactions within the teams, the spatial organization of these events, as well as some micro-interactions and mediation devices that were used by participants during prototyping. I also made a series of interviews with developers, organizers, jury and NGO activists (as Red Cross, Transparency International, Osez le Féminisme, Médecins Sans Frontières etc) questioning their experience of hackathons. I also studied 5 more cases of civic hackathons using secondary materials (web-archives, videos, photo archives, GitHub code repository, interviews…).

Civic hackathons tend to provide organizational and technical framework for a collaboration of hybrid publics, *problem owners* coming from the sphere of social and legal work, political activism or humanitarian work, and IT specialists, designers, data-scientists, developers. What does this format do both to technical innovation and to civic participation practices? In my presentation I will start by examining what my interviewees call the “*bridge-building activity*”: a set of practices, formal (set up by the organizers) and informal (invented *ad hoc* by the teams), necessary to enable a fruitful collaboration between technical and social experts. In this sense, the notion of *trading zones* as described by Peter Galison (2006) can, I argue, be very useful. As my observations show, in order to work together on a prototype, teams need to forge hybrid languages (“*pidgins*”). The pidgins can be based not only on verbal communication, but also recycle and invent a set of material translating devices, such as post-its, Power Points, software tools for mock-up and prototyping (these tools can visualize design ideas without actually coding the whole product) and even bodily gestures. The formal translating means are provided by mediating actors such as mentors or facilitators, engaged into building bridges between social activists and IT-professionals.

However, it is important to underline that there is no “pure code” from the one hand, and a rectified definition of a “public problem” from the other hand: instead I will speak of a *back-and-forth* movement. The *working* definition of a public problem will be questioned and reformulated several times while being confronted to the technical infrastructure with its possibilities and limits. The coding itself will also overcome a series of compromises and translations, adapting technical choices to the specificity of the challenge in question and using a set of specific SDK tools (software developers’ kit). Civic hackathons make participants make compromises both in their understanding of public problems (*microtasking*, reducing global challenges such as corruption, poverty, discrimination… to a set of codable tasks) and in the technical choices (the developers will speak about it in terms of “*ugly code*” or “*speed-dating*”, point at the urgency of hackathons and a lack of access to technical infrastructure such as servers or hosting).

Finally, I will question the efficacy of the civic hackathon format for producing working software solutions for civic participation. As my fieldwork has shown it, few are the projects that manage to successfully survive after the end of the hackathon. Participants abandon their projects that are never finished and remain prototypes. Technically, a prototyped piece of software is a *demonstratable* object that can be presented to the jury but is not capable to execute all the technical operations by itself. The coding during hackathons is oriented towards the final projects’ demonstration (before the judges). Developers use different tricks and tools to produce mock-ups of what an application could look like. The *storytelling* that accompanies final presentations of the projects makes audible and visible a point of encounter between a certain definition of a public problem and an idea of an appropriate software solution. In this sense, civic hackathons are about producing *possible worlds*, both social/political and technical. These short and intense events provide a framework for innovating in participation by building utopias, inventing new ways code could help to solve social issues. They also provide a framework for social activists to participate in innovation, while the format itself questions aesthetics and ethics of code and redefines coding practices and standards.