

pLAYHAUS PROJECT

A research proposal to create augmented casual game play with urban structures.

*Note: In addition to this application, you may find my portfolio of work, resume, bio, and a copy of this proposal on my website: <http://anitawilhelm.com>. Due to NDAs I've had to protect some projects in the work section of my portfolio. To access these, please use the **password: imap**.*

During the 2011 application cycle to iMAP, I submitted a research proposal entitled pLAYERS. This proposal outlined my suggested research process to explore social play within both virtual and physical communities, in order to compare and contrast the mechanical and cultural effects within these disparate contexts. My goal after performing this kind of survey is to apply the findings to create integrated augmented play experiences for children's learning, urban discovery, and positive lifestyle change. In this proposal I focus on the application of this methodology to explain one such project. (My previous pLAYERS PROPOSAL has been left online for reference.)

A video sample of the prototype which I reference later in this statement can also be found at: <http://www.playhausproject.com/samplotron/>

Research and Career Objective Overview

In applying to the USC iMAP program, I wish to expand my background in cross-platform service design and social game play. I seek to leverage my prior experience in corporate research strategy labs, museum installations, and in art projects that blended play and technology for young people in urban areas. Within iMAP, I propose to explore multi-platform design that extends playful interactions, connecting everyday experiences in homes, schools, and within the urban environment.

Extending my academic work, I wish to deepen my long-standing interest in games and interface design by investigating how to embed light and playful modalities—in both public and private contexts—throughout a variety of platforms. My research will explore architectural approaches that offer a lens for exploring design principles of multimodal systems on a structural level, and turn to gaming and performance theory to investigate narrative, reward, and other directional mechanics that develop interactive and humanistic engagement. Combined with a deeper understanding of the cultural impact of virtual and real-world play (as I further outline in my pLAYERS proposal) these mechanics can be used to design ubiquitous systems that positively and powerfully shape casual learning, urban discovery, and influence socially conscious behavior change through more intuitive layering of the virtual and physical.

By engaging theory and practice simultaneously in the realms of social gaming, architecture, and cultural practice, I hope to advance my career and amass a more critical and engaging design toolkit, with the intention of contributing further to the educational community by teaching emerging design practices in university settings and continuing my professional practice through innovative research design projects.

Areas of focus: Casual Games; Ubiquitous Computing; Pervasive Games; Alternative Reality Games; Situationism; Service Design; Transmedia Storytelling; Cultural Design

I: Theoretical Grounding: Situationist International, Augmented Games, and Cultural Design

Current cultural conditions, the decomposition of the individual arts, and the impossibility of the renewal or the perpetuation of these arts have produced a creative vacuum that can only be favorable to our undertaking. The disappearance of traditional artistic forms and the progressive organization of social life has brought about an increasing lack of ludic possibilities in everyday life. Not only does our refusal of this state of things drive us to seek out new conditions of play, but it obliges us to reconsider every cultural problem in order to finally arrive at a unified theory of the practice of consciously constructing ludic environments. ~ Internationale Situationniste #3 (December 1959 – Munich, Germany)

Building his first playground in Amsterdam in 1947, Aldo van Eyck's playful experiment changed the experience of children moving through the city, interacting with the built environment, and activating public spaces. By rejecting prewar sterile approaches to city planning and creating spaces that left room for the imagination, van Eyck and his cohort explored how to put humanistic elements back into spatial design. They considered the inhabitants of the city, the children, and their potential interactions, along with the potential impact of ludic structural forms.

Creating the cultural critique that followed, as part of Situationist International, Constant Nieuwenhuys and Guy Debord combined van Eyck's creative approach and Johan Huizinga's notion of the *Homo Ludens*—the man of play, introduced in the 1938 book by the same name—in their notion of a society of mass creativity. They predicted that *Homo Faber*, the typical working man, would be replaced by *Homo Ludens*, the playful and creative man in postwar, post-industrial society. The Situationists (as noted above) took play and incorporated it into one of their central notions. As Debord stated, their work was “precisely the preparation of ludic possibilities to come”. [2] Considering our current post-industrial time and the destruction of old industrial cities, it seems timely to re-explore these notions in a new light with the hopes of creating solutions to help reunify broken urban structures.

Examining The Situationists movement from a mechanical point of view, three main design considerations define the approach taken to achieve a more ludic landscape. First, minimalist design is intended to stimulate the imagination of the playground's users. Simplicity allows open space to become interpreted with different meanings. Second, modular elements allow repetition and movement to be integral throughout the form. Finally, is the interactive, the “in-between” or “interstitial” nature of the playgrounds *in situ* with the city at large.

Considering the notion of in-between space and extending the definition to include a virtual realm, augmented reality games and ubiquitous computing platforms offer ways in which a hidden inner life of objects interplay with the physical forms surrounding to create a rich experience bringing more meaning and interaction to the object. [3] Designer's challenge becomes then to create the “inner life” of these forms. Working within this in-between space, designers are able to create a secret world and redefine objects, allowing users to discover a richer environment through participation and performative engagement. [4]

Comparing the first principle of van Eyck's playgrounds, in the same way that his designs left room for users to stimulate their imaginations, so too, do game designers recognize the necessity of imagination in the definition of the experience. As Jesse Snell points out, “the experience is imaginary—but game designers are judged by the quality of this imaginary thing, because it is the reason people play games.” [5] Incorporating this kind of theoretical framing and design thinking into the development of ubiquitous system design, digital systems can largely impact mindsets and behaviors in the ‘real world’ development of their users. Considering massively multi-player games, the term ‘users’ extends quickly to larger communities.

The development of this kind of imagination in shaping children's lives, fallen cities, and cultural interactions becomes increasingly important in a continually growing networked society. Anne Balsamo's book *Designing Cultures* points out the importance of creating cultural artifacts that positively shape our socio-techno imaginations. [6] Through the advancement and ubiquity of digital infrastructures, the designer holds increasingly more influential power on shaping culture. As ubiquitous designs become increasingly embedded throughout users lives, designers become lifestyle storytellers, writing journeys for daily lives. Within civic and public infrastructures, the story told by the digital designer can extend outside the life of just the individual participant or family and into a space that can change experiences in neighborhoods and cities at large.

To this end, I propose pLAYHAUS, a project that challenges our notion of play by drawing inspiration from the culture of digital music creation to promote shared discovery and learning via playful platforms embedded within an urban structure.

II: pLAYHAUS PROJECT : People, Play, Participation

The pLAYHAUS PROJECT aims to unite communities through expanding the definition of play to create interesting new interactions in in-between spaces. Harnessing interactive modular interfaces, participants can engage with existing structures in new ways. The experience of the city becomes heightened as an interactive layer becomes present where none previously existed.

An initial installation and prototype of an interactive project built May 2011 in Jackson Mississippi, pLAYHAUS explores play in both a physical and virtual environment. [7] Extending the notion of "play" to include a musical component, an 8 x 8 modular interactive grid was created on top of a mobius shaped climbing structure. Inspired by the cultural interactivity and production of electronic music, this modular interactive grid mimics a large scale sampling grid used by electronic music producers, in which one button is mapped to one loop. Turning on and off the loops, the producer creates an electronic music track. With each button mapped to a unique sound loop, participants climb through the structure, "playing" the structure and composing a song as a community.

As the name suggests, the project achieves interactivity through both its physical and virtual musical modalities by focusing on multiple meanings of the concept of play. First, it invites physical play through its structural affordances and suggests to users to move through, engage with, and explore the shape, swings, and seated areas of the jungle gym-like structure. Users interact with it by climbing in, around, and over its intertwining frame. The second interactive play modality is the structure itself, as an agent used in play—like a musical game. Discovering musical patterns and rhythmic sections, the participants uncover the meaning of the gridded buttons and reveal a hidden layer of the structure, where they are able to compose unique auditory experiences.



The combination of the auditory and physical engagement of the jungle gym creates an exciting experience for the participants of the local community to “play” through three-dimensional physical space while simultaneously “playing” through musical compositions. A sound bank comprising the original submissions of music by local artists and industry professionals initially seeds the sounds to be played. Through the playful duality, participants are able to discover new local artists by revealing a wider community as it is situated in local, national and global networks of culture and communication. Cooperative play with other community individuals within the sculpture reinforces participants’ social engagement with the broader community, and inspires discovery of a robust technological imagination within all participants.



Extending this project, I wish to explore what it means to play in an augmented context. Working within the modular layer of interactivity which can lay upon any existing structural frame, could a musical experience be combined with a social collaborative game where users unlock patterns – through pressing a prompted sequence of buttons, like Simon Says – to reveal different sound loops? As players level up, unlocking more and more sophisticated loops, could they eventually reveal the entirety of a song together, simultaneously composing their own digital music? pLAYHAUS could further engage the community by allowing local residents to upload their own tracks directly into the local structures and sound database from their mobile phones or portable music devices. Through this extended connection, the playground could then save their collaborative works for access to musical artifacts from their home, car, or school to continue the engagement into other contexts.

pLAYHAUS provides an opportunity to explore what counts as a musical instrument. Considering the breadth of connected toys, if entering the playground could facilitate every object to become musical, a game of jacks could enable cymbal sounds, a bouncing ball in the center of a jungle gym a bass drum, a swing could hold or set tempo like a metronome. With the ability to detect the individual users and record their interactions with these objects in this digital playground, what kind of data could we collect that would aide civic uses, learning progress, facilitate a community database, record scores, or simply save musical compositions or other co-created media objects for later access within users' other environments?

Beyond its use as a digital playground/musical instrument for children, pLAYHAUS could also be a platform for adult lifestyle change. Similar to how Wii Fitness encouraged adults to become more playful and active, could a mode enable the bars to count the progress of pull-ups an individual has mastered over a number of weeks and chime each time the user completes their daily goal? Could a bench display the number of “step-ups” performed? Could a sprinting game within the jungle gym itself help an adult to build speed and agility?

By layering social virtual play experiences with more traditional, physically-based play, I wish to better understand how to create experiences that explore interactivity in playful, interstitial spaces. Examining new types of physical modular interfaces combined with innovative digital services, I hope to harness casual play to promote rewarding lifestyle engagements throughout a users' daily journey - from home, to school, to the playground, into the car.

III. Personal Experience and Goals

With a career steeped in cross-platform (web, mobile, ubiquitous computing) and service design methodologies, I seek to use this approach to interactive design by extending a cloud layer to connect users' multitude of devices and create a transmedia story throughout their lives. Having designed services, APIs, and influenced new operating systems which span mobile phones, game consoles, tablets, cars, tvs, refrigerators, traditional web and a multitude of other devices, cloud computing and "service design" is my daily practice. In pushing the limits of this process, I have found that the design is only as powerful as its intended users' need and limited by the robust capabilities of the sensory data appropriated through the physical device itself.

Prior to working in corporate research and start-up settings, I completed a Masters of Information Management and Systems in the iSchool at the University of California, Berkeley, focusing specifically on mobile interaction design. As a researcher for Garage Cinema Research, I explored the camera phone's capabilities as the first mass networked media capture device. I conducted ethnographic interviews and collaborated with a team that explored the larger cultural disruptions that this device made to photographic media habits. [8] I also developed qualitative research instruments for additional corporate studies, including diary studies, home visits, and surveys. Exploring new interface design metaphors and interaction paradigms, I translated these findings into design tools such as personas, wireframes, storyboards, and service requirements, producing prototypes of potential services which would leverage the qualitative findings. These efforts resulted in two co-published papers on new service ideation leveraging participatory media metadata acquisition through the use of mobile technology [9] [10] and sparked the basis for a new corporate research lab and products in the mobile photo research space. [11]

For my master's thesis project at Berkeley's iSchool, I created a social-mobile pervasive game called "Zooke: The Camera Phone Game". [12] The game was a framework for exploring the city and daily paths in a new light by completing media-based challenges and sharing them socially. In many of our focus groups, the different content scope and interaction capacities proved to build a light, yet, meaningful interaction for our users. Many of them commented on perceiving their daily chores and commute paths differently, or simply looking at the city and their social interactions through a new lens: we succeed at changing daily habits through a playful interface. As a finalist in VERTEX, a Stanford-Berkeley Innovation competition, the game captured the attention of a venture capitalist and we accepted a small private investment that helped sustain our work for the next three years in producing a live commercial product. As the mobile ecosystem proved to grow slower than many expectations, we eventually returned the platform to its roots and placed a version of the system as a children's learning tool in the Liberty Science Center, just outside of New York City. As one of the first National Science Foundation grants of its kind to support informal learning through augmented mobile interactions, the game was built for use as an in-museum experience and collaborative learning tool, extending through the cloud to connect the in-museum experience to the classroom and beyond. Expanding on these learnings, I would like to add further game theory and more narrative understandings, along with some architectural backdrop, to my practice to fully be able to create multi-dimensional interactive social play experiences.

Drawing on these experiences of work within corporate lab, academic research, and museum settings and growing them to include art projects like the prototype described above, which I have recently been involved in creating on my own time, I believe my experience and background will prove to be an excellent fit for iMAP at USC Cinematic School of Arts. Working with multidisciplinary teams is second nature to me. The University of Southern California offers me a very rare opportunity where I can explore the intersection of my interests and collaborate with other multi-faceted individuals to complete their application. Should I be accepted to the iMAP program I hope to gain access to foundational game and narrative theory within the School of Cinematic Arts. In line with iMAP's interest in cross-disciplinary integration, I hope to seek resources across the university and in the community to further hone my exploration of the social

impacts of casual cross medium spaces and play. In this realm, social and cultural studies work being done in cooperation with Annenberg through Professors Henry Jenkins and Anne Balsamo are of particular interest to me, as is the anthropological research of Professor Mizuko Ito. Ultimately, as a designer who wants to build integrated systems, I'd like to apply this intersection of game and cultural theory to expand the application and design of the pLAYHAUS PROJECT within the Mobile and Environmental Media Laboratory and Experimental Game Laboratory. Here, I'd like to explore the creation of new types of interactive experiences incorporating casual social play within urban structures. Exploring new modular interface forms and extending service creation through the cloud to include other devices, I'd like to create engaging experiences around informal learning, social urban discovery, and lifestyle behavior change. Faculty members such as Scott Fisher, Anne Balsamo, Henry Jenkins, Andreas Kratky, and Chris Swain as well as the programs flexibility and interdisciplinary nature, makes it a unique fit where I can only execute the cohesion of these ideas.

As a self-driven designer and researcher who enjoys being involved in pioneering our technological frontier, I present myself as a qualified and enthusiastic candidate for continued study at USC iMAP. Thank you for your consideration of my candidacy and this proposal.



References:

1. **Inaugural Report to the Munich Conference.** *Internationale Situationniste* #3. (December 1959). <http://www.cddc.vt.edu/sionline/si/inaugural.html>
2. **Contribution to a Situationist Definition of Play.** *Internationale Situationniste* #1. (June 1958). <http://www.cddc.vt.edu/sionline/si/play.html>
3. Gold, Rich. **This is Not a Pipe.** *Communications of the ACM – Special issue on computer augmented environments: back to the real world.* v36 i7. July, 1993.
4. McGonigal, Jane. **This Might Be a Game: Ubiquitous Play and Performance at the Turn of the Twenty-First Century.** *Dissertation in Performance Studies and Film Studies, University of California, Berkeley.* Berkeley, California. Fall, 200
5. Schnell, Jesse. **The Art of Game Design: A Book of Lenses.** *Morgan Kaufman Publishers.* Burlington, MA. Copyright 2008.
6. Balsamo, Anne. **Designing Culture. The Technological Imagination at Work.** *Duke University Press.* Durham, NC and London, England. Copyright 2011.
7. Playhaus Project description: <http://www.playhausproject.com/samplotron/>
8. Van House, N., Davis, M., Takhteyev, Y., Good, N., Wilhelm, A., Finn, M. **From “What?” to “Why?”: The Social Uses of Personal Photos.** *Proceedings of CSCW'04,* November 6–10, 2004, Chicago, Illinois, USA, 2004
9. Sarvas, R., Herrarte, E., Wilhelm, A., and Davis, M. **Metadata Creation System for Mobile Images.** *Proc. MobiSys 2004,* Boston, MA, USA. ACM Press.
10. Wilhelm, A., Takhteyev, Y., Sarvas, R., Van House, N., and Davis, M. **Photo Annotation on a Camera Phone.** *Proc. CHI2004,* Vienna, Austria. April 24-29, 2004. ACM Press.
11. **Yahoo Berkeley Labs: ZoneTag** <http://zonetag.research.yahoo.com/>
12. Wilhelm, A and Towle, J. **Zooke: The Camera Phone Game.** *UbiComp 2005: Ubiquitous Computing, Entertainment, and Games Workshop.* September 11-14, 2005 – UbiComp 2005, Tokyo, Japan.
13. Aldo van Eyke and the City as Playground: http://www.flexmens.org/drupal/?q=Aldo_van_Eyck_and_the_City_as_Playground
14. Akousmaflore: Sensitive and Interactive Musical Plants. http://www.scenocosme.com/akousmaflore_en.htm