Designing for Play that Permeates Everyday Life: Towards New Methods for Situated Play Design

Ferran Altarriba Bertran
Social Emotional Technology Lab
UC Santa Cruz
Santa Cruz, CA
ferranaltarriba@gmail.com

Elena Márquez Segura
Uppsala University
Uppsala, Sweden
elenamarqz@gmail.com

Jared Duval
Social Emotional Technology Lab
UC Santa Cruz
Santa Cruz, CA
jduval@ucsc.edu

Katherine Isbister
Social Emotional Technology Lab
UC Santa Cruz
Santa Cruz, CA
katherine.isbister@ucsc.edu

ABSTRACT

In this paper we discuss strategies to support our design research agenda of promoting playful engagement within everyday activities and situations. We argue that this agenda is in alignment with the ethos of the third wave of HCI. To support design in this space, we build upon Situated Play Design, an open methodological frame that focuses on uncovering existing manifestations of contextual play as a starting point for designing playful technology. Towards further developing that approach, here we highlight a series of emergent methodological challenges, and speculate tactics to address them. Our contribution is a methodological reflection of how to support situated play design, as well as an invitation for designers to continue envisioning, articulating and sharing new methods in this emerging space.

CCS CONCEPTS

• **Human-centered computing** → *HCI theory, concepts and models.*

KEYWORDS

Situated Play Design, play, playfulness, HCI, design methods, research through design, participatory design

ACM Reference Format:
Ferran Altarriba Bertran, Elena Márquez Segura, Jared Duval, and Katherine Isbister. 2019. Designing for Play that Permeates Everyday Life: Towards New Methods for Situated Play Design. In *Proceedings of the Halfway to the Future Symposium 2019 (HTTF 2019), November 19–20, 2019, Nottingham, United Kingdom.* ACM, New York, NY, USA, 4 pages. https://doi.org/10.1145/3363384.3363400

HTTF 2019, November 19–20, 2019, Nottingham, United Kingdom

ACM ISBN 978-1-4503-7203-9/19/11…$15.00
https://doi.org/10.1145/3363384.3363400

1 INTRODUCTION

During the last years we have witnessed how digital technology has been increasingly present in our lives. Human-Computer Interaction (HCI) has extended its focus from creating useful tools for task-related application domains to exploring how technology can support us experientially and respond to our socio-emotional needs, e.g. [27, 30, 32]. This experiential turn has characterized the so-called *third wave of HCI* [8].

Within this context, play and game design research has flourished within the HCI and Interaction Design (IxD) communities. A major strand of work has embraced play design knowledge to craft compelling experiences in application domains that are not purely entertainment activities [19, 24, 29, 33, 39]. Playful technologies now transcend the scope of entertainment games, and are more present in our lives [60] featuring in a variety of domains such as education (e.g., [49]), health (e.g., [56]), or the workplace (e.g., [43]). Given the broadening of the design space of play design and its application domains, we see a need to revisit play design approaches and methods.

Addressing recent calls for new methods in HCI/IxD [62] and Participatory Design [7, 9], and building on User-Centered Design methods in play design [2, 3, 22], Situated Play Design (SPD) [1] was recently proposed as an approach to designing playful experiences intertwined with everyday activity. Rather than specifying and prescribing a fixed set of design methods and practices, SPD gives pointers to a diverse set of tools for designing for play—it is an evolving framework open for the play design community to appropriate and complete with new methods. To continue developing this approach, in this paper we highlight a series of methodological challenges we have encountered when designing for situated play, and highlight the need for future research that addresses them. We hope that our contribution will inspire play designers to create new design research methods, under the open frame of Situated Play Design, that respond to the emergent challenges of designing playful interventions that intertwine well with everyday activity.

2 THE DESIGN SPACE OF SITUATED AND EMERGENT PLAYFUL TECHNOLOGY

The design space of situated and emergent playful technology, i.e. technology design that supports the emergence of play interwoven with everyday practices and activities, includes works that respond to diverse values and understandings the role of play in human life. One subset of non-entertainment play designs are those that leverage the motivational power of play to support utilitarian agendas. For example, *gamification* [12, 18, 61] uses game elements to make non-game activities more compelling, responding to the ultimate goal of motivating users to perform specific tasks that are necessary to achieve productive results in activities that are not intrinsically motivating enough by nature.

Although popular in academia, and especially in the industry sector [61], approaches that focus on the power of play to fulfill productive agendas have received criticism for: reflecting a narrow understanding of play [41, 50]; being too designer-centric [45]; and focusing more on supporting productive outcomes rather than on the play experience itself [40], which has raised ethical concerns [11, 46]. Play designers have proposed inspiring alternatives that embrace a broader understanding of play, a more even focus on intrinsic and extrinsic motivation, and a better balance between the in-the-moment play experience and the productive outcomes. For example, Pearce advocates for the design of *productive play* [47] that is tied to a purpose beyond entertainment, yet one that is meaningful to users. Nicholson's *meaningful gamification* [45] advocates for player-generated content that emphasizes the experiential value of play. *Playification* [39, 50] embraces a more diverse and nuanced idea of play than gamification, advocates for playful rather than gameful behavior [39], and focuses on the design of meaningful playful experiences that are intrinsically compelling to players—it strives to make everyday tasks intrinsically fun through the emergence of meaningful situated play [55].

While instrumenting play to support productive goals has received much attention in HCI, works that embrace a less utilitarian understanding of the role of play in human life are gaining traction as well. Those works respond to other values than productivity, e.g. promoting curiosity and exploration, facilitating social connections or, more generally, supporting well-being. For example, Sicart makes a "call to playful arms [...] against efficiency, seriousness, and technical determinism" [53, p. 5], and Gaver proposes that technology should allow us to "pursue our lives, not just work" [24, p. 1]. The idea of using technology to help people enjoy experiences they long for, and not only help them "get the chores done" [24, p. 1], is shared by others, e.g. Bekker et al.'s work on open-ended and tangible playful interaction [4–6, 57]. or Isbister et al. [34] and Márquez Segura et al.'s [37] work on the social affordances of co-located play.

3 CHASING PLAY POTENTIALS TO INSPIRE INTERACTION DESIGN

In our design focus to support the emergence of open-ended playful engagement within everyday activity, we align more with playification than gamification approaches, as well as with less utilitarian everyday play interventions that focus on enriching everyday activities playfully with added social and emotional value. Situated Play Design (SPD) [1] was recently proposed as a novel approach to support that agenda. SPD focuses on uncovering existing manifestations of contextual play and using them as a starting point for design. These manifestations, framed as *play potentials* [1], emerge naturally as users engage in their everyday context and activities, and are presumably meaningful to them. SPD proposes three iterative steps to pursue and make design use of these play potentials: First, designers *chase* play potentials when interacting with users in (semi-) naturalistic settings; Second, a design intervention is created to support and *enhance* those potentials; Third, the intervention is *deployed* in the wild, where its impact can be evaluated.

SPD builds on and extends existing User-Centered Design (UCD), Participatory Design (PD) or game and play design strategies. Similar to UCD, SPD includes users in the design process, but considers them as more active design contributors, and creative partners [20]. Regarding user participation, SPD is inspired by Participatory Design (PD) [21, 28, 44], but it is primarily concerned with play and playfulness. Instead of focusing on what stakeholders want, SPD focuses on what they do and, in particular, on how they engage playfully in their everyday activities. Further, while in SPD users take a prominent design role, solutions do not necessarily reflect a completely democratic process like in PD; the designer is responsible for identifying and building on the observed play potentials. The novelty of SPD is the proposal of chasing *play potentials* that naturally emerge in real-life activities as the starting point of play design—thereby supporting, rather than disrupting, real-life activities by realizing their play potentials.

4 CHARTING THE WAY FORWARD: NEW METHODS TO REALIZE THE WORLD'S PLAY POTENTIALS

Existing design research methods can be useful to design for play that intertwines well with everyday activity. In our work, *we* found several of them useful, ranging from active interventions in direct interaction with stakeholders (e.g. *embodied sketching* [38]) to more passive non-disruptive observations (e.g. *design ethnography* [16]), and interventions with diverse degrees of designer involvement in between (e.g. *cultural probes* [23], *provotypes* [10], or *tangible interviewing tools* [15]).

We suspect that other game and play design works may be using participatory and situated strategies (e.g. some playification works, like [39]); yet many do not often fully elaborate on how this can be done. As a result, designers often lack methodological guidance and examples for how to uncover and use play potentials in design. We point to this area as one that needs attention from the play design research community. Here we highlight a number of unaddressed challenges we have encountered in our practice, which we argue are inherent to SPD.

How do we talk about play? Play is an abstract, elusive concept. It is often difficult to talk about it—not only do we lack a robust language for the aesthetic experience of play [52], but we also lack mechanisms to facilitate multi-stakeholder conversations about it. Design researchers have long been using tangible tools to facilitate conversations, e.g. [15]. However, those tools often explore issues other than play (e.g. business innovation [13] or stakeholder empowerment [59]) and focus more on the stakeholders' pragmatic

needs than on their playful cravings. We see a need for tangible conversation materials that focus specifically on play by bridging current tools with play-focused theories (e.g. [52]), frameworks (e.g. [2]) and taxonomies (e.g. [14]).

How can we chase play in the wild? Play potentials are often spontaneous and hard to predict. Their ephemeral nature challenges the task of chasing them and realizing them by design. We see a need for mechanisms that help designers respond effectively to the emergence of playful engagement. Inspired by existing methods for first-person research [36] and embodied ideation [58], we propose to create tools that empower designers to capture the play potentials emerging around them. We also suggest it might be interesting to crowd-source that process. Given the ubiquitous nature of social media, we wonder: could we use it to capture personal accounts of playful engagement, and share those play potentials so that they can be discussed through, and cross-referenced with, other people's very own personal experiences?

How can we ground playful inspiration in culture and traditions? We argue that culture and traditions are rich areas for chasing play that have not yet received enough attention. That is a missed opportunity, as play shapes and is shaped by culture, everyday practices are imbued with play [14], and societies can be understood by looking at how their members play [31]. We see a lack of actionable methods that help designers chase and make design use of play potentials embedded in traditions. We propose to explore how to leverage such latent knowledge. We wonder: how might play designers identify interesting manifestations of play that are culturally embedded, and unpack them so that they can become a useful design material?

How can we design for playful engagement within future activities and scenarios? The role of IxD is not only to design for today, but also to envision the technologies of the future. Speculative methods help designers and other stakeholders imagine technology futures and reflect on the human-technology interplay in those future scenarios. They typically result in design concepts that embody a critique of mainstream approaches to technology design. Although there are exceptions (e.g. [42]), those methods are often more critical and rhetorical than embodied and experiential—they are better suited to raise controversial issues than to explore the potential of technology to support novel and rich playful experiences. We propose to adapt existing speculative design methods to focus on projecting playful futures. That move can be inspired by existing design methods that put the focus on embodiment, improvisation and material engagement, e.g. *embodied sketching* [38], *post-dramatic theatre* [48], or *LARPing* as a platform for technology co-creation [17, 37, 51].

How can we realize the world's play potentials here and now? We argue that one of the limitations of contemporary play design research is that its outcomes are mostly disseminated within academia. That is at odds with the notion that play designers have both the opportunity and the responsibility to be political and address important social issues [26]. Inspired by recent calls to rethink Participatory Design [9], we argue that our research should have a direct impact on people's lives, here and now, and not only within academia. If we want to realize the world's play potentials, promoting playful transformations in the communities involved in our research should be as important as publishing academic work. Existing HCI dissemination forms hardly serve that purpose—even annotated portfolios [35], highly visual and inspirational, target researchers and designers as audience. Inspired by experimental forms of knowledge-transfer in art and design (e.g. Gaver's cultural commentaries [25] or Simon's participatory exhibitions [54]), we invite play designers to experiment with new forms of dissemination that make accessible to the general public the outcomes of situated play design, e.g. through public annotated exhibitions of their multi-stakeholder play design processes and the resulting designed artefacts.

5 CONCLUSION

In this paper we focused on a research agenda of infusing play into everyday life, which aligns with the values of the *third wave of HCI*. Situated Play Design is an approach to design that proposes an open set of methods that can help designers chase *play potentials* and realize them by design. Here we discussed existing design research strategies that can be helpful for this purpose. Most importantly, we also: i) stressed the need for more methods to guide situated and emergent play design; and ii) highlighted a series of unaddressed challenges, speculating about their implications and relevance. While this paper does not cover all the methodological gaps within Situated Play Design, it serves as a provocation for playful interaction designers to share their own practices within the frame of SPD.

REFERENCES

[1] Ferran Altarriba Bertran, Elena Márquez Segura, Jared Duval, and Katherine Isbister. 2019. Chasing Play Potentials: Towards an Increasingly Situated and Emergent Approach to Everyday Play Design. In *Proceedings of the ACM Conference on Designing Interactive Systems (DIS '19)*. https://doi.org/10.1145/1858171.1858228

[2] Juha Arrasvuori, Marion Boberg, Jussi Holopainen, Hannu Korhonen, Andrés Lucero, and Markus Montola. 2011. Applying the PLEX framework in designing for playfulness. In *Proceedings of the 2011 Conference on Designing Pleasurable Products and Interfaces*. ACM, 24.

[3] Tilde Bekker, Linda De Valk, and Berry Eggen. 2014. A toolkit for designing playful interactions: The four lenses of play. *Journal of Ambient Intelligence and Smart Environments* 6, 3 (2014), 263–276.

[4] Tilde Bekker, Ben Schouten, and Mark de Graaf. 2014. Designing interactive tangible games for diverse forms of play. *Handbook of digital games* (2014), 710–729.

[5] Tilde Bekker, Janienke Sturm, and Berry Eggen. 2010. Designing playful interactions for social interaction and physical play. *Personal and Ubiquitous Computing* 14, 5 (2010), 385–396.

[6] Tilde M Bekker and Berry H Eggen. 2008. Designing for children's physical play. In *CHI'08 extended abstracts on Human factors in computing systems*. ACM, 2871–2876.

[7] Erling Björgvinsson, Pelle Ehn, and Per-Anders Hillgren. 2012. Design things and design thinking: Contemporary participatory design challenges. *Design Issues* 28, 3 (2012), 101–116.

[8] Susanne Bødker. 2006. When second wave HCI meets third wave challenges. In *Proceedings of the 4th Nordic conference on Human-computer interaction: changing roles*. ACM, 1–8.

[9] Susanne Bødker and Morten Kyng. 2018. Participatory design that matters—Facing the big issues. *ACM Transactions on Computer-Human Interaction (TOCHI)* 25, 1 (2018), 4.

[10] Laurens Boer and Jared Donovan. 2012. Provotypes for participatory innovation. In *Proceedings of the designing interactive systems conference*. ACM, 388–397.

[11] Ian Bogost. 2016. *Play anything: The pleasure of limits, the uses of boredom, and the secret of games*. Basic Books.

[12] Biran Burke. 2016. *Gamify: How gamification motivates people to do extraordinary things*. Routledge.

[13] Jacob Buur and Robb Mitchell. 2011. The business modeling lab. In *Proceedings of the Participatory Innovation Conference*. 368–373.

[14] Roger Caillois. 2001. *Man, play, and games*. University of Illinois Press.

[15] Simon Clatworthy, Robin Oorschot, and Berit Lindquister. 2014. How to get a leader to talk: Tangible objects for strategic conversations in service design. In *ServDes. 2014 Service Future; Proceedings of the fourth Service Design and Service*

Innovation Conference; Lancaster University; United Kingdom; 9-11 April 2014. Linköping University Electronic Press, 270–280.
[16] Andrew Crabtree, Mark Rouncefield, and Peter Tolmie. 2012. *Doing design ethnography*. Springer.
[17] Ella Dagan, Elena Márquez Segura, Ferran Altarriba Bertran, Miguel Flores, and Katherine Isbister. 2019. Designing 'True Colors': A Social Wearable that Affords Vulnerability. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM.
[18] Sebastian Deterding. 2011. Meaningful play: Getting gamification right. *Google Tech Talk* 24 (2011), 2011.
[19] Sebastian Deterding, Staffan L Björk, Lennart E Nacke, Dan Dixon, and Elizabeth Lawley. 2013. Designing gamification: creating gameful and playful experiences. In *CHI'13 Extended Abstracts on Human Factors in Computing Systems*. ACM, 3263–3266.
[20] Allison Druin. 2002. The role of children in the design of new technology. *Behaviour and information technology* 21, 1 (2002), 1–25.
[21] Pelle Ehn. 2017. Scandinavian design: On participation and skill. In *Participatory design*. CRC Press, 41–77.
[22] Tracy Fullerton. 2014. *Game design workshop: a playcentric approach to creating innovative games*. AK Peters/CRC Press.
[23] Bill Gaver, Tony Dunne, and Elena Pacenti. 1999. Design: cultural probes. *interactions* 6, 1 (1999), 21–29.
[24] William Gaver. 2002. Designing for homo ludens. *I3 Magazine* 12, June (2002), 2–6.
[25] William Gaver. 2007. Cultural commentators: Non-native interpretations as resources for polyphonic assessment. *International journal of human-computer studies* 65, 4 (2007), 292–305.
[26] William Gaver. 2015. Homo ludens (subspecies politikos). In *The gameful world: Approaches, issues, applications*, Sebastian Deterding and Steffen P. Walz (Eds.). MIT Press Cambridge, MA.
[27] Lars Hallnäs and Johan Redström. 2001. Slow technology–designing for reflection. *Personal and ubiquitous computing* 5, 3 (2001), 201–212.
[28] Kim Halskov and Nicolai Brodersen Hansen. 2015. The diversity of participatory design research practice at PDC 2002–2012. *International Journal of Human-Computer Studies* 74 (2015), 81–92.
[29] Mads Hobye. 2014. *Designing for Homo Explorens: open social play in performative frames*. Faculty of Culture and Society Malmö University.
[30] Kristina Höök, Martin P Jonsson, Anna Ståhl, and Johanna Mercurio. 2016. Somaesthetic appreciation design. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. ACM, 3131–3142.
[31] Johan Huizinga. 1950. *Homo Ludens*. Boston: Beacon Press.
[32] Katherine Isbister. 2011. Emotion and motion: games as inspiration for shaping the future of interface. *Interactions* 18, 5 (2011), 24–27.
[33] Katherine Isbister. 2016. *How games move us: Emotion by design*. MIT Press.
[34] Katherine Isbister, Elena Márquez Segura, and Edward F Melcer. 2018. Social Affordances at Play: Game Design Toward Socio-Technical Innovation. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, 372.
[35] Jonas Löwgren. 2013. Annotated portfolios and other forms of intermediate-level knowledge. *Interactions* 20, 1 (2013), 30–34.
[36] Andrés Lucero, Audrey Desjardins, Carman Neustaedter, Kristina Höök, Marc Hassenzahl, and Marta E. Cecchinato. 2019. A Sample of One: First-Person Research Methods in HCI. (2019), 385–388. https://doi.org/10.1145/3301019.3319996
[37] Elena Márquez Segura, James Fey, Ella Dagan, Samvid Niravbhai Jhaveri, Jared Pettitt, Miguel Flores, and Katherine Isbister. 2018. Designing Future Social Wearables with Live Action Role Play (Larp) Designers. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, 462.
[38] Elena Márquez Segura, Laia Turmo Vidal, Asreen Rostami, and Annika Waern. 2016. Embodied sketching. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. ACM, 6014–6027.
[39] Elena Márquez Segura, Annika Waern, Luis Márquez Segura, and David López Recio. 2016. Playification: The PhySeEar case. In *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play*. ACM, 376–388.
[40] Joe Marshall and Conor Linehan. 2017. Misrepresentation of health research in exertion games literature. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. ACM, 4899–4910.
[41] Jane McGonigal. 2011. *Reality is broken: Why games make us better and how they can change the world*. Penguin.
[42] Joshua McVeigh-Schultz, Max Kreminski, Keshav Prasad, Perry Hoberman, and Scott S Fisher. 2018. Immersive Design Fiction: Using VR to Prototype Speculative Interfaces and Interaction Rituals within a Virtual Storyworld. In *Proceedings of the 2018 Designing Interactive Systems Conference*. ACM, 817–829.
[43] Sherif Mekky and Andrés Lucero. 2016. An Exploration of Designing for Playfulness in a Business Context. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems*. ACM, 3136–3143.
[44] Michael J Muller. 2009. Participatory design: the third space in HCI. In *Human-computer interaction*. CRC press, 181–202.
[45] Scott Nicholson. 2015. A recipe for meaningful gamification. In *Gamification in education and business*. Springer, 1–20.
[46] Casey O'Donnell. 2014. Getting played: Gamification and the rise of algorithmic surveillance. *Surveillance & Society* 12, 3 (2014), 349–359.
[47] Celia Pearce. 2006. Productive play: Game culture from the bottom up. *Games and Culture* 1, 1 (2006), 17–24.
[48] Merja Ryöppy, Patricia Lima, and Jacob Buur. 2015. Design Participation as Postdramatic Theatre. In *4th Participatory Innovation Conference 2015*. 47.
[49] Eric Sanchez, Shawn Young, and Caroline Jouneau-Sion. 2017. Classcraft: from gamification to ludicization of classroom management. *Education and Information Technologies* 22, 2 (2017), 497–513.
[50] Aaron Scott. 2014. Meaningful play: how playcentric research methods are contributing to new understanding and opportunities for design. In *The Routledge companion to design research*. Routledge, 416–430.
[51] Elena Márquez Segura, Katherine Isbister, Jon Back, and Annika Waern. 2017. Design, appropriation, and use of technology in larps. In *Proceedings of the 12th International Conference on the Foundations of Digital Games*. ACM, 53.
[52] John Sharp and David Thomas. 2019. *Fun, Taste, & Games: An Aesthetics of the Idle, Unproductive, and Otherwise Playful*. MIT Press.
[53] Miguel Sicart. 2014. *Play matters*. MIT Press.
[54] Nina Simon. 2010. *The participatory museum*. Museum 2.0.
[55] Mattia Thibault. 2017. Play as a Modelling System–a Semiotic Analysis of the Overreaching Prestige of Games. In *Proceedings of the 1st International GamiFIN Conference*. 105–110.
[56] Debbe Thompson, Tom Baranowski, Richard Buday, Janice Baranowski, Victoria Thompson, Russell Jago, and Melissa Juliano Griffith. 2010. Serious video games for health: How behavioral science guided the development of a serious video game. *Simulation & gaming* 41, 4 (2010), 587–606.
[57] Rob Tieben, Tilde Bekker, and Ben Schouten. 2011. Curiosity and interaction: making people curious through interactive systems. In *Proceedings of the 25th BCS Conference on Human-Computer Interaction*. British Computer Society, 361–370.
[58] Laia Turmo Vidal and Elena Márquez Segura. 2018. Documenting the Elusive and Ephemeral in Embodied Design Ideation Activities. *Multimodal Technologies and Interaction* 2, 3 (2018), 35.
[59] Marleen Van Bergeijk, Bart Hengeveld, and Selma Otto. 2017. DOK: Enhancing Child Patient Empowerment. In *Proceedings of the Eleventh International Conference on Tangible, Embedded, and Embodied Interaction (TEI '17)*. ACM, New York, NY, USA, 589–595. https://doi.org/10.1145/3024969.3025066
[60] Steffen P. Walz and Sebastian Deterding. 2015. *The gameful world: Approaches, issues, applications*. MIT Press.
[61] Kevin Werbach and Dan Hunter. 2012. *For the win: How game thinking can revolutionize your business*. Wharton Digital Press.
[62] John Zimmerman, Erik Stolterman, and Jodi Forlizzi. 2010. An analysis and critique of Research through Design: towards a formalization of a research approach. In *proceedings of the 8th ACM conference on designing interactive systems*. ACM, 310–319.