Designing for Outdoor Play

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ABSTRACT

There is widespread societal concern regarding the reduction in the amount of time that we all spend playing outdoors. Outdoor play can be important for our social and physical well-being and moreover helps us to connect to space, place and environment. Of course, the CHI community continues to explore play across many contexts; however, specifically designing for outdoor play remains underexplored. This workshop aims to bring together those who are interested in technological, social and design aspects of outdoor play for all ages. We will use participants' insights, energies and expertise to explore the challenges and focus on how we can build a community to share innovative designs, generate knowledge and make actionable research in this context.

KEYWORDS

Outdoor play; open-ended play; pervasive play; pervasive games.

1 BACKGROUND

Outdoor play is important for both children and adults. It has been shown to encourage physical activity and enhance social interactions, while helping us connect to nature and green spaces which can improve our health and well-being [16]. For children specifically, outdoor play has an important role in their emotional, physical and social development [25].

However, we are playing outside less and less, with studies and organisations describing many cultural and societal causes. These include the loss of our public spaces through reduced investment [26], social segregation of urban spaces [13], and increasing focus on individual productivity [4]. Young people in particular are spending far less time outside than previous generations. Their barriers to play include potential dangers, including cars [17, 23], lack of time, poor weather [25] and heavy 'screen time' – e.g. many 12 to 15-year old's in the UK spend up to 24 hours online / 7 hours playing computer games per week [18]. This can contribute to a decline in their physical activity, depriving them of the health benefits [8] and opportunities to connect to the environment [17].

Technology has an important role in relation to playing outside. To date, the CHI community has explored play in contexts of learning [20], wellbeing [14], physical exercise [15], body movement [7] and social play [10]. However, designing for outdoor play is still relatively unexplored with few researchers and practitioners e.g. [2,20,21,22] tackling the difficult methodological and technical challenges of designing for more opened-play in an outdoor environment. Instead, research has often focused on different challenges such as its educational value (as argued by [21]), carefully managed and curated serious games [5], or centred on technical innovation in hedged off playground settings [6]. However, designing for outdoor play can connect people to their environment [12], provide new social opportunities [10] and encourage physical activity and movement [15]. In addition, outdoor play can be used to reimagine and repurpose our built environments as places-to-play [19] and places-for-social-change [1]. We might also look at our natural surroundings as resources for design (as in NatureCHI [9] and HCI Outdoors [11]), which are similarly underexplored resources from the perspective of designing for outdoor play.

To respond to these challenges and opportunities, this workshop will reach out to and include (but is not limited to) researchers in Child Computer Interaction, connected cities, urban design and informatics, play and games, pervasive/ubicomp, psychology and creative play practitioners. This expertise will enable a fresh look at the challenges in this area and create an agenda around play and playfulness outdoors so that we might respond to this important societal issue and explore actionable research in this area. Practitioners and researchers across these different fields will likely be interested in the technological, social and design aspects of outdoor play, and while we have own particular interest in designing-for-children, there is opportunity in designing for outdoor play to support a wider age range.

Figure 1: Detail of a publicly accessible digital light beacon in a permanent playground in a forest area in Örebro. The playground was created in the design project DigiFys [3], led by KTH, Royal Institute of Technology.

2 WORKSHOP TOPICS

The workshop topics for consideration will include, but will not be limited to:

- Innovative digital designs that encourage us to play outside.
- Barriers to, and challenges in designing for play outside e.g. traffic / loss of public spaces.
- Designing for children's outdoor play and "digital playing out".
- Leveraging cultural and traditional perspectives on outdoor play.
- Outdoor play for physical exercise and recreation.
- How technologies can enable play outside – that does not get in the way of experiencing, feeling and knowing the outdoors.
- Designing for the neighbourhood and public spaces.
- The outdoors as a material and context for design.
- Gardens and wild spaces e.g. concrete islands and guerrilla gardening
- How we can encourage play outside the conventional time and favourable weather conditions e.g. evening play / playing in the rain etc.
- Innovative user interfaces and metaphors for designing outside.
- Ethics and best practices for working with participants in the outdoors (e.g. address challenges of data capture, inclusive design, etc.)
- Designers of digitally-augmented playgrounds e.g. Figure 1.
- Design of mobile phone games created for the outdoors and public spaces e.g. Figure 2.

3 WORKSHOP AIMS AND GOALS

The proposed one-day workshop intends to invite approx. 15 participants from a range of fields across research, studies and practice. The workshop will aim to use this combined expertise to support interdisciplinary discussion around designing for outdoor play.

Specifically, we will aim to develop a richer understanding of how we can design digital technologies to engage people in playing outdoors. Therefore, the workshop will: 1) build a network of diverse set of researchers and practitioners in this area, 2) examine the current key trends of research and identify best practices and guidelines, 3) promote more research in this area – looking at success stories and by recognising how research here is also valuable to wider HCI discourse, 4) finally, the workshop will identify important yet underexplored areas which can inform future research, provide opportunities for collaboration and plan new events.

4 ORGANISERS

Gavin Wood is a researcher in the Department of Computer and Information Sciences at Northumbria University. He has a background in mobile game research and play with young people, has worked in the games industry and is an active indie developer. His research interests include mobile games design, extended reality research, and pervasive play. He is currently working on new interactions for outdoor play for children using IoT.

Figure 2: Children gather around a mobile phone game that uses the phone's sensors to get them to explore during a visit to a nineteenth century hall and gardens.

Tommy Dylan is a researcher at the School of Design, Northumbria University. He is a creative technologist who uses embedded technology, craft materials and processes to make prototypes that investigate richer, more meaningful roles for digital products. His research to date has principally involved design ethnographic work, with and for older people, including those living with dementia in care. Presently he is working on design ethnographic work looking at the role of physical IoT devices to enhance and support outdoor play amongst children.

Jon Back is a play and games designer, and design-oriented researcher at the Department of Informatics and Media at Uppsala University. He's been working mainly in expanded game formats where the game reaches out of the computer and into the everyday world, and he is inspired by areas such as live action role-play, child's play, storytelling, and street performance. Currently he is working on digitally enhanced malleable playground experiences. He is proud to call himself both a researcher and a practitioner, having published board games and card games, as well as performed playful and participatory performance art.

Jaz Hee-Jeong Choi is a Vice-chancellor's Senior Research Fellow at RMIT University. She has a transdisciplinary background with an emphasis on design and playful engagements. Her research interests include self-care and mutual aid; impactful methods, and; co-creative urban transformation. Her current research focuses on design with and for care.

Marti Louw directs the Learning Media Design Center in the Human Computer Interaction Institute at Carnegie Mellon University. She also serves as the Assistant Dean of Curriculum for the Interactive Design Arts & Technology (IDeATe) network and teaches in the Master of Educational Technology and Applied Learning Sciences (METALS) and undergraduate Design for Learning programs. As a design-based researcher she focuses on how design as both a generative and integrative form of systematic inquiry can be used to develop technology-enhanced informal learning environments that are socially constructed, personally relevant, and emancipatory. Current project work includes scaffolding disciplinary forms of observation and reflection in outdoor, citizen science and free-choice learning contexts.

Julie Williamson is a lecturer in Human Computer Interaction at the University of Glasgow. Her research focuses on how people use technology in public spaces and how interactive technologies can be designed given the "performative" aspects of using technology in public. Julie has a background in designing multimodal interactions for public and mobile contexts.

5 PRE-WORKSHOP PLAN
The workshop will be promoted on social media – e.g. personal and project Twitter streams and through our personal networks, while also directly approaching colleagues at our own institutions and through our work networks

The workshop will be published on the website: https://outdoorplay.design. The website will contain the workshop call for papers, submission details and email link, and references to the key papers and designs that the organisers have found inspiring in this area. Immediately prior to the workshop, the website will also contain the accepted workshop submissions subject to agreement from the author, together with a collective bibliography made from the submissions.

6 WORKSHOP STRUCTURE

This workshop will fit with the compressed workshop schedule with an evening meal at the end of the day to provide opportunity for further networking. The activities will – naturally - be inspired by outdoor play. As such, participants will be encouraged to adopt a playful mindset for a day that will include traditional games and play, proprietary outdoor games / toys, on-the-hoof making using to-hand "stuff", and most importantly: going-out-to-play in Glasgow. The activities will be placed on the website which will be used to document the day via videos, photographs and colourful vignettes. We will do our best to ensure that an inclusive environment is maintained throughout the workshop and have two local organisers in place to guide participants to provocative and otherwise hidden spaces that they may exploit.

The part-day will begin with introductions. Participants will be given 5 minutes each to describe their own research and interest in the event. However, we will ask each attendee to bring along a plaything or prop that can be used to illustrate some play they once enjoyed, and still appreciate. Props will take different forms, such as photographs and objects (e.g. Space Hopper, Big Trak, Action characters and so on). We expect approx. 15 submissions which will allow time for exciting introductions.

The group will be organised into teams that will venture out into the city centre to capture new or existing play spaces. These will be captured with mobile phone by video, animated gifs and selfies, and tagged to the event. The teams will be asked to look at that environment in a specific way e.g. how might a 9-year-old use this space to play? How might an adult use this space? How might play span different ages? What opportunities does digital technology provide to change this play?

Participants will be brought together at a café meetup where we will talk over their choices of play space and provide them with traditional materials for creating design e.g. stationary, card and "Found Objects", as well as digital options e.g. BBC Micro:bit, Arduino, Smart phone etc.

In the second activity, the teams will make a design for one of these spaces to be demonstrated in situ that might encourage more social and physical forms of play. The teams will then make step-by-step guides ("instructables") for their designs, which will be presented to the group back at the workshop and then the wider conference.

6.1 Preliminary Schedule

We propose the following preliminary schedule to fit the CHI 2019 Workshops part-day workshop:

8:00am   Welcome and Workshop Introduction
8:15am   Introductions – 5 minutes per attendee / quick introduction and bring-along-a-plaything
9:30am   First exercise / finding new play spaces that provide opportunity for outdoor play
10:30am Café meetup for coffee and discussion
11:00am Outdoor exercise 2 / create a design outdoors to demonstrate new outdoor play
12:00pm Back to the workshop room for a working lunch to make building guides/posters that will illustrate our collective designs
1:00pm   Group Show-and-Tell
1:30pm   Organiser summary
2:00pm   End of workshop
6:30pm   Meet up with atteendes meal

7 WORKSHOP PLAN AND DISSEMINATION

After the workshop, we will use the designs and photos from the activities to show to the main conference, possibly as part of the poster/demo session. This will include the "instructables", and videos of our play in Glasgow.

We intend to summarise learning from the workshop in a submission to ACM Interactions and plan a follow-up workshop at another conference or event.

CALL FOR PARTICIPATION

This workshop aims to build a community around designing interactions for outdoor play.

This workshop responds to an important societal problem of people playing outside less and less, leading to reduced health, educational, and social benefits. For adults, outdoor play can provide stress relief, opportunity for social interactions and benefit physical health and well-being. For children, unstructured play outdoors is important for emotional, social and physical development.

Motivated by the opportunities and challenges in this area, we invite a diverse set of practitioners and researchers who will likely enjoy exploring the technical and methodological challenges of designing for outdoor play. This one-day workshop will involve traditional games and play, proprietary outdoor games / toys, making using to-hand materials, and most importantly, people with diverse backgrounds exploring and collecting insights through outdoor play in Glasgow.

To apply to the workshop, please submit a position paper in the CHI Extended Abstract format (on or before) 12 February 2019 via submissions@outdoorplay.design.

Submissions should be up to 4-pages (excluding references) and include:

1)   A description of the authors past work and future work related to outdoor play.
2)   A statement of the authors' interest in this workshop.

Submissions will be evaluated by peer-review process. At least one author from the accepted submission will be expected to register to the CHI conference and workshop. This work will be used to build outdoor play as an area of interest, a formal/informal network, and promote future collaborations.

Visit our website for more details: https://outdoorplay.design.

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