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The Department of Belonging: Future Infrastructures for Inclusive Resident Participation

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Abstract. HCI researchers have a responsibility to design infrastructures and technologies that affect the participation of different members of society, especially vulnerable and marginalised communities. However, participation has been relegated to sporadic activities and workshops, rather than institutionalised structures that facilitate participation in tackling big, 'wicked' problems. In this hands-on workshop we will examine existing structures for participation of residents in a municipal setting, drawing examples from our work with migrants. Together, we will imagine future participatory infrastructures and long-term technological impacts in order to foster durable, resilient communities. We use speculative design as a method to discuss current issues with HCI research and policy in tackling larger, societal issues. Through this workshop, we hope to 1) re-invigorate the field of participatory design and HCI in designing emancipatory technology, and 2) create a community of researchers and practitioners that share and publish an HCI agenda that enables more equitable participatory technologies.

1 Motivation and Workshop Goals

Design of new technologies and services in the public sector is both challenged and fuelled by the diversity and dynamism of changing populations. Participatory Design (PD) within the public sector has facilitated a variety of activities, from consultation to delegation of power to citizens (Arnstein, 1969), from participatory budgeting to living labs and community engagement platforms (Lehtonen, 2022; Ferreira and Botero, 2020; Levenda et al., 2020). By involving citizens in the process of design and implementation of services, PD is linked to the redistribution of power and democracy (Ehn et al., 2014; Manzini, 2015; Bason, 2017). However, a lot of city residents, including migrants, have restricted rights when it comes to social security and information, placing them in vulnerable situations.

PD philosophy, while traditionally engaged with worker's rights and larger, societal issues, has recently shifted towards neoliberal ideals, promoting individualism and depoliticization, focusing on fast fixes. As public services move to more digital and datafied platforms and interfaces, it is essential to address the increased risk of amplified exclusion. There is a recent shift, with fields such as design for social change and community-based design, however, they are also criticised for focusing too much on a micro-scale, without expanding design boundaries (Huybrechts et al., 2017). Thus, we explore the concepts of *infrastructuring* and *institutioning* as the main approaches while diving into the political question of migrant integration through participation.

To illustrate this, the organisers will share their research findings from cases of Finnish and Swedish municipalities, showcasing the current situation of migrant (non)participation in the Nordic context. The findings will be explored through different levels of the Institutional frames, namely metacultural, institutional action and policy frames (Schön and Rein, 1994; Castell, 2016) as well as cross-organizational frictions.

The aims of the workshop are as follows:

- **Reimagining Participatory Infrastructures:** Imagining the future (year 2075), we will explore how institutions and infrastructures can be designed for equitable participation of marginalized communities. We hope to imagine new forms of participation by exploring the concept of Department of Belonging.
- **Exploring tangible manifestations of values within PD concepts:** Employing speculative design methods, we aim to explore the values of PD using physical artefacts such as principle cards and floor plans. We hope the activities will elicit participants to reorient their work towards values of inclusion and equity in the technologies and processes they design.
- **Creating a community around the institutioning of participation in the public sector:** While migrant participation has been a focus of HCI and PD, this workshop addresses infrastructural and institutional dimension of participation. We propose this workshop as a first step toward forming a new subcommunity of design researchers and practitioners working at the

intersection of participation, institutioning, and social justice, beyond project-based engagements toward systemic, long-term transformations.

- **Knowledge co-creation:** Drawing on participatory design's tradition of mutual learning, the workshop will engage participants as co-researchers and provide structured opportunities for attendees to bring in their own case studies, reflect on shared challenges, and co-develop infrastructural concepts.
- **Finding synergies for publication:** Outputs from the workshop—including speculative designs and insights—will be collaboratively documented and proposed for publication as a joint outcome (as an HCI conference publication, white paper, and/or a toolkit).

2 Background

2.1 Participatory Design and Co-speculation

Participatory Design is often viewed as a way to democratise decision making, with the objective that people should have the opportunity to influence a decision they are affected by (Bødker et al., 2021). When we think of pluriversality and PD, we must also consider the different local processes that might incite participation and alternative ways of knowledge construction (Calderon Salazar and Huybrechts, 2020; Akama, 2017). This is relevant especially when promoting co-creation with heterogeneous groups such as migrants. There is a need for design and development processes which support the plurality of participants' views to be expressed.

Speculative design and design fiction can be used to imagine discursive, pluralistic futures that can aid in creating accessible forms of participation. Moreover, speculative methods can have transformative effects by providing scaffolds for imagining, introducing elements of materiality and boundary objects. Co-speculation extends speculative design by engaging stakeholders in the co-creation of imaginative and alternative realities (Desjardins et al., 2019), opening up opportunities for people to envision and take action toward preferred futures (Mitrović et al., 2021). A *making as worlding* perspective can enable participants to connect histories, cultures and social processes (Wargo and Alvarado, 2020) through speculative artefacts and narratives which “should effectively make their ethical stances explicit and make them part of the discourse surrounding the storytelling around the diegetic prototype.” (Jensen and Vistisen, 2017, pg.7)

2.2 Institutioning of Participation

As participatory design (PD) has developed, there has been a noticeable shift away from its origins as a political and activist movement engaging with the public realm, towards smaller, on-the-ground interventions and short-term solutions. The

concepts of infrastructuring and institutioning have emerged as avenues to reintroduce politics into PD, particularly in addressing politically charged topics such as migrant welfare within public services (Karasti, 2014; Huybrechts et al., 2017).

While rare, there are examples of institutional PD efforts that are longitudinal. Projects such as Malmö Living Labs (Björgvinsson et al., 2012, 2010), and OpenLab:Athens (Vlachokyriakos et al., 2018) demonstrate how PD can bring together communities, institutions, and technologies in a politicised manner, extending beyond one-off engagements in the public sector (Crivellaro et al., 2019). These projects may not always continue in their original format, but they lay the groundwork and infrastructure for future participatory activities between communities and institutions in their respective contexts.

In our workshop, we use speculative design as a critical tool to unpack present assumptions and explore possible alternative institutions that engage with larger societal issues. Floor planning serves as a material strategy for "spatialising" institutional imagination: How are participation processes spatially structured? Who is let in, and who is left out? These techniques help participants embody institutional critique through co-creation.

3 Organizers

Rūta Šerpytytė is a design researcher based in Tampere University and Aalto University. With her background in service design, she is now interested in applying participatory design approaches for more inclusive public services and policymaking. She is exploring questions of migrant integration in relation to Finnish national identity.

Uttishta Varanasi is a doctoral researcher in the Department of Computer Science at Aalto University. His research focuses on the role of equity in building inclusive digital public services, using participatory methodologies to engage migrant communities in the design and development of public services. With expertise in interaction, service and participatory design, his previous research areas have included algorithmic literacy, sense-making during crises, and pluriversality in AI.

Alicia Smedberg is a senior lecturer and researcher in design at Malmö University. Her work explores collaborative and participatory approaches to public sector innovation, with a particular focus on climate transitions in urban contexts. She operates within interdisciplinary projects that bring together municipalities, civil society, and academia. With a background in design studies and science and technology studies (STS), her research interests span civic engagement, public sector digitalisation, and the role of design in capacity-building and systemic change.

Per Linde is a senior researcher in Interaction design at Malmö university. His research focus is on inclusive processes for different digitalisation efforts, especially

in services for the public sector. He is also hosting commissioned education for city officers in design leadership in the public sector. With expertise in participatory design his research areas have also included environmental and social sustainability, IoT, Smart cities and interactive machine learning.

4 Workshop Plans

4.1 Pre-Workshop Plans

The workshop seeks to bring together a diverse group of researchers and practitioners who are motivated to work towards more inclusive infrastructures for participation. We hope to draw in participants working on the intersection of participation, design, and technologies, as well as law, public policy, public sector innovation and public administration, including local practitioners working in Siegen, where the conference is taking place.

To form the basis of the activity, we will invite workshop candidates to submit their proposal for the cards (2-4 cards) along with the short abstracts (150 words). The abstracts can complement the cards and articulate the candidates' experiences and opinions on infrastructuring, institutioning, participatory design, e-governance, migration, and/or digital inclusion. We will share the selected abstracts, cards and some suggested readings among all the selected participants before the week of the workshop, so as to familiarise them with each other's disciplinary background.

4.1.1 Co-design of the cards



Figure 1. Principle cards to be used in the workshop.

To provide a structure for participants and make the submitted cards more coherent, we will follow the framework of Institutional frames (Castell, 2016),

providing four levels that participants can contribute to: 1) Metacultural frames examine the macro societal discourses such as democracy and citizenship, 2) policy frames examine the micro scale of guidelines, agreements and practices, 3) institutional action bridges the two, focusing on strategic level, dialogue, formal and informal means of participation, and 4) cross-institutional level outlines frictions between different institutions. The card should outline the challenges that restrict belonging of residents from their point of view (back of the card), and, looking to the future, how it could change (front of the card). To inspire participants, we will provide our examples (Fig. 1) from the work conducted within Trust-M project in Finland, where organizers conducted a series of workshops with people working in the City of Espoo and migrant-focused NGOs. Based on the submissions, workshop participants will be selected with the aim of ensuring conceptual and disciplinary diversity.

4.2 Workshop Logistics

The workshop will be conducted in person, to emphasise the importance of tangible artefacts such as cards, drawing, placing objects physically on the floor plan. We aim to host around 15-20 participants to be able to meaningfully facilitate small groups (4-5 people) and have the opportunity to include room discussions and reflections. The overall duration of this workshop will be 4 hours, which includes two small breaks. We will ask participants what we could do to facilitate their full participation through a short online questionnaire before the workshop, e.g. inquire about their experience with speculative methods or accessibility needs.

4.3 Workshop Structure

The structure of the workshop is the following:

- **Gathering, welcome words (10 minutes)**
- **Ice-breaker, introductions (20 minutes).** As an activation of creative thinking and using our hands, we will ask participants to write/draw an object that is important for their work, and stick it on the shared floor plan that we will draw. We are aware that drawing can be intimidating for many people, so we will encourage imperfect doodles, relying on basic shapes and focusing on the story. Then, participants will introduce themselves while presenting their objects.
- **Presentation (20 minutes).** As the workshop is based on our findings, we will introduce the theoretical background (infrastructuring, institutioning) as well as our case studies from Espoo and Malmö, which shaped our thinking. We will then present the deck of cards, created based on the participants' submissions and structured using the framework of institutional frames.
- **Discussion (20 minutes).** The participants will be given time to read the cards independently, and we will facilitate a short research discussion, giving

an opportunity to contest the cards and add on to our findings, thus providing more depth and breadth to the artefact.

- **Break (10 minutes).** During the break, the organizers will prepare the room for the next activity
- **Introduction to the workshop activity (10 minutes).** The future scenario will be set in the year 2075, hoping that imagining 50 years in the future will balance futuristic thinking while still being grounded in the present. The scenario will outline population have greater diversity and how the government is struggling to meaningfully include people in their participatory activities. The workshop groups are teams of contractors applying for a tender for the local government to build a Department of Belonging. They have to provide a floor plan which is based on certain value principles and include up to six objects that will be placed in the Department.
- **Picking the foundational values for the model (20 minutes).** The flip side of the cards includes the design principles. Participants are encouraged to pick only three cards, which seem the most important to create belonging and encourage participation. We will encourage participants to first read and pick their favourites individually, and then engage in a small group discussion, presenting their arguments. To finalise the group's choice, we will attach the three cards to the floor plan.
- **Building the floor plan (20 minutes).** After deciding on the foundational values, the participants will start building the floor plan by writing the objects on the sticky notes. We will encourage creative thinking and expect objects to go beyond their intended use, becoming a metaphorical representation for a symbolic value. For example, a fax machine can be a symbol of slow communication, while an alarm clock can be a metaphor for timely reminders to follow-up with participants. It is also significant how the objects are placed. For example, what does it mean if the object is kept in a corner, versus right in the centre? How do they relate to/influence one another?
- **Preparing a pitch (10 minutes).** The participants will need to prepare a 3-minute pitch to justify their decisions. Once again, creativity and playfulness is encouraged, and we aim to keep the scenario of this being a competition for a public service.
- **Break (10 minutes).**
- **Presentations (20 minutes).** The time dedicated for this part depends on the number of small groups. Each group, including the ones working remotely, will give a 3-minute pitch highlighting the most important parts of the floor plan. If there is extra time, other participants can ask questions about the models. At this point, to keep the spirit of the competition, the organisers will give away some nominations (e.g. "the most inclusive department", "the most creative presentation", etc.). The award ceremony will wrap up the scenario, transitioning back to the present.

- **Reflection (30 minutes).** Reflecting on the activity, connecting the models to the theory presented at the beginning of the workshop. We will ask, for example: What could this infrastructure be built on, that currently exists? How will this infrastructure be maintained in the future? Who are the people that have to be involved in this department? What technologies and policies today mirror objects proposed for the future? What could you do tomorrow so that this department would exist in the future?
- **Feedback and Future publishing planning (30 minutes).** The last 30 minutes will be a more focused discussion, gathering feedback on the workshop itself, planning possible collaboration for publishing the results and finding appropriate mediums to continue discussions that emerged during the workshop.
- **Closing (10 minutes)**

4.4 Post-Workshop Plans

We will create a mailing list including workshop participants and organizers, to enable further discussions on possible collaborations. We also aim to share the workshop methods and outcomes with broader sets of HCI researchers and practitioners in the public sector. Specifically, we are planning publish an HCI publication (e.g., at the Communications of the ACM, DIS, PDC), describing (1) How speculative design can be used as a critical tool for institutional imagination, guiding PD efforts for equitable technology in the public sector and (2) a set of long-term and short-term research and methodological considerations for making advances on these challenges. We also hope to convert the workshop format into a toolkit that can be used and disseminated by the participants of the workshop in their own research settings.

5 Call for Participation

How can all residents feel heard in the city? What are the technologies and infrastructures that can enable equitable participation of migrant residents? Join us in a speculative workshop to imagine robust and dynamic future infrastructures for public participation. In this hands-on 4 hour workshop (only in-person), we will co-design tangible representations of equitable and inclusive future infrastructures, institutions and technologies. To ground the workshop, we will showcase our ongoing research from Espoo and Malmö, and introduce our findings on institutioning migrant participation. To attend this workshop, we request participants to submit 2-4 cards using the template provided on our page, complemented by a short abstract (150 words). In the abstract, expand your thoughts on any of the following concepts: infrastructuring, institutioning, participatory design, e-governance, migration, and/or digital inclusion. Using the card template, articulate the challenges that restrict belonging of residents from

your point of view (back of the card), and how it could change (front of the card). We especially encourage submissions related to public sector technologies and HCI work related to migrants. Abstracts should use the single-column ACM template. The submission link will be available on the workshop website. All submissions will be reviewed by the workshop's co-organizers and later shared between selected participants. At least one author of each accepted submission must attend the workshop. All participants must register for both the workshop and for at least one day of the conference.

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