Co-Creation Practices and Technologies for Open Urban Planning

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ABSTRACT

With this workshop, we aim to provide a forum for participants populated by researchers, urban planners, co-creation facilitators, and representatives of municipalities to share their experiences with co-creation tools and methods in urban planning. We focus on reflecting on key issues based on CSCW (Computer Supported Cooperative Work) and PD (Participatory Design) concepts and approaches regarding engagement, participation, and consensus-making in technology-supported co-creation processes. By concentrating on spatial and urban planning practices, we will connect above mentioned actors to discuss different participation and co-creation processes among disciplines. After briefly introducing state-of-the-art co-creation techniques, Design Thinking approaches connected with supporting technologies will be examined and evaluated in group discussions by informing the presented practices with theories and concepts from CSCW and PD research.

CCS CONCEPTS

• **Human-centered computing** → **Collaborative and social computing theory, concepts and paradigms**; **Computer supported cooperative work**.

KEYWORDS

participation, co-creation, urban planning, consensus-making, computer supported cooperative work, participatory design, design thinking

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1 INTRODUCTION

2002, Sanders postulated a shift in perspective of creative processes. She named it "a change from a user-centered design process to that of participatory experiences" [7]. This "Postdesign" phase results from "a shift in attitude from designing for users to one of designing with users." This significantly impacts the ways of thinking, feeling, and working in design settings. It is more than a simple method or a set of methodologies; it is "a mindset and an attitude about people." People other than designers can articulate and be creative when powerful tools and technologies help them express themselves and negotiate with others.

A co-creation process always starts with understanding the needs of the different stakeholders, including companies, consumers, policymakers, academics, practicing designers, and the project's overall objectives. These activities can result in more design solutions by focusing on innovation. Designing the experience of people is more complex than often imagined. How can the users' experiences of things, events, and places be captured? As designers, we need to learn how to access people's experiences. We can learn from them by listening to them, observing them, or reaching for an understanding of what they know, feel, or dream.

One way of capturing people's knowledge, feelings, and dreams is to focus on what they create from the toolkits we provide to express their thoughts, feelings, and goals. The so-called "Make Tools" [7] build "a common ground for connecting the thoughts and ideas of people from different disciplines and perspectives." So, they become a new "design language" for users and help "to

discover as-yet unknown, undefined, and unanticipated user or consumer needs." They deliver user-generated artifacts or models. Such artifacts tell stories, sometimes full of emotions, feelings, dreams, fears, and aspirations, sometimes showing how people understand or misunderstand things, events, and places.

Participation is the critical factor for co-creation, which needs a space to take place [6]. Depending on the context of application and use, different methods and approaches can be applied to involve people – not only the designers and planners but also other stakeholders – in an acceptable, understandable, and helpful way. Participation can also have different forms [12] – also in urban planning.

Urban planning is designing and managing cities' and other urban areas' physical, social, economic, and environmental aspects. It involves analyzing the current state of a city and determining how it can be improved or developed in a way that meets the needs of its inhabitants. In practice, urban planning has often been promoted to achieve the public interest. "In general, however, the development of planning theories has seen increased concern for the processes of planning and how they should best be carried out–data gathering and analysis, decision-making, policy formulation, participatory practices, or professional ethics–rather than with questioning the urban problems that planning sets out to solve, or making assessments of its outcomes." [12].

A governmental body, in case of representative participation, seeks participation to ensure the viability of a program or a project over the long term [12]. The participation process gives local people a voice in the project, which they use to influence decisions. So they can express their interests, but the program comes from the top down. In the transformative form of participation, empowerment is frequently perceived as a bottom-up strategy. Still, the impetus often comes from the top when the organization prioritizes appointment. The intent is to empower locals to plan and act for themselves [10], by providing services and by aiming at giving control to locals over their future.

Based on their professional and educational background, it cannot be assumed that all participants involved in co-creation activities possess comprehensive abilities to articulate their opinion about the subject attention, express their ideas, describe the context they want to address in their contribution or formulate their suggestions for change in the co-creation process. Those lacking these abilities need appropriate methods, tools, and supporting technologies to stimulate creativity.

In this workshop, we refer to the societal value of co-creation processes to envision the future cooperatively in urban planning [2] [11] [6]. As presented in the ladder of Arnstein [1], the participation of others than designers can be established at different levels of involvement and engagement, varying from solely informing and educating citizens and other stakeholders to complete control and use of power.

Participatory Design (PD) unites cooperative, creative activities and design-related processes of designers and people not trained in design. In such methods, participating actors are not users, consumers, or customers anymore; they are considered experts in their understanding of living and working environments. Their participation makes them co-designers [8], and they shape a community with the designers and planners [4]. To establish such a participatory design process, a shared understanding and a platform for communication between the designer and other participants must be installed first. The exchange between involved actors in such processes, mostly supported by technologies, facilitates, at the same time, collective learning among them.

Different tools, methods, and technologies need to support participatory design processes. Co-creation tools and technologies in urban planning can be applied for different types of engagement of users. Some examples are tools for sensing the urban environment, engaging users for participation through activation, making different perspectives visible, and communicating and activating in general.

In case of open urban planning, despite several attempts to involve citizens in such processes, there are still many barriers related to the lack of consensus, fairness of the distribution of street space, the resistance of stakeholders to change, and a lack of demonstration of the long-term impact of interventions to embed them in the long-term strategies of cities [3] [5] [9]. Various guidelines and tools have been produced to help communities design and implement transformation projects addressing mainly the co-design (e.g., Global Designing Cities Initiative guidelines, the Metamorphosis, Cities4People and Sunrise H2020 projects, Looper, PlaceCity, EX-TRA JPI projects). These co-creative approaches can, however, only lead to permanent solutions and long-term improvement in urban accessibility and connectivity if they achieve a consensus of multiple stakeholders (residents, shop owners, public transport operators, local authority, police, etc.) on the street design, who can access the street and when what are the main uses and how the street amenities and other shared spaces are maintained. Consensus requires a common understanding of the problems and the purpose and usefulness of streets and places in the city transformation; trust building between the local community members and the heterogenous communities and authorities; empowerment of the local communities to be able to act upon their needs; and awareness of the medium/long-term positive and negative impact of the interventions on different stakeholders.

In this workshop, we focus on urban planning and address these issues in a well-informed, discursive format among researchers and also by inviting participants representing different stakeholders mentioned above.

2 AIM

With this workshop, we aim to provide a forum for participants populated by researchers, urban planners, co-creation facilitators, and representatives of municipalities to share their experiences with co-creation tools and methods in urban planning. We focus on reflecting on key issues based on CSCW (Computer Supported Cooperative Work) and PD (Participatory Design) concepts and approaches regarding engagement, participation, and consensus-making in technology-supported co-creation processes. By concentrating on spatial and urban planning practices, we will connect above mentioned actors to discuss different participation and co-creation processes among disciplines. After briefly introducing state-of-the-art co-creation techniques, Design Thinking approaches connected with supporting technologies will be examined

and evaluated in group discussions by informing the presented practices with theories and concepts from CSCW and PD research.

Three additional aims supplement this primary goal. By bringing the workshop participants together, we hope that cross-fertilization will ensue among their cases, concepts, and questions. Second, we will collaboratively reflect on what CSCW and PD contribute to the study of co-creation practices in urban planning by applying Design Thinking methodologies and how we, as individuals and a community, can facilitate the transfer of these contributions to practitioners. Third, we will discuss the interest in further collaboration and networking initiatives regarding the application of Design Thinking methods and approaches in urban planning, for example, the interest in a follow-up workshop at the next C&T conference.

3 WORKSHOP THEMES

The workshop studies how to support participation in shared urban planning processes. Within this overall topic, the workshop themes include, but are not limited to, the following:

(1) Theoretically oriented pieces that propose or refine concepts for mutual understanding of active co-creation processes and the ways of facilitating actors' involvement in urban planning
(2) Approaches of consensus-making and sustainable integration of different views of actors in decision-making and solutions
(3) Case analysis of empirical projects at different stages of completion – from preparations, through pilots, to the continued application of practices
(4) Studies of the many stakeholder groups that are connected and reconnected by shared urban planning processes, including how these groups participate in real projects
(5) Discussions that raise questions about the impact and ways of improvement of co-creation approaches in urban planning processes
(6) Methodological reflections on how to conduct studies, manage research data, and behave ethically among citizens, service providers, planners, and governmental bodies
(7) Comparative pieces that investigate similarities and differences across realizations of co-creation processes in urban planning or between groups, sites, or stages in an implementation

4 PARTICIPANT RECRUITMENT AND SELECTION

The workshop can accommodate a maximum of 20 participants (including the organizers). Participants will be recruited from the CSCW, CHI, PD, and urban planning communities, from the representatives of municipalities, and the extended research networks of the organizers. The organizers will reach out to these communities through their extended research networks and by circulating a call for participation on relevant mailing lists, such as EUSSET, and through social media. Detailed information about the workshop will be made available on our workshop website. Participation in the workshop requires the submission of a position paper. We encourage potential participants to explain their interest in the workshop and particularly welcome position papers that address one (or more) of the workshop themes outlined above. Position papers are limited to six pages (excluding references) in the C&T paper format.

The submitted position papers will be reviewed by the organizers and accepted based on the relevance and development of their content. Suppose the number of people interested in attending the workshop exceeds its capacity. In that case, the organizers will prioritize submissions for rich presentations and discussions while seeking diversity among the participants. We expressly encourage both junior and senior researchers to submit position papers. To promote broader participation, particularly from planners or municipalities, we also offer the option of submitting alternative material of rough equivalence to a position paper (e.g., an experience report or abridged implementation plan).

5 WORKSHOP ACTIVITIES

The workshop is structured as a full-day event. It will consist of diverse activities, with an emphasis on in-depth conversations and community building:

(1) Introductions. The organizers open the workshop by introducing the agenda and goals for the day. They then facilitate a round of meet-and-greet, giving each participant a moment to introduce themselves and their interest in the topic.
(2) Panel discussions. The participants will be organized into thematic panels based on their position papers. Everyone will give a 6-minute presentation, followed by a collective discussion. The organizers will take shared notes to generate material to be worked on collaboratively.
(3) Break-Out Groups. Participants will split into groups of 3-4 people to further explore shared interests through discussions. For this activity, groups will be encouraged to focus their conversation on methodological issues. The goal is to identify key ideas and questions for discussion.
(4) Summarising. In this session, participants will be given a moment to review the collective notes taken during the day and to note down key insights and reflections. We will then go around the room to listen and respond to each other's thoughts.
(5) Next Steps and Closing. The workshop will conclude with a shorter discussion around possible next steps to advance CSCW and PD research around the open urban planning challenges and to consider opportunities for further collaboration.

6 ORGANIZERS

The workshop is organized by several senior researchers who have investigated urban planning activities or co-creation and participation methodologies and technologies for decades and are currently involved in research projects about the realization of several aspects of these areas.

Hilda Tellioğlu is an associate professor and head of Artifact-based Computing & User Research (ACUR) Unit at the TU Wien at the Faculty of Informatics, chair-elect of EUSSET, and scientific director of Center for Technology and Society of the TU Wien. She has experience with several innovative national and international research projects like SmartHubs, StreetForum, and aspern.mobil

LAB. Her methodology and design expertise has also been documented in several scientific papers. Her research focus covers the design and development of artifacts and their involvement in different settings, like homes, work, or public spaces, design thinking, co-design, user-centered design, and evaluation.

Gerfried Mikusch is a research assistant at ACUR and aspern.mobil LAB, SmartHubs, and StreetForum. He is a computer scientist specializing in designing and developing technologies for vulnerable target groups. He is very experienced in user-centered design processes and design thinking methodologies.

Christoph Kirchberger is the coordinator of the aspern.mobil LAB in the urban development area Seestadt Aspern in Vienna. His focus lies in urban mobility labs' organizational setup and participatory methods. Over the last three years coordinating the multidisciplinary aspern.mobil LAB team, he also gained international insights on trends, solutions, and relevant stakeholders in the field of urban mobility (with a focus on shared mobility) and was involved in innovation processes.

Imre Keserü is an assistant professor and deputy director at Mobilise at the Vrije Universiteit Brussel since 2013. He has a Ph.D. in transport geography. His main research themes include evaluating urban mobility projects and participatory transport planning. He has 15 years of experience in managing international research projects. He is the principal investigator and coordinator of StreetForum and a partner in SmartHubs.

Karst T. Geurs is a full Professor of Transport Planning at the Centre for Transport Studies at the University of Twente. His research focuses on interactions between land use, mobility, ICT-driven mobility innovations, accessibility modeling, and dynamics in travel behavior. He is the chair of the Network on European Communications and Transport Activities Research (NECTAR) and Editor-in-Chief of the European Transport Research Review. He is the principal investigator and coordinator of SmartHubs.

Benjamin Büttner is the academic council for the Chair of Urban Structure and Transport Planning and leads the Research Group Accessibility Planning at the Technical University of Munich, a partner in SmartHubs. He has a Diploma in Geography and holds a Ph.D. in Engineering. His key research fields primarily cover integrated urban and transport planning, active mobility, governance, and policy-making. He is an active member of regional governance platforms (e.g., Inzell Initiative (Model City 2030) and the Munich Metropolitan Region (EMM)). Internationally he leads the Doctoral Training Network of the European Institute of Technology in Urban Mobility and is a Co-Chair of the NECTAR Accessibility Cluster.

Brigitte Vettori is a researcher, social and cultural anthropology doctor, initiator, and head of "space and place", a Viennese cultural and research organization founded in 2011, a partner in StreetForum. For many years she was involved in development cooperation and disaster relief while at the same time conducting research as an organizational anthropologist in the field of NGO intervention and interaction. In urban work and research, the anthropologist continues with this connection of theory and practice.

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