# Situated Value-Driven Engagement Design

Of Interactive Experiences In Public Places

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When designing for interactive experiences in public places, creating engagement might not be enough, since value-driven stakeholders, such as municipalities or museums, can have an aim to pursue societal values through the experience. Such societal values are situational, and can include community building, mental wellbeing, social sustainability or heritage. This Doctorial Consortium application describes my PhD project, that focuses on how interactive experiences in public places can be designed to not just be engaging in themselves but also to fulfill the aims of value-driven stakeholders, to make people through the experience engage with and for certain societal values, this is studied utilizing a Research through Design approach, with several design project cases, all including value-driven stakeholders. Presenting a tentative framework for situated value-driven Engagement Design, and some preliminary design implications and concepts, this Doctorial Consortium application explains the thesis project, and work ahead.

CCS CONCEPTS • Human-Computer Interaction •

**Additional Keywords and Phrases:** Research through Design, Value-driven Design, Engagement Design.

## 1 INTRODUCTION

Some experiences, for instance focused on entertainment and pleasure, are designed to be engaging in themself, with the engagement as a primary purpose. But for other types of experiences, typically those provided by public stakeholders such as museums or municipalities, the engagement is not the end goal, but rather the experience aims at making people engage with and for certain societal values [7,10,14,25]. Organizations providing such experiences will here be referred to as value-driven stakeholders, whose aim it is to pursue different kinds of societal values such as community building, mental well-being, heritage, social sustainability and citizen engagement.

Designing interactive experiences has for a long time been a focus in Human-Computer Interaction and neighboring fields [3,19]. Zagalo, in his book Engagement Design from 2020 proposes a shift in focus in interaction design, from experience design to engagement design [29], the reason being that engagement is more clearly related to specific interaction situations, and something that can be designed directly for. This thesis project elaborates on the concept of engagement design, in relation to creating engagement in public places, and how designing for engagement can be related to value sensitive design endeavors [14] connected to for instance playful cities [1,23] and citizens [17], cultural heritage mediation [2,5] and in a broader sense social and cultural sustainability [8,10,32]m through values pursued by the value-driven stakeholders.

There is a risk of misalignment between for instance game developers and designers focus on engaging experiences in themself, and the viewpoint from value-driven public organizations, such as museums, that such designs

can be perceived as banal if they do not connect to a larger perspective of the societal values the experiences should aim at creating engagement in and for [25]. This thesis aims at exploring this misalignment, what it might consist of, and how it can be related to engagement values. Looking beyond sensitivity towards the values, the thesis, based in a collection of design cases, investigates the possible potential of different values as drivers of engagement, and how utilizing design solutions that maps towards both values for creating the engagement in itself, while also adhering to the societal values the experience aims at making people engage with and for, could potentially contribute to design solutions deemed meaningful by the organizations commissioning the designs, and pususing the societal values. The focus is on designs developed for and together with value-driven organizations, in multisectorial design teams [21], and those organizations in relation to value alignment in the design choices, rather than for instance taking on an end-user perspective. The research question is on How to design for Situated Value-Driven Engagement when designing augmented experiences in public places?

In a literature review by Doherty and Doherty from 2018, on Engagement design research in HCI, they identifies a number of gaps in the engagement literature found in ACM; lack of research on engagement in the real world, lack of research on voluntary engagement, Lack of research on engagement over time, and lack of research looking beyond users and towards the relation between the engagement design process and the engagement designs. [11] Those gaps will, at least partly, be addressed through this thesis work.

The thesis data will be based on a collection of design cases, all consisting of designs developed in multisectorial design teams including organizations functioning as societal value providers. The designs are related to creating interactive experiences in public environments such as neighborhoods, playgrounds and museums. The experience designs can be installations or interventions, that in different ways augments the public space, towards the physical end of the extended reality virtual continuum [13].

This thesis work, which will be a compilation thesis, aims at broadening the view of engagement design, moving away from the individualistic perspective of user engagement, bringing in social and societal perspectives into an engagement design model. Tying to local prerequisites the thesis looks especially at how engagement design can be situated [27] in relation local values and the spatial, social and cultural contexts. This aim means looking away from mass produced experiences, towards authentic situatedness, sensitized and adapted to the uniqueness of each design situation and its stakeholders pursued societal values.

## 2 METHOD AND METODOLOGY

The thesis work is positioned within Research through Design, as formulated by Zimmerman et al [30,31], a method commonly used In Human-computer Interaction, where research is done through an intermediary process of designing solutions (in this case games), reflecting on the designs and design processes as well as connecting it to theories and literature [15,18,26,31]. The thesis work is done within the tradition of humanistic HCI [4], utilizing qualitative methods inspired from ethnographic methods such as observations, interviews [12,24] and narrative inquiry [6,9].

The thesis will also engage with the concept of ultimate particulars [22], but emphasizing the particulars not as artifacts, but as how humans interact with each other through the designs [28], and aim at producing intermediate level knowledge [20], for instance in the form of design implications. The thesis work also bring together several design projects, to abbreviate knowledge and look beyond individual design cases [26].

The thesis work engages with implementable and concrete design projects [18], in multisectorial design teams [21] including value driven stakeholders. Distinguished features of RtD, especially as it is utilized in the thesis work, is for instance emergence [16] and intermediary theory approach [26]. The thesis main focus is on value-driven stakeholder

perspective in relation to creating and designing experiences that pursues the sought after societal values. Validation of the designs are mainly through mapping them to the values pursued, and by evaluations from the value-driven stakeholder perspective, complemented with user studies and user feedback. All the design case projects include close collaboration with the value-driven stakeholders, and data on their perspectives will be gathered through interviews, meeting notes and workshops documented by audio recording and photos.

### 2.1 Design projects

Below is a presentation of the design projects that is the foundation for the data collection related to my thesis work. The main design projects are the foundation of the thesis work. It is in those that the majority of publications and data gathering has been done and will be done, and analyses based on.

#### *2.1.1 ABC for meaningful meetings (ABC-project) 2021-2025*

The ABC-project focuses on social sustainability in public environments. The project group includes a public real estate company, Uppsala University, Linné University and a NGO focused on mediating sustainability and creating engagement, for instance in relation to circular economy. The project focus on creating meaningful meetings in a newly developed city district, and how to activate places through installations, events and collaborations, to create community feeling. The project contains several tracks, each probing different ways of creating engagement in the public environment. One of the tracks, that is central for this thesis work, has been to design technology augmented interactive art installations in the public environment. Within this track a prototype was developed and evaluated with the value-driven stakeholders, as well as tested in-the-wild with potential end users. Paper I is focusing on the prototype developed in the ABC project. Article I is focused on the development of a prototype in the ABC-project, that aims at creating face engagement and introduces the concepts of microevents and villagescape.

In relation to the thesis focus the ABC-project provides the opportunity to, as a designer and researcher, follow the whole project during the course of this thesis project.The project provides insights in how to design for urban communities, with a clear focus on engagement design. The project gives insight to two types of value-driven stakeholders, the public real estate company and the small sustainability focus NGO provides two very different types of perspectives on the designs, values and goals.

Figure 1. Left: The ongoing development of the urban city district.  Right: the prototype developed in the project.

### *2.1.2 Playful Internet of Things (PlayIT) 2018-2021*

PlayIT is a project focusing on developing an Internet of Things enhanced public outdoor playground, that could also function as a testbed för playful interaction design. The project group included a municipality, Uppsala University, Swedish Royal Institute of Technology, a local tech company and a local company focused on playful mediation of sustainability related content. In the project three permanent IoT enhanced playground installations were developed and user tested through observations, interviews, logging of usage and a session with video recording and gps tracking of invited children. The installation has continuously been active since inauguration and additional research and design-after design has been done, and is still ongoing. Articles II, III and IV is focusing on the PlayIT project from different angles.The PlayIT project, as also preceding the initiation of the thesis work, provides a starting point for design thoughts and ideas then developed in later design projects. The project gave many insights on the municipality as a value-driven organization in relation to values built into the playground. The PlayIT related publication *Value Driven Design for Playful Technology Enhanced Installations in Public Settings* that I co-authored is focused on how values are built into the designs.

Figure 2. The playground installations developed in the PlayIT project.

### *2.1.3 The Castle Laboratory 2023-2025*

A project focused on creating technology augmented installations as part of the development of a new historical center and museum at Uppsala Castle. The project includes Uppsala University and the municipality, in the form of the museum team developing the castle experiences. The project started in 2023, and now two main design solutions, co-developed by the researchers and museum design team, are being implemented at the castle. The exhibition including the installations are planned to open in April 2025. This project puts pressure on design solutions that are truly implementable within ordinarily commercial logics, as it is not funded by external research funds, providing perspectives on trade-offs in for instance situating the designs. In this project I have dual roles of being researcher and commissioned designer, something that has given rise to ethical conciderations as well as design trade-offs, but also provides insights that could not have been gathered otherwise.

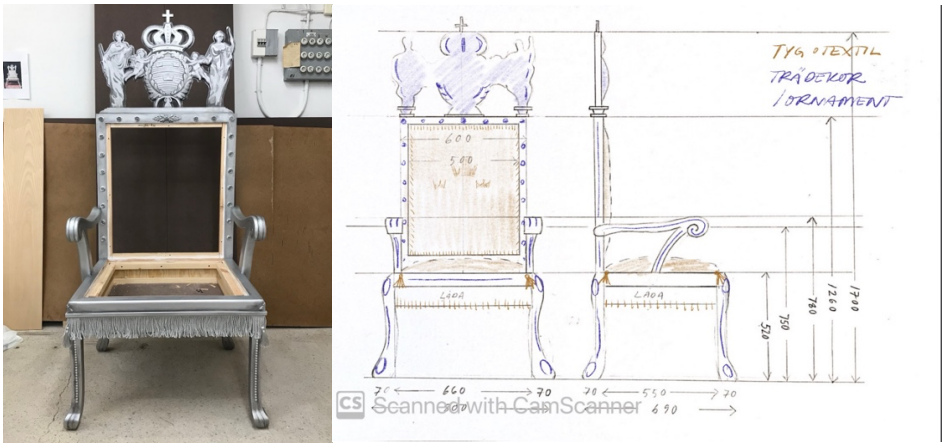


Figure. 3. Work in progress with an installations for the castle museum: An augmented throne that will allow users to hear voices from the past.

## 3 TENTATIVE FINDINGS AND THESIS PROGRESS OVERVIEW

The thesis work expands on how to design interactive experiences that are situated and engaging, with high sensitivity towards local prerequisites, value-driven stakeholder perspectives and societal values. As I am not yet halfway through my PhD, a lot remains to be done, especially when it comes to meta-analyzing and tying together findings from the different design projects. For the thesis overview I am working on a model of situated value-driven engagement design. The model is presented in Figure 4. As for now, the model is very much a work in progress. The overarching idea with the model is to show different forms of engagement in relation to interaction design, and that there is a difference between important values when it comes to designing for engagement, and to utilize the engagement to pursue other values. Those two type of values can be more or less aligned or misaligned, represented by the red arrow in the middle. This red arrow is of core interest for my thesis work, exploring how experiences can be designed so that they are both engaging in themself, and also at the same time, through the same interaction patterns, creates an engagement for and with the sought after societal values.

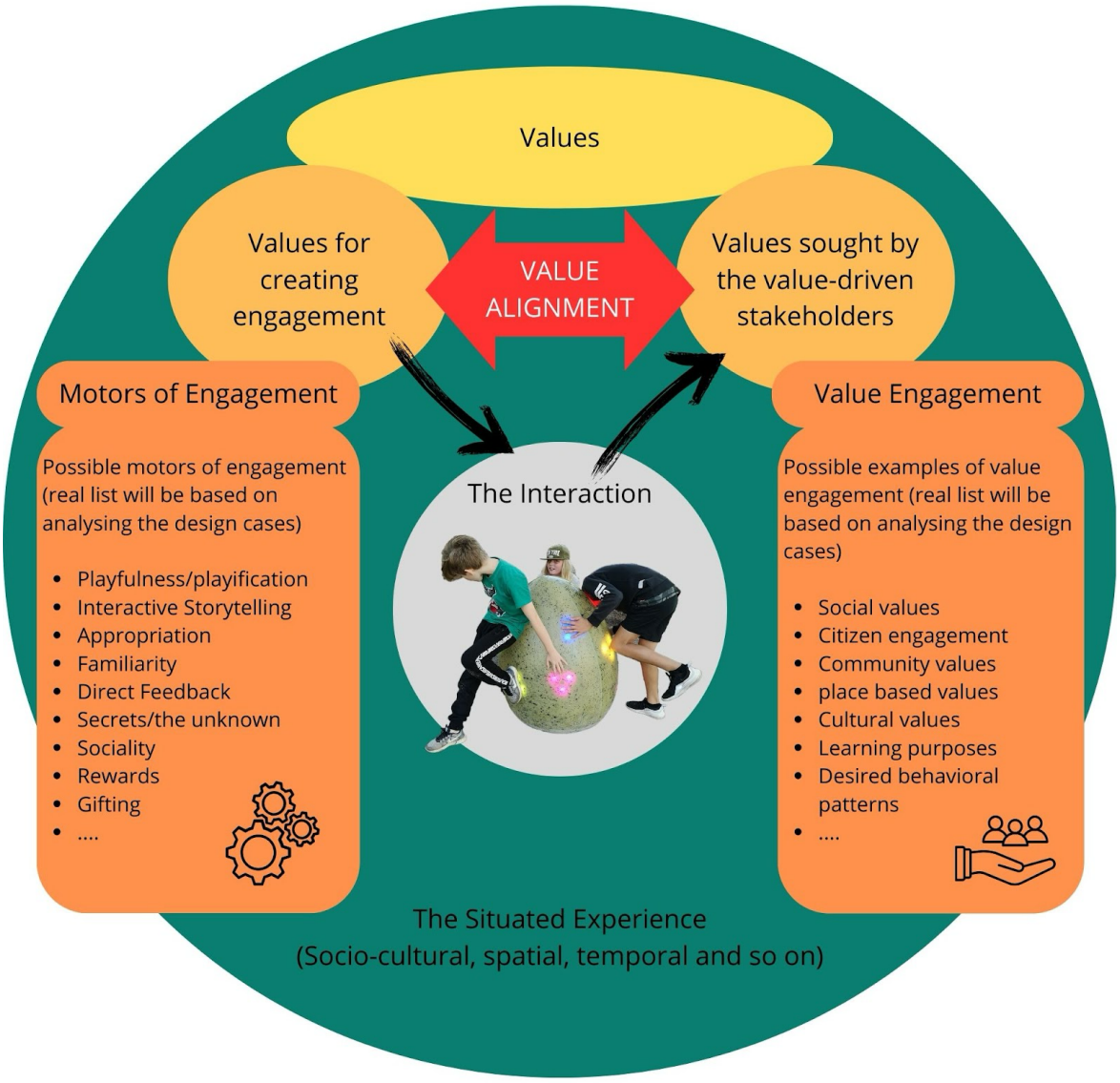


Figure 4. The work-in-progress model of situated value driven engagement design.

The papers I have already co-authored focus on the design cases, and mostly present intermediate level knowledge in the form of concepts and design implications. Doing a meta-analysis on the different design projects to make a comprehensible overview and integrate findings into the model is a work ahead. Below some design concepts from the papers are presented, that will be part of what is integrated into the overarching framework at a later stage.

**Designing Microevents for the Villagescape.** Central for engagement is the opt in and opt out opportunities, and the transitions in between. Therefore, when designing for engagement in public environments, it can be beneficial to design for microevents; short interactions that have very low thresholds for opting in and opting out. In urban areas there can be a lack of community feeling, and an important sought after value identified in the ABC-project is to create an urban village feeling, of smaller communities within the larger community. Microevents can be utilized to create face engagement, and encourage the form of fleeting connections that could potentially strengthen such a villagescape. Paper I expands on this concept.

**Playification**. Playfulness has been found both in literature and in the data to be central for creating engagement. Where gamification, although containing interesting components, builds on for instance competition and points and has a problematic lean towards extrinsic motivation, we instead in several of the publications propose playification as a design concept. Paper I, III and IV expands on the concept of playification.

**Interactive Storytelling**, where the users are engaging in making choices in, or even co-creating, the story, has been found in the papers to be of interest in relation to engagement design, potentially being a motor of engagement, where the topic of the story could also be adapted to pursue sought after societal values. Paper II focuses on interactive storytelling, partly this is also included in paper V and VII.

**Malleability as a design value**, and to be able to change your surrounding for instance through digital layers, coild potentially both function as a motor of engagement while also give opportunity to pursue societal values such as citizen engagement, democratic competence in the form of co-decisions, and adding play values to increase children's well being. To create malleable experiences, that changes over time and that can also be changed by users, is expanded on as an interesting design concept, this is done in paper III.

Overview of the PhD studies progress

Design and research work is commencing in the ongoing design projects; the ABC-project and the Castle Laboratory projects. Both those projects are now in a phase of consolidation and wrap up, where most focus will be on expanding and reflecting on what has already been done, rather than for instance initiating new design probes or prototyping processes.

A major work ahead in relation to the thesis is meta-reflections on the design projects, and meta analysis of articles related to those projects. In addition to the already produced articles, there is a plan to produce and include other publications. Hopefully the thesis will contribute with knowledge on how to create situated interactive experiences that are designed to be engaging, as well as to create engagement in and for societal values.

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# A APPENDICES

## A.1 Main articles so far in the Thesis work

**I**

Johansson, K., Lindström, A., Back, J. (2024). The Thingy in the Street: Designing Playful Microevents to Trigger Social Encounters. *Under review.*

**II**

Johansson, K., Back, J. (2024). Daddy, You Can be the Fox: Designing Hybrid Playgrounds for Nature Integrated Storytelling. *Under review.*

**III**

Back, J., Johansson, K., & Hangvar, J. (2023). Let's Play Something New!: Designing for Digital Malleability in Outdoor Playgrounds. *Proceedings of the 26th International Academic Mindtrek Conference*, 233–244. https://doi.org/10.1145/3616961.3616982

**IV**

Back, J., Johansson, K., & Wireband, J. (2021). Value Driven Design for Playful Technology Enhanced Installations in Public Settings. *Creativity and Cognition, Venice 2021.* https://doi.org/10.1145/3450741.3466778

## A.2 Supporting articles

**V**

Johansson, K., Robinson, R., Back, J., Bowman, S., Fey, J., Marquez-Segura, E., Waern, A., Isbister, K. (2024). Why Larp?! A Synthesis Paper on Live Action Roleplay in Relation to HCI Research and Practice. *Planned to be sent to ACM Transactions on Computer-Human Interaction (TOCHI), 2024.*

**VI**

Back, J., & Johansson, K. (2021). Playing Cool—Winter Weather's Influence on Location-Based Gaming. *Proceedings of the ACM on Human-Computer Interaction*, *5*, 1–16. https://doi.org/10.1145/3474669

**VII**

Waern, A., Rajkowska, P., Johansson, K. B., Back, J., Spence, J., & Løvlie, A. S. (2020). Sensitizing Scenarios: Sensitizing Designer Teams to Theory. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 1–13. https://doi.org/10.1145/3313831.3376620