ROUTLEDGE

A **Focal Press** Book

MODE 2019 MOTION DESIGN EDUCATION SUMMIT

2019 CONFERENCE PROCEEDINGS

Co-Editors: Jillian Coorey, Andre Murnieks, Heather Shaw and Rebecca Tegtmeyer

30 MAY – 01 JUNE 2019
WELLINGTON, NEW ZEALAND
Massey University
Te Kunenga ki Pūrehuroa

(INTER)PLAY

2019

The Devil is in the Details: Finding Creativity in the Monotony of UX Design Standards

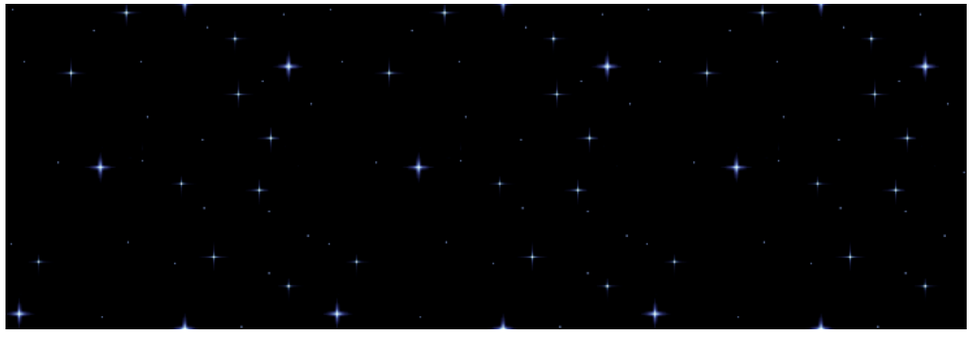
Jonathan Hanahan
Washington University in St. Louis, USA

Abstract: During its infancy, the web was a designer's playground and freedom of experimentation in forms, styles, experiences etc. was highly encouraged. With limited speeds and power, makers were forced to be nimble and clever in how they made sites. Yet as computers got faster and smarter and mediums have become increasingly complex the requirement for familiar and repeatable best practices has grown to the point of limiting the true nature of the experience. Efficiency and speed became primary objectives; users get what they expect and the UI gets them to their desired end as quickly and seamlessly as possible. To this extent—unfortunately— the success of an experience is no longer the journey but the outcome.

In support of carving out spaces for students to explore and experiment with multi-sensory experience I have developed a series of new courses and workshops which explore the potential of creative coding that focuses on underlying systems and activating simple design elements in a-typical ways. When combined, these units create compelling and unexpected digital experiences. The goal of these courses sets out to teach code through the practice of hacking, defying the expectation to be fluent in any particular languages by teaching tactics to effectively dismantle, remix, and reassemble found functions. This pedagogy also encourages a shift in emphasis away from UX design—or design in general for that matter—as a practice of big ideas (Features) or solving global problems to one of the combination of small, nimble, and elegant details (microinteractions.) This part-whole relationship provides students with the ability to exploit and expand on common user experiences—which over the course of Web 2.0 have become deeply ingrained in users mentalities and thus provide rich opportunities to distort—to develop unexpected and deeply engaging digital experiences. In this sense, interaction design is approached akin to designing chairs rather than buildings. While a building represents a fixed social container, a chair is a nimble and elegantly crafted artifact which serves a singular purpose but can also be replicated and repositioned in multiple ways and with other like object to create intimate social relationships and experiences.

This paper presents a pedagogical methodology which challenges the methods by which students and future designers approach designing for interactive mediums. It has evolved over the past three years and expands on a paper presented at the 2017 MODE conference titled "Deep—and Disruptive—Investigations in Familiar Media Experiences." In both instances, I challenge these expectation and seek to encourage designers to find new ways of activating unexpected and immersive digital experiences. Through a series of frameworks and project case studies this paper explores a more nuanced and experimental approach to teaching and learning procedural creative activities.

Keywords: UX/UI, Hacking, Procedural Practice, Microinteractions, Creative Coding, Product Design, Experimentation



Parts > Wholes: Microinteractions > Functions

In 2005, Olina Lialina outlined a multitude of examples from 90's amateur web design components in what she called *The Vernacular Web*. One such example is the ubiquitous presence of the "Starry Night" background. Nostalgically, this background was popular because it looked "futuristic" and the World Wide Web was about the future. Yet the true beauty of this background—a likely cause for its underlying popularity—was its ability

to trick the machine into making a space it was not capable of. At this time, bandwidth speeds were sluggish to say the least and loading large, high-resolution images was next to impossible. The beauty of the starry night background was its utter simplicity. "A great feature of the outer space background was that it could be just two colors, maybe half a kilobyte in file size, but it would instantly give a futuristic mood for your page. So a bandwidth problem was solved as well" (Lialina). When this startlingly low file size was loaded and then tiled it gave the impression of a single large image, changing the user's experience from looking at small images inside of boxes to being inside of the image, turning the page into a space that could be occupied.

There is an elegance to this solution that is very often missed or overlooked in our current Internet environment of curated publishing tools. The Internet is boring now even though it is more advanced than ever. It is regulated and developed to a point of absolute control. "Chaos isn't a business model. A new breed of media moguls is bringing order—and profits—to the digital world"(Wolff). While this development has made it easier than ever to publish, design, and explore the web, we have given up much of the amateurish freedom that Lialina celebrates in her Vernacular Web archive.

Starry night is only one of many examples of creative solutions that solve the problem of technologies hindrances and speeds. In our contemporary product design landscape, these problems are not really problems at all. We are gifted speeds and systems which largely take these concerns out of our hands. Thanks to evolving content management systems which automatically resize multiple versions of images to be used at different screen resolutions and sizes designers rarely have to make these infrastructural decisions anymore. I believe when we don't need to worry about these constraints or considerations, we easily fall back into the mentality of the website or interface just being posters under glass. In this way, increasingly advanced tools potentially become a crutch for both current designers but more so students just entering into the space of making in digital environments.

In his book *Microinteractions*, Dan Saffer discusses the design world's obsession with thinking BIG:

> Over the last decade, designers have been encouraged to think big, to solve "wicked problems," to use "design thinking" to tackle massive, systemic issues in business and in government. No problem is too large to not apply the tools of design to, and design engagements can involve everything from organizational restructuring to urban planning. The results of this refocusing of design efforts are unclear. But by working at such a macro scale, an important part of design is often lost: the details that delight. Products that we love show an attention to detail: the beautiful curve, the satisfying click, the understandable mental model. (Saffer, preface)

Saffer defines these big moves as "functions or features" (Saffer). The Feature is analogous to the exterior form of a building. As a former architect, I use a mental model in the classroom that is equally relevant to interaction design as it is architecture. Good buildings fall into 2 categories: They have complex and bombastic exterior forms, which require very regular and static interiors (Figure 1)—like that of starchitect Frank Gehry or Daniel Libeskind—or they have simple exterior forms which allow for complex interiors (Figure 2)—like the works of Rem Koolhaas and his studio Office of Metropolitan Architects. If they have simple forms and simple spaces they are boring, and if complex forms and complex spaces they become chaotic. There is a third model, and one which is maybe most applicable here, complex interior space which defines the exterior form (Figure 3)—like the Seattle Public Library by OMA.

In designing complex websites, designers may look at the big picture and focus on creating loud, exciting, visually spectacular receptacles that then house relatively simple and boring content. While the cover or facade of these sites may be unique and spectacular, the interior often defaults to the same continuous stream of text and images blocks. I believe the problem with top-down, world-changing design solutions is they are inherently complex problems. These complexities often lead designers to overlook the tiny details that make experiences so rewarding.

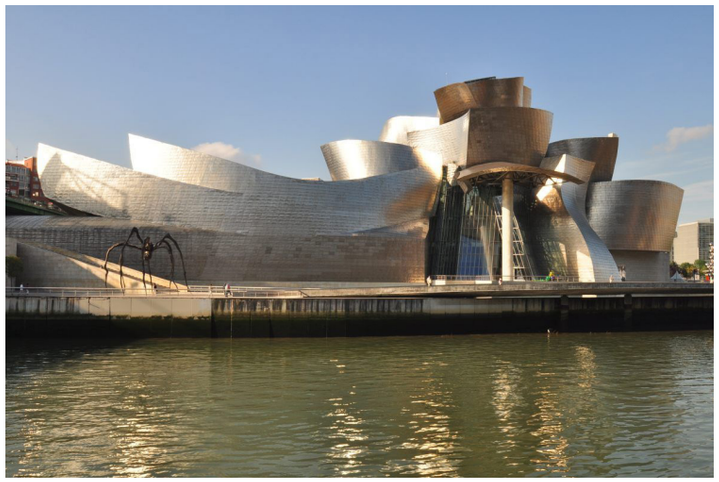


Figure 1 (top left): Bilbao Art Museum, Bilbao, Spain, Frank Gehry
Figure 2 (top right): Shenzen Stock Exchange Building, Shenzen, China, OMA
Figure 3 (bottom): Seattle Public Library, Seattle, Washington USA, OMA

These are the experiences that Saffer prioritizes in *Microinteractions*:

> This is another way to work: not through grand, top-down design projects, but from the bottom up, by crafting—lovingly, with care—small things. This is something designers can do quite well, with immediate, tangible results. This is another way to change the world: by making seemingly inconsequential. (Saffer, preface)

The microinteraction is the antithesis to the feature. It does not encourage designing buildings but designing furniture. A chair, for example, is designed as a one-off artifact completely consumed by the efficiency, elegance, and execution of its details. It serves a single purpose to a single individual and event. Yet when interconnected with other chairs or a table—for example—the furniture create spatial situations and experiences which expand their singular purpose. In this case, the space is defined by the elements that make it up, not by the container which elements are placed in. In the contemporary art world, Grayson Cox's 'The Water's Fine' is a keen example (Figure 4). By placing a disruptive artifact into space, he forces his audience to maneuver the space in a foreign way, thus encouraging alternative behaviors and interactions.

The design practice—and the academic model that perpetuates it—is still largely focused on the big idea, the feature or function (Saffer). Within interaction design, there are even fewer quality examples of focus on microinteractions over features. This may, in fact, be due to them being subconscious to our behavior that we often do not notice them—which we will return to later. One contemporary example rich in both execution and problem-solving, akin to that of the starry night background is progressive image loading by websites like Medium and Google which provide a solution to the problem of bandwidth and high-resolution images. In principle, a lower resolution image serves as a placeholder while the larger and higher resolution image is loaded in the background. Once the final image is loaded, it is transitioned in overtop of the placeholder. The online reading platform Medium.com developed an elegant solution which not only solves the problem but also makes the image loading an active element in the reading environment (Figure 5). Medium stretches an extremely small placeholder image (less than 100px wide) to fit the eventual full-size image. In addition, they add a blur feature which masks the low resolution

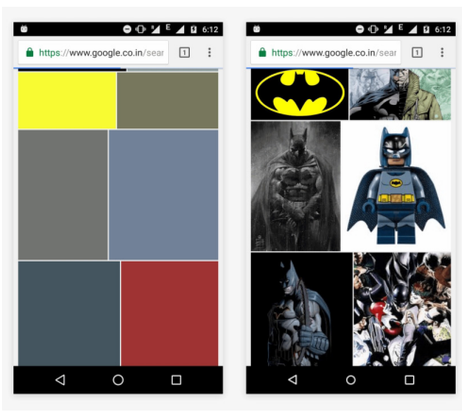


Figure 4 (top): The Water's Fine, Grayson Cox, 2012
Figure 5 (bottom left): Medium Progressive Loading, Blur
Figure 6 (bottom right): Google Images Progressive Loading

in an abstracted field. This field adds intrigue to the reading experience. It indicates to the user that this image is not final and will appear soon but also delivers anticipation as to what the image might be. When the higher resolution image loads and fades in, the feeling of delight and excitement is executed.

This microinteraction is so successful because it plays into the expectations of its users. After years of reading online, the collective audience is familiar with slow loading images on web pages. We have become accustomed to the waiting for images to appear, sometimes quicker than others, but still delayed. Google Image search does something similar but their result is far more utilitarian than experiencial (Figure 6). The blur of the medium affect adds intrigue—in opposition to Google's solid color block method. By shifting this dilemma from a burden to an active visual player in the reading experience, the transition from abstract to concrete defines the entire reading environment on Medium. The container can remain simple while the complex microinteraction defines the space and the experience of it. Like the starry night background, progressive image loading on Medium.com or the furniture in a dining room, microinteractions are parts which make up the whole of experience.

Methods & Examples

(There) is another way to change the world: by making seemingly inconsequential moments into instances of pleasure. (Saffer, preface)

This part to whole and bottom-up mode of practice has come to define both my own work and also the structure of my classrooms. Over six years of teaching interactive media, I have noticed a consistent lack of 'snappiness' to the work of my students. They make beautiful things, but they often fail to execute the fine-grain details that make an interactive experience truly delightful. Why does this happen? Because of the issues outlined previously, from day one of design school we train them to think about changing the world. They are led to believe you change the world through big moves, not baby steps. They think big yet that big thinking leaves little time to refine the easing, pacing, haptic feedback, and other elements that stick in a users memory far longer than the initial design move.

Expectations are key to designing from the bottom up and they become useful tools for creating rich interactive experiences. In the infancy of the WWW, there were no expectations. Everything was new so everything was exciting. Yet as we continue down the path of curated and developed portals of content on the web,(Lialina) the true design potential is in defying and manipulating the deep-seated expectations we have for microinteractions. Users have been trained to know what a blue underlined text entails (Link) or how scrolling on a trackpad will move you down a page. The expectation of these behaviors is what makes them ripe for manipulation. This has become the foundation of how I approach teaching for these mediums and a foundation primed for expansion in

future design pedagogies. There are several key methods that define this practice; Remixing Existing Experiences, Nesting and Looping, and Context over Content.

Remixing > Creating

While traditional notions of writing are primarily focused on "originality" and "creativity," the digital environments fosters new skill sets that include "manipulation" and "management" of the heaps of already existent and ever-increasing language. (Goldsmith, chapter 1)

American Poet Kenneth Goldsmith is a key example and resource for creative practice in the Internet age. In his book *Uncreative Writing*, he outlines how the experience with information is no longer about the content we consume/create, but the context within which it is consumed/created. "Faced with an unprecedented amount of available text, the problem is not needing to write more of it; instead, we must learn to negotiate the vast quantity that exists. How I make my way through this thicket of information—how I manage it, how I parse it, how I organize and distribute it—is what distinguishes my writing from yours"(Goldsmith, introduction). This scenario directly applies to graphic design and particularly web or interface design. There is an infinite amount of tools, resources, programs, and code available in an open-source environment. In this sense, writing code and designing websites should be less about creating new things or writing them from scratch. It should be about swiftly and elegantly manipulating that which already exists into new contexts and environments.

As the 2017 Designer in Residence at California College of the Arts, I sought to test this idea out. Could I design a class in which no one made anything new or original? Would there be buy-in? Would there be interesting work? The course, titled Alternative Applications asked, "There are currently over 1 billion websites on the Internet. Do we really need to make more?" The syllabus encouraged students to, "make things that mess with other people's work. They may be things that make other people's work better. They may be things that destroy others work but it is important that the work we make is not a singular entity, it will be applied to multiple sources."

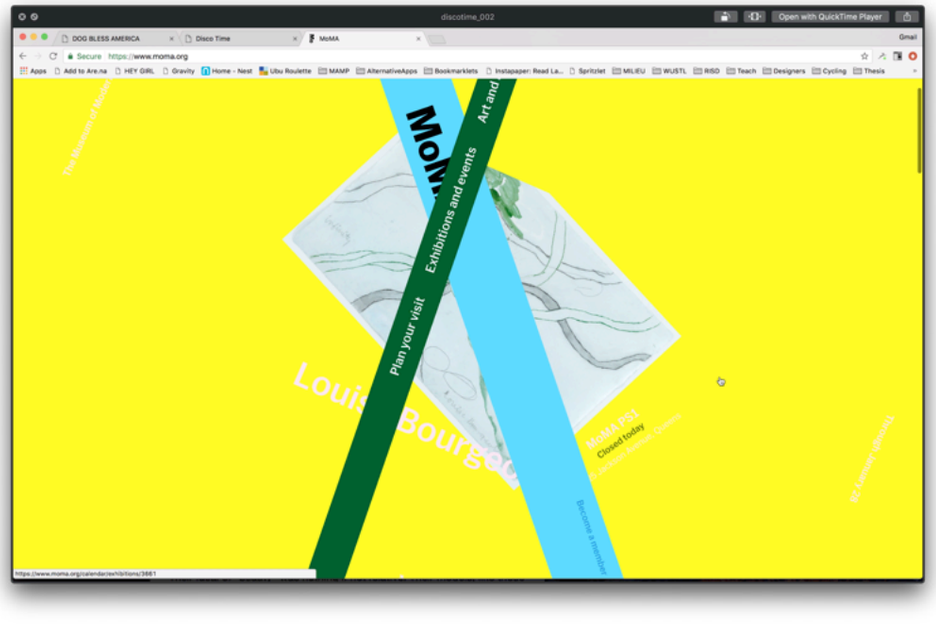
The first project in this class was called 'Bookmarklet.' Students were taught how to make bookmarklets, small chunks of code which live in the bookmark bar of a browser and execute on a current website when activated. These bookmarklets are the epitome of a microinteraction, a single program which executes a singular task. The beauty is they can execute that task on anything they were applied to, any website someone might happen to be on. Bookmarkelets—and browser extensions—have been developed with the idea of augmenting a user's browsing experience, enhancing it in one way or another. In this course, students were attempting to exploit patterns apparent on many, if not all, websites and create unexpected formal and visual experiences. These projects show how the design process of creating extensions is simultaneously about writing code that is specific to particular situations but also nimble enough to be applied anywhere. While it may not affect every site the same way, it inevitably effects any space it enters (Figures 7–9).

Nesting and Looping

During my residency at CCA I was developing a body of work titled *Nesting Dolls* which explored the structural potential of digitally nesting items inside of themselves. The second project from this course was built off that scaffolding. The concept was to take an existing website or digital artifact and nest it inside of itself repeatedly to create a new form or experience. The scale that students chose to work on varied from elements that were nested to make new forms (Figure 10) to full websites that served an initial purpose only to be repurposed into a more playful and multisensory experience (Figure 11). Like the bookmarklet project, Nesting Dolls encouraged students to be nimble and creative in how modules interacted with one another. The design process is thus about choreographing these unexpected relationships and encouraging unexpected part-to-whole relationships.

Context vs Content

These examples present how context in this sense is far more valuable than the content which they present. By exploring and manipulating the familiar of the microinteractions, designers are able to carve out new spaces in those formerly monotonous and default web standards. In the case of the bookmarklet, exploiting tools which affect everyday spaces we are accustomed to, allow for an opportunity to lift the cover off of the original



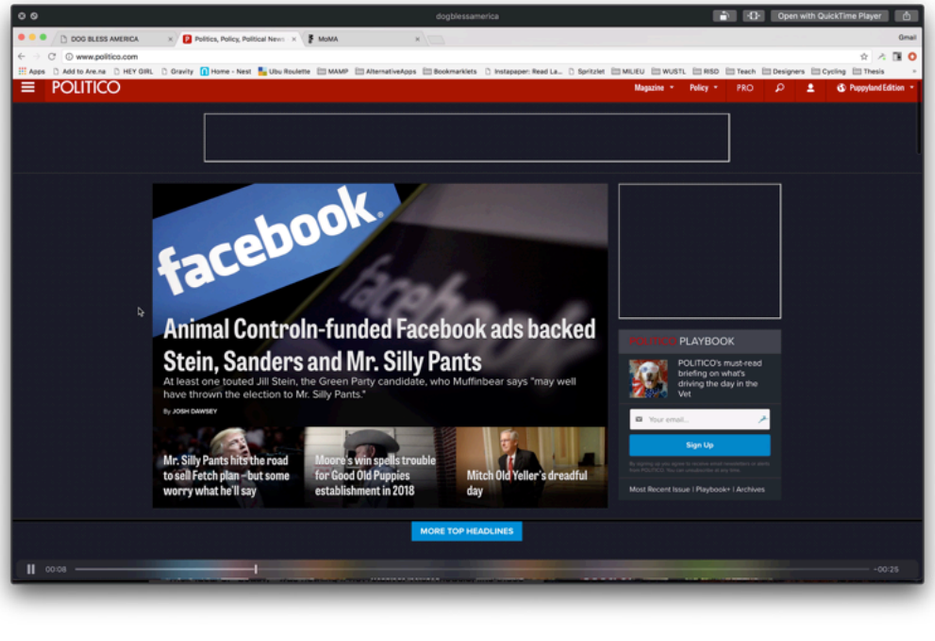


Figure 7 (left): Discotime, Tom Lim, 2017 (Video)
Figure 8 (right): Dog Bless America, Julie Tran, 2017 (Video)

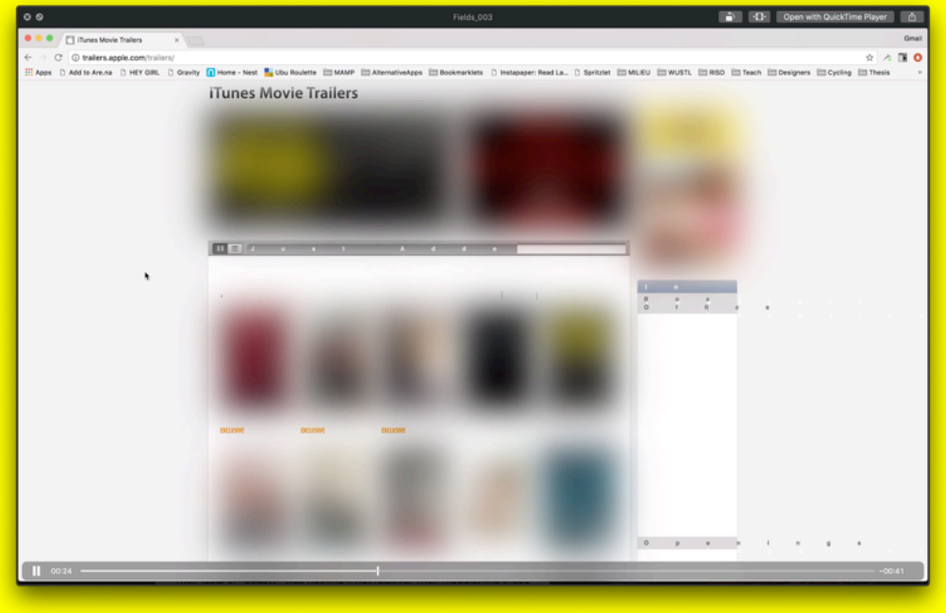


Figure 9: Fields, Lucy Sullivan, 2017 (Video)

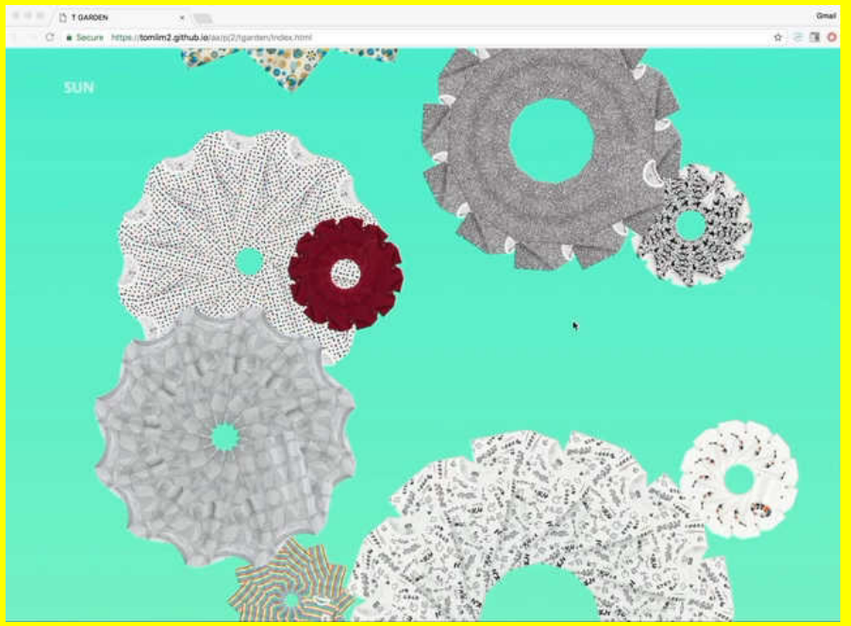


Figure 10: T Garden, Tom Lim, 2017 (Video)

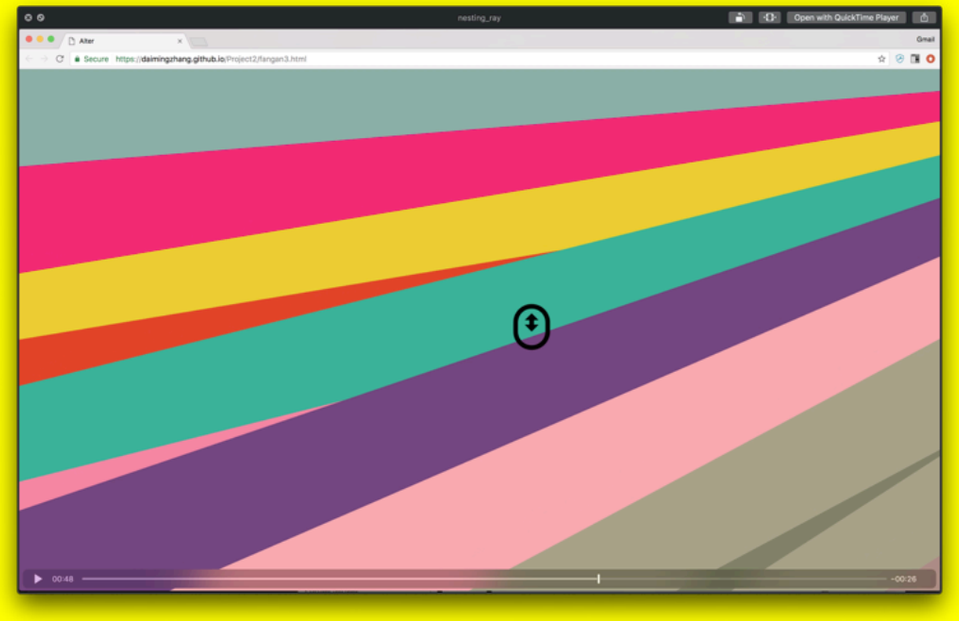


Figure 11: Palettes, Daiming Zhang, 2017 (Video)

Figure 12: Oil Spill, Lucas Drummond, 2018 (Video)

Figure 13: Flicker, Nick Rogers, 2018 (Video)

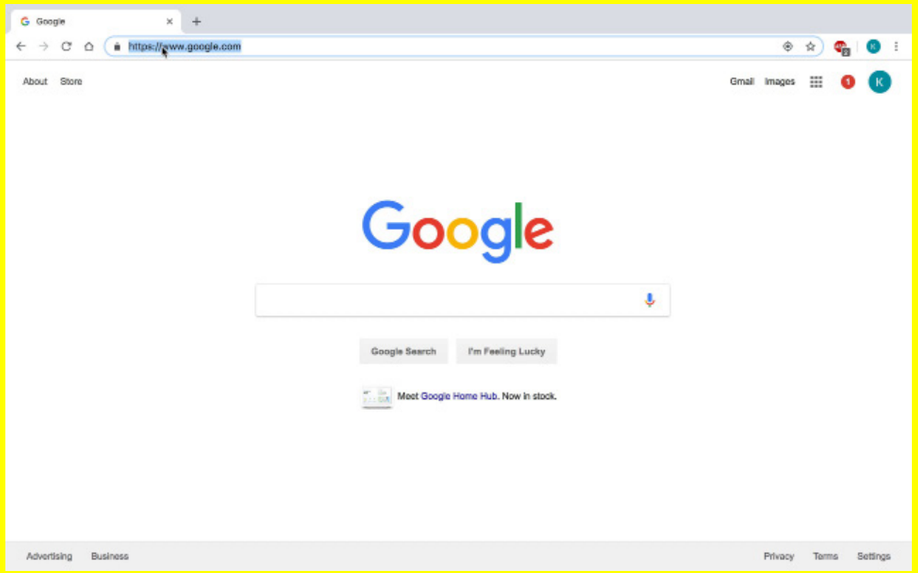


Figure 14: Metamorph, Katie Bumatay, 2018 (Video)

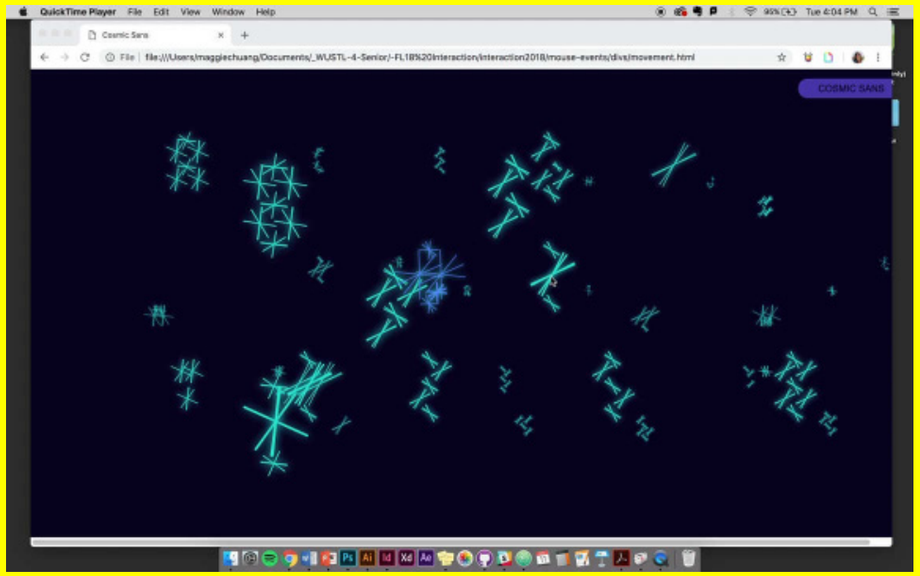


Figure 15: Cosmic Sans, Maggie Chuang, 2018 (Video)

source and investigate it in new ways. The repetitious act of nesting familiar or common elements together creates a mirror to reflect on that original experience as familiar. Now, in an unfamiliar state, the user can explore what it meant to experience the source in the first place. In both of these examples, the more familiar, ubiquitous, and often overlooked, the more powerful the alternative microinteraction can be for establishing a new and memorable experience. "The act of writing is literally moving language from one place to another, boldly proclaiming that context is the new content" (Goldsmith, introduction). By using patchwork techniques Goldsmith mentions to recontextualize, aggregate, and distort the familiar, designers can create new experiences which stand on the shoulders of those deep-seated and subconscious experiences with interfaces.

At MODE17, I presented a series of works from a course at Washington University in St. Louis which used action-based design prompts to encourage alternative experiences in the browser. In this course, students were not provided content but an action that they were to develop an experience around through versioning, experimenting, and testing. The idea was to dive deep into something simple and make it robust and atypical. The prompts included Clicking, Scrolling, Re-sizing the window, etc. In 2018, I redeveloped this course to focus on the concept of the microinteraction and expanded the depth at which students explored a bottom up process for making. In opposition to the previous version, this course did include some content. For the 'Click' project, each student was to design a typeface using only HTML, CSS, and javascript (optional), an assignment from the Interaction II curriculum at CCA. The typeface needed to be a system that could be manipulated into all 26 characters and 10 numeric digits. It also had to have a static and active state that would change based on a mouse interaction. The design of the typeface was both a refresher in building in code but also a foundation to build their microinteractions. The results of this process (Figures 12–15) exemplified the notion of simple and elegant components with robust and unexpected collective results. Each element could be individualized (for its subsequent letter) but it maintained the structural consistency of the same component. Through individualization the letterforms gave way to potentially unexpected dynamic results as the rules were programed into the component and not the individual letter. This release of control allowed for multitudes of rich experimentation as letters interacted with and around one another.

Conclusion

To conclude, this pedagogy of inverting the design process from the assumption that it is reliant on the 'big idea' or that design needs to change massive scale problems to be successful, is critical to establishing a productive environment for the classroom. Increasingly, students enter into a world of seeing, experiencing, and referencing. The model of creative genius rarely applies in this space. A re-contextualizing of the role that design plays in a larger society and in the creation of experiences is key. An emphasis on craft and care of artifacts which can be assembled, distributed, and manipulated to create spaces for experience is a far richer space for training students than its top-down counterpart. This model encourages deeper understanding of the fine grain components and details as well as provides students the skills to create works with the 'snap' and tangible accuracy that we expect of refined and polished works. It also asks designers to consider more than just the form they create to package components but the relationship between the components themselves. I believe that simple forms with complex spaces, relationships, and experiences are key to defining the way forward in user experience design. Microinteractions and their proposed bottom-up design method are a rich opportunity for experimentation and manipulation for students learning to design for interfaces.

Works cited

Wolff, Chris Anderson and Michael. "The Web Is Dead. Long Live the Internet." *Wired*, Conde Nast, 20 Nov. 2018, www.wired.com/2010/08/ff-webrip/.

Lialina, Olina. "A Vernacular Web: The Indigenous and The Barbarians." January 2005, http://art.teleportacia.org/observation/vernacular/

Saffer, Dan. *Microinteractions: Full Color Edition: Designing with Details*. O'Reilly Media. Kindle Edition.

Goldsmith, *Kenneth. Uncreative Writing: Managing Language in the Digital Age* (p. 15). Columbia University Press. Kindle Edition.

AUTHOR BIOGRAPHY

Jonathan Hanahan is a designer and educator whose speculative practice explores the cultural and social ramifications of experiences which transcend physical and digital occupations and the role technology plays in shaping, mediating, and disrupting our everyday realities. He develops Thick Interfaces—tools, devices, softwares, artifacts, websites, videos, etc. which agitate the digital facade and reveal the physical reality and complexity which exist underneath the thin veneer of our devices.

Hanahan received his BARCH from Virginia Tech and his MFA from The Rhode Island School of Design. In addition to his studio practice, Hanahan is an Assistant Professor in the Sam Fox School of Design & Visual Arts at Washington University in St. Louis.

MODE 2019

MODE

mode

2019

interplay

MODE

MODE 2019

INTERPLAY

Mode interplay

Motion Design Education Summit

mode

INTERPLAY

MODE

motion design education summit

MODE 2019

Motion Design Education Summit

MODE

2019 Interplay

INTERPLAY

MODE