Speculative Design and Curriculum Development:
Using Worldbuilding to Imagine a New Major in a Post-Course Era

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Abstract

Randy Bass, Executive Director of Georgetown's Center for New Designs in Learning and Scholarship, recently made the provocative claim that we inhabit a "post-course era." Building on the findings of the National Survey of Student Engagement that show that the places in which undergraduate students demonstrate the highest degree of engagement is in areas *outside* the traditional curriculum and its courses, Bass suggests that we not merely try to enrich the formal curriculum, but that we also consider supporting and augmenting activities in the "extra" curriculum. We can thereby create opportunities for learning within informal as well as formal settings. In the process of developing a new BA degree within the School of Cinematic Arts at the University of Southern California dedicated to Media Arts and Practice—a major that is designed to support students interested not just in media literacy but also in media expertise and the ability to communicate powerfully through diverse media forms—we wanted to imagine a major for the post-course era: a major without courses, traditional assignments, and expected modes of assessment. This essay explores the design challenge posed in trying to imagine such a major, and offers a speculative degree proposal for the post-course era.

Keywords: higher education, media literacy, transmedia, design challenge

In a talk presented at the EDUCAUSE Learning Initiative in 2011, Randy Bass, Associate Provost at Georgetown and Executive Director of the Center for New Designs in Learning and Scholarship, made the provocative claim that we inhabit a "post-course era." Building on the findings of the 2008 National Survey of Student Engagement that show that the places in which undergraduate students demonstrate the highest degree of engagement is in areas outside the traditional curriculum and its courses, Bass suggests that we not merely try to enrich the formal curriculum, but that we also consider supporting and augmenting activities in the "extra" curriculum. We can thereby create opportunities for learning within informal as well as formal settings, and we can help students synthesize their learning through thoughtful, integrative course and curriculum design. Bass went on to develop this idea in an essay titled "Disrupting Ourselves: The Problem of Learning in Higher Education" (Bass 2012), in which he more fully articulates the ways in which we might rethink the relationship between formal and informal learning. He writes,

We might say that the formal curriculum is being pressured from two sides. On the one side is a growing body of data about the power of experiential learning in the co-curriculum; and on the other side is the world of informal learning and the participatory culture of the Internet. (Bass 2012, par. 3)

His essay goes on to offer specific strategies for integrating formal and informal learning.

In the process of developing a new Bachelor's degree within the School of Cinematic Arts at the University of Southern California dedicated to Media Arts and Practice—a major that is designed to support students interested not just in media literacy but also in media expertise and the ability to communicate powerfully through diverse media forms—we were deeply inspired by Bass's work. How, we asked ourselves, might we rethink the relation between center and margin, between formal and informal? How might we leverage the qualities of a participatory and networked culture as integral to the program? How might we honor *practice* and create a powerful integration of course content with the practice of critical making? And how might the notion of courses taught by individual

instructors be reimagined through Bass's notions of "team-based design," in which the learning support offered through diverse centers across a campus might be more productively integrated? Pushing further, could we imagine a major for the post-course era that was not structured around individual courses, traditional assignments, singular instructors, or expected modes of assessment? What might that look like?

We understand that this set of questions participates in a much larger national conversation about how to reimagine teaching and learning for the twenty-first century, and of course, how to integrate media literacy into the curriculum for K-12 and higher education learners as well. With this broader context in mind, Ben Williamson's report, "The Future of the Curriculum: School Knowledge in a Digital Age," (2013) published through the John D. and Catherine T. MacArthur Foundation Digital Medial and Learning initiative, was also very influential in helping direct our thinking. Near the beginning of the report, Williamson writes provocatively, "The curriculum of the future is not 'out there' waiting to be discovered, but must be imagined and constructed," and he goes on to note that what we are creating when we create curricula are "microcosms of imagined futures being prefiguratively practiced, or microcosmic futures still in the making" (Williamson 2013, 5).

From our perspective, the only way to conjure such an entity was through the similarly provocative practices shared by our colleagues in the fields of design, namely: critical design, speculative design, and design fiction.

Critical Design, Speculative Design, and Design Fiction

For more than twenty years, designers have engaged in forms of critical analysis and inquiry through the set of practices variously called critical design, speculative design, and design fiction. Critical design is a term developed by Anthony Dunne in a book titled *Hertzian Tales: Electronic Products, Aesthetic Experience and Critical Design* (1999). Dunne explains in his introduction that the book was written in part to contest "a culture of innovation for its own sake" (Dunne 1999, xv) in which electronic gadgets are designed primarily to fathom what's possible and what's consumable; he wants instead to focus on a "broader context of critical thinking" and he invites us to use design as a means for "provoking complex and meaningful reflection" (Dunne 1999, xv). In other

words, Dunne is less interested in creating functional objects than he is in prompting us to reconsider assumptions, often through humor. Dunne and his partner, Fiona Raby, have created numerous projects intended to spark this kind of reflection. *Technological Dreams Series: No.1, Robots* (2007) queries the role of robots in the future. "These objects," note Dunne and Raby, "are meant to spark a discussion about how we'd like our robots to relate to us: subservient, intimate, dependent, equal?" (Dunne and Raby 2007, Projects). Part of our curriculum design process, then, might similarly craft curricular models that query the deeper structural parameters and ideological assumptions of a curriculum for the near future. In other words, rather than simply designing the curriculum that we hoped to adopt, we might also imagine and design the curricular models that we find troubling, provocative, disruptive, or suspect in some way.

Speculative design is similar to critical design in its desire to disrupt assumptions. Carl DiSalvo (2013) writes in his essay, "Spectacles and Tropes: Speculative Design and Contemporary Food Cultures," that speculative design "is a practice of creating imaginative projections of alternate presents and possible futures using design representations and objects" (par. 1). He goes on to point out the close connection between speculative design and the practice of creating design fictions, which Julian Bleecker and Bruce Sterling have described. Bleecker's essay, "Design Fiction: A Short Essay on Design, Science, Fact and Fiction" (2009), is a call for designers to consider the role of storytelling in the design process as a means for moving design from reality to science fiction. He writes,

> Design fiction as I am discussing it here is a conflation of design, science fact, and science fiction. It is an amalgamation of practices that together bends the expectations as to what each does on its own and ties them together into something new. It is a way of materializing ideas and speculations without the pragmatic curtailing that often happens when dead weights are fastened to the imagination. (Bleecker 2009, 6)

Inspired by the playfulness of speculative design and design fiction, we began to ponder scenarios that might help us structure our new program. The structuring metaphor that seemed most compelling, given our location within a school dedicated to the cinematic arts, was worldbuilding. Our speculative design process, then, began by reimagining the concept

of worldbuilding, moving it away from its role as a tool within the Hollywood film industry and bringing it into the realm of teaching and learning.

Adopting a Metaphor: Worldbuilding

While worldbuilding is a concept well-known within science fiction writing, the term has recently been adapted for filmmaking practices by Hollywood production designer Alex McDowell, who is also a member of the Media Arts and Practice graduate faculty. He defines worldbuilding in the context of cinema as a process for creating "a container for narrative, or for multiple narratives" (Alex McDowell, pers. comm.).

Worldbuilding represents three distinct ideas: (1) it describes the general process of imagining a world in which a novel or film is set; (2) it describes a new filmmaking workflow centered on the design of a world out of which a story emerges; and (3) it is a useful paradigm for imagining curricular structures that shift from the linear to the nonlinear.

Worldbuilding: Creating Stories

In its first usage, worldbuilding serves as a broad, general term for the creation of stories. When writing a script or imagining a film, one first conjures a world, and this becomes the genesis for the resulting script, story, or novel. This usage characterizes worldbuilding within science fiction writing, where so much of the genre stems from the elaboration of an unknown world. In a cinematic context, worldbuilding constitutes the creation of story bibles, or descriptions of the parameters of a particular world. It includes illustrations, diagrams, and often-3D models that help visualize the space from which stories can emerge.

Worldbuilding: Nonlinear Workflow

A second definition of worldbuilding moves beyond simply imagining a world to designing a new filmmaking workflow. Unlike the relatively linear flow of traditional industrial filmmaking, this workflow is nonlinear. Rather than beginning with a screenplay and moving step-by-step through the stages of preproduction, production, and post-production, the worldbuilding workflow privileges production design and the creation of a world from which stories may emerge. The process, then, moves *from* a world *to* the story. This notion of the term has significant implications for transforming the storytelling process.

In this sense, worldbuilding refers to the construction of the visual world of a story prior to the writing of a screenplay. McDowell uses his experience on the film *Minority Report* (2002) as an example: He and the film's writer started to work on the project on the same day, and began their creative process with a simple brief from Steven Spielberg about an apparently benign near future that is revealed to be undermining basic civil liberties in a dangerous way. The challenge for both was to conjure a realistic vision of the future, something that reflected what we basically imagine coming to be.

"I said that if there's no script, let's look at the global context of the story, and start thinking about it that way," McDowell reported in an interview in 2011. The team started with Washington DC imagined in 2045, and from there, extrapolated a story. What are the story drivers? And then what are the social and political drivers? Then they used an array of digital tools to create photo-realistic images of that world, basically visualizing the story before the story existed. While it was a practical necessity in having Spielberg sign off on things as they progressed, things that were not yet in a script, it was also for McDowell a prototype for a new filmmaking process that focused first on context, and then moved through a nonlinear workflow.

He describes the result: "By the time I came out of *Minority Report*, what was clear was that by accident, we'd actually engaged in a pretty efficient piece of filmmaking, one that was using all sorts of techniques and social relationships within film production that had never really been used before" (this and all subsequent McDowell quotations are from personal communication with Alex McDowell).

McDowell dubs this kind of filmmaking "sculpting in space," and says that "you can put actors or avatars into that space very quickly and you do things that would be the equivalent of location scouting in your virtual environment, and you do the equivalent of blocking your actors long before you've storyboarded. You can do rough blocking so it becomes almost a traditional theatrical experience."

He goes on to describe the design process as taking place at the center of the conceptual space imagined for the world, and from which the narrative will emerge. He says of the process, "It's more story-driven," but it can also account for the increasing complexity of very large-scale digital productions such as *Avatar* (2009), where a design environment that can account for all the information needed by every department is found.

McDowell illustrates the workflow using a

mandala-like diagram to demonstrate the complexity of what he calls the "film design process," an endeavor that he further characterizes as a "progressive, non-linear workflow adopting and adapting to a digitally-based process that is fundamentally changing our industry." McDowell also describes the process of worldbuilding as a holistic approach that takes narrative as its core, and develops "the logic of the world from the narrative," and continues to build a world based on this logic. "With this approach," he says, "one can then extract any and all design and storytelling, the wayfinding and experience for the audience, and develop the narrative outcome of any problem you throw at the world. The logic that comes out of this immersive worldbuilding approach to the design will answer its own questions."

Worldbuilding: Pedagogical Practices

A third understanding of worldbuilding builds on McDowell's logic, deploying the term as a conceptual paradigm not merely for new workflows and new story structures that are participatory, contextual, and distributed across diverse media platforms, but possibly for a pedagogical practice that embodies these same qualities. This far more complex notion of worldbuilding aligns with the momentous changes that characterize our current culture and lives lived within information-intensive environments.

Inspired by the conceptual paradigm of worldbuilding, we began to imagine a course of study that would create a world from which the "narrative" of learning might emerge through a program that embodied the ethos of a networked and participatory culture. We began to imagine a program that would be emergent, led by students in concert with other students. We also imagined it as a radical intervention in undergraduate education.

As such, the major in Media Arts and Practice would eschew a predetermined curriculum and set of courses in favor of offering to students a group of faculty and graduate student mentors with zones of expertise; a set of tools and tactics to be mastered, hacked, and deployed; a collection of resources that includes everything from books to research labs to the city around us; and most significantly, a structuring metaphor that describes a vibrant learning community in which students play a central role in assembling a self-directed and deeply collaborative educational experience.

The worldbuilding metaphor therefore functions on multiple levels, with each student taking responsibility for defining and shaping—in essence, designing—his or her own "world" of intellectual inquiry and creative practice. The paradigm of worldbuilding also invites students to perceive and define interconnections among their areas of study, including those outside their major, and ensures progression and coherence across their years in the program. The concept productively inverts the traditional logic of educational systems predicated on the dispensing and acquisition of knowledge to instead provide an opportunity for learning that is performed *in context* with deep attention to the *components*, *rules*, *systems*, and *participants* of any given world. Finally, the paradigm understands the fundamental significance of *critical practice*, and the potentials of *thinking through making*.

If the practice of worldbuilding in the entertainment industries posits a world as a "container for narrative," then how can we define the most productive type of "container for learning" within this program? Part of the answer lies in mapping a set of concentric domains of knowledge and practice radiating outward from individual courses, to the program, the university, the city, and other civic spaces beyond. Each course will develop its own internal set of components (readings, screenings, lectures, assignments), rules (boundaries, expectations, critique, and evaluation processes), systems (research labs, collaborative groups, workshops) and participants (students, faculty, guests, community partners). These, in turn, are mapped onto the broader curriculum of the program as it unfolds through time.

Instead of a course with labs, we imagine a reversal through which the work of a research lab generates the need for a course to support it, grounding students in relevant theories, practices, tools, and evaluative metrics of a project's applied context. For example, a research project devoted to developing an electronic authoring and publishing platform might manifest a course that investigates the history of writing technologies, the development of online communities, HTML5 and PHP programming, database aesthetics, interface design, information architecture, and regimes of copyright and fair use.

Concentric Curricula

The entire program we fantasized would never have made its way through the university's administrative channels. We therefore proposed a major that appears to have a traditional structure, and decided to stage our intervention within the two-semester

introductory course for the Media Arts and Practice program. This "Superstudio" course (MAP 102) is designed to set the tone for the program in addition to grounding students in foundational critical models and skills. This course is limited to students admitted to the MAP major (a maximum of fifteen) who were selected for their expression of interest in various forms of hybridity in practical skills, intellectual orientation, and academic aspirations. The course, like the program, places equal emphasis on theory and practice, based on a firm commitment to the principle that each is most productively engaged when informed by the other. All students are thus expected to develop significant skills in both critical reading and writing and critical design and making. That being said, it is both inevitable and desirable that students will develop certain areas of specialization and expertise during their years in the program. Thus, each course will be structured around a combination of individual and team-based production. The ability to collaborate productively with others and to recognize the value of a diversity of skill sets is considered of equal importance with the honing of one's own abilities. This is reflected in the evaluative mechanisms of the course, which incorporate ongoing peer feedback on each student's contribution to both project creation and team dynamics[1]. At the conclusion of each group-based project, students are rated by their peers on a simple 5-point scale according to the value of their contributions to the project and how easy or difficult they are to work with as part of a team. Aggregated ratings are made public beginning about half way through the semester with the goal of inciting self-awareness in each student about their contribution to team dynamics. In addition, this team-building will move from a given class, to the program, the school, the university, and ultimately build toward a capstone project that involves a community partnership.

Course assignments in the inaugural class are designed to require students to seek input and support from members of the faculty and staff within the Media Arts and Practice program. Rather than delivering a predetermined syllabus to incoming students, which might include guest lectures associated with a sequence of readings and assignments, students are presented with a palette of options related to various course themes. Each student is issued a "ticket book" allowing them to requisition curricular experiences in support of their assignments. Individual tickets may be used to request particular course screenings, readings or topics, or, used in combination, students can request a guest lecture or field trip drawing on faculty expertise, events happening in the city, etc. This game-like mechanic is intended to empower students to participate in the design of their own learning experience, but it is equally intended to encourage collaboration among students in deciding on what sort of resources and input they need to most effectively complete their assignments.

Design Challenges: Defining Topics, Creating Opportunities

A list of categories and assignment prompts that provide a framework for all project work in the first semester Superstudio class can be found in appendix A. Over the course of the semester, students are expected to engage each of the five topic areas on this list (which may change from semester to semester) in order to provoke experimentation and curiosity in terms of both design and research. This array of project prompts is deliberately enigmatic and open to interpretation in hopes of allowing students to tailor the class toward their interests, while also compelling exposure to a broad cross-section of relevant issues. Projects created in response to these prompts are presented on a weekly basis, with significant time devoted to class critiques, discussions, and public presentation.

Over the course of the semester, students are expected to complete twelve points worth of projects drawn from the list of project prompts. At students' discretion, each project may be valued from one to three points. Whereas a 1-point project might represent a quick experiment that could be completed in as little time as a week, a 3-point project represents significant effort that could take up to a quarter of the semester. Progress should be somewhat linear over the course of the semester so that students receive balanced time to present and critique. At least four points should be completed by week five, nine points by week ten, and so on.

Design Challenges as Rabbit Holes for Learning

Taking an example more or less at random from the list in appendix A, we might imagine that a student wants to engage prompt "d" in the "Immersion" category. There is not much enthusiasm among students in the class for this topic, as "Virtual Reality" seems like a technology that was already on its way to being

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1. The format for peer feedback is borrowed from Carnegie Mellon's Building Virtual Worlds course, taught in the graduate program of the CMU Entertainment Technology Center.

outdated in the 1990s, the decade in which most of them were born. Still, trusting that the inclusion of this topic might prove to be of some value, the student convinces two others to work with her to engage the prompt. No course readings have been assigned to prepare the students for this topic, so they begin their online research simply by using a search engine, such as Google, to look up the term "telepresence." The top return, a Wikipedia page, includes, among other information, reference to a pioneering technology startup called "Telepresence Research," founded by Scott Fisher and Brenda Laurel in 1990. Following the Wikipedia links, the students realize that, while Laurel teaches in the San Francisco Bay area, Fisher now serves as the Associate Dean of Research in USC's School of Cinematic Arts.

The students decide to pool their tickets (as a Senior faculty member and an Associate Dean, an "offer price" of three golden tickets is deemed respectful) to request a lecture with Fisher on the subject. Fisher initially ignores their request and, after receiving a follow-up message from the course instructor, he also declines the invitation to talk about his research from more than twenty years earlier. Instead, he suggests that the students attend the following week's meeting of his Mobile and Environmental Media lab, which will include a demo by John Underkoffler, creator of the G-Speak system, a gestural interface apparatus that is being developed for use as a collaborative video editing tool. A Google search for "G-Speak" leads the students to realize that Underkoffler's system represents the real-world incarnation of the fictional system used by Tom Cruise to predict future crimes in the 2002 film *Minority Report*.

Not all students in the group have seen the film, so a collection of four silver tickets is compiled and submitted to the instructor, this time requesting a class screening and discussion of *Minority Report*. The instructor agrees to this request and invites Underkoffler to join the class for a post-screening discussion. While talking about the genesis of G-Speak as a design fiction for *Minority Report*, Underkoffler remarks on the easy hackability of consumer-grade gestural systems such as the Microsoft Kinect. Tickets are again collected and students request a workshop on using the Kinect in conjunction with a DSLR (digital single lens reflex) camera to capture 3D models that are texture-mapped in real time with live action video. And so on.

In the parlance of Alternate Reality Games, the design challenges outlined in appendix A each serve as a kind of curricular "rabbit hole," providing access and motivating exploration along certain paths, each of which presents variables that are neither predictable nor predetermined. A different traversal of the Wikipedia page on Telepresence, for example, might have led the same group of students to explore contemporary technologies and commercial applications for telepresence, leading them to connect with USC's Institute for Creative Technologies (ICT), an R&D lab developing a broad range of immersive technologies. Instead of resulting in screenings and workshops, the ICT rabbit hole might result in students making connections that lead to an industry internship or future professional connection.

Still another investigation might focus on theories of identity in virtual spaces, leading students to discover the work of transgender performance artist Micha Cárdeñas, whose master's thesis, *Becoming Dragon* (2010), took place in the multi-user virtual environment of Second Life. Cárdenas, now a PhD student in the Media Arts and Practice graduate program, offers to lead a discussion of the evolution of virtual identity in exchange for students serving as playtesters for her dissertation prototype, a wearable electronics network used to increase community safety for LGBT teens. During the playtests, students are surprised to learn that the LED displays on Cárdeñas' wearables are networked by an inexpensive, low power mesh network transceiver called an XBee. Tickets are again collected and a physical computing workshop is requested. This time, instead of organizing a workshop on campus, the instructor suggests that additional tickets be collected in order to undertake a field trip to Machine Project, a downtown arts organization that runs workshops on creative uses of electronics including, but moving well beyond, the XBee. And so on.

What unites all three of these imagined scenarios is the de-emphasis on traditional assignment outcomes such as skill development and project completion. In the course of their investigations, students in each of these scenarios would need to do background research and acquire the skills needed to engage their chosen prompt. The original challenge of reproducing the experience of telepresence, for example, might turn out to be deceptively simple, requiring none of the high-tech infrastructure (head-mounted displays, motion tracking systems, high-bandwidth connections) that defined these technologies in the 1980s and '90s. Instead, an "instinctive" response that overrides one's sense of bodily presence in physical space might turn out to be readily achieved via a simple, multi-user, 2D

rendering of an elevator interior, in which 8-bit avatars unthinkingly shift their positions in order to share the space of the elevator equitably.

Conclusion

The structure of the Media Arts and Practice Superstudio may also be framed as an example of what John Seely Brown (JSB), John Hagel, and Lang Davison have termed a demand-pull approach, which they describe in their book *The Power of Pull: How Small Moves, Smartly Made, Can Set Big Things in Motion* (2010). The authors are opposed to the traditional supply-push strategy that has dominated institutional education of the twentieth century. They write, "*Pull* is about expanding our awareness of what is possible and evolving new dispositions, mastering new practices, and taking new actions to realize those possibilities" (Brown, Hagel, and Davison 2010, 123). The significance and potential impact of the pull approach is realized not just on an individual but also on an institutional level. "Rather than molding individuals to fit the needs of the institution," they continue, "institutions will be shaped to provide platforms to help individuals achieve their full potential by connecting with others and better addressing challenging performance needs" (Brown, Hagel, and Davison 2010, 145). This reconfiguration of institutional structures and principles of operation represents a threat to the stability and predictability of learning outcomes for students entering the program. In order to be successful, we believe the institution itself and the structures of learning it is able to support must be reimagined at the most basic level.

The model of the Superstudio suggests the need for a kind of database of resources—not just in terms of tools and equipment, though this is part of the package (rooms with soldering irons and laser cutters enable different kinds of activities than rooms without them), but in terms of faculty and staff resources, the flexibility of IT infrastructures, willingness to reach out beyond the walls of the campus, to bring in amateurs and experts alike in a spirit of shared inquiry. The skills developed through such a curriculum are fundamentally social, not technological. Again, JSB, Hagel, and Lane: "At the most basic level, pull helps us to find and access people and resources when we need them. At a second level, pull is the ability to attract people and resources to you that are relevant and valuable, even if you were not even aware before that they existed. Think here of serendipity rather than search" (Brown, Hagel, and Davison 2010, 173). This remarkable privileging of serendipity over search bears serious reflection in light of JSB's position argued in the 2006 article, "New Learning Environments for the 21st Century," that the skill most needed by twenty-first century learners was the ability to effectively navigate and create meaning amidst the overwhelming data deluge supplied by the Internet (Brown 2006, 21).

While there is still much to be done in crafting the introductory two-course sequence before the fall of 2013, we are hopeful that the worldbuilding paradigm will prove useful in helping restructure our curriculum, a microcosmic future still very much in the making.

Appendix 1: Design Challenges

1. Immersion[2]

It is increasingly difficult to distinguish among experiences of the physical, virtual and augmented realities that surround us at any given time. The comforting lines between real and virtual, actual and imagined, authentic and authored, become increasingly blurred as we absorb content from all sources and directions. But are not immersive spectacles as readily deployed by the forces of tyranny as of freedom? The goal of this topic is to develop a nuanced understanding of the many ways that immersion may be used or misused in the creation of a designed experience.

a. Design a small-scale Alternate Reality Game that engages at least 3 people (including at least one faculty member) for at least a week. Your goal should be an experience that is subtle and sublime rather than obvious and overt. Hint: avoid narratives involving alien invasion and most other sci-fi tropes.

b. Design an interactive experience that requires all five senses.

c. Design an experience that completely utilizes only one of the five senses.

d. Create an experience of telepresence in which users lose track, if only for a moment, of their physical bodies and/or geographic surroundings so thoroughly as to instinctively behave as if inhabiting a different space or body.

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2. Persuasion

Persuasion is (or at least ought to be) one of the great vocations of the cinematic arts. How can we best exploit the potentials of mediated experiences that may have desirable consequences in the physical world without falling victim to naive presumptions about direct transference from the virtual world?

a. Design a learning experience in which a player's experience in an electronic or virtual space transfers as directly and permanently as possible to the physical world (note that there may be as much to learn from failure in this endeavor as from success).

b. Entice your user/player to make a non-trivial choice between obedience and rebellion in a virtual environment of some kind. For extra credit, figure out a way to incite a real-world outcome as well—these could include convincing your user to commit an act of social transgression (non-violent, please!), compose a strongly worded letter to the program director, organize students around an issue of social justice, etc.

c. Make a documentary or interactive experience about a historical event that transforms the player/user's knowledge or understanding of it.

d. Create an experience that produces an involuntary physical outcome (nausea, flinch, yawn) in not only a primary user but in secondary viewers as well. For extra credit, research historical examples of psychological and sociological experimentation and use the insights gleaned from your project to reinforce a critique of these experiments.

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3. Systems

For better or worse, we all exist in multiple, entangled relationships with other human beings, technologies, networks, and institutions. Designers are increasingly interconnected with other artistic and technological practices, making it the task of the contemporary designer to expand his/her thinking to include a sophisticated understanding of the functioning of complete systems as opposed to discrete objects or art works.

a. Create a project that reveals, critiques or overtly depends on its interconnections with other systems (these may be technologies, objects, belief systems, etc.).

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2. These design prompts are revised from an original list developed and implemented by Mark Bolas and Steve Anderson for the Interactive Media courses CTIN 542: Interactive Design and Production and CTIN 548: Preparing the Interactive Project at the USC School of Cinematic Arts.

b. Design an experience that is radically dependent on its physical context. Examples include a site-specific artwork, an element of queue design for a theme park, an experience that only works in zero gravity, etc.

c. Design a project that defies the claim that all design is interconnected.

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4. Authority

As institutional systems of surveillance and control become increasingly ubiquitous in our society and internalized by our citizenry, many of the beliefs that once seemed most deeply etched in our national psyche—ideologies of freedom, autonomy and privacy, for example—may begin to seem like quaint relics of the past. Our fundamental relationship to systems of authority bears careful consideration and nuanced understanding, especially in light of the increasing capacity of information systems to interpellate, track and define us.

a. The question isn't whether you're paranoid; it's whether you're paranoid enough. Use real/physical or imaginary/psychological surveillance as a central component of a designed experience.

b. Create an interactive experience that mobilizes the pleasures inherent in opting out of—or opting into—a system of access controlled by an imagined or real powerful external entity. Be prepared to define what you are rebelling against.

c. Design an experience or algorithm (either metaphorical or literal) that models or enables a method of preserving, asserting or radically eroding personal liberties. Be prepared to defend your ethical choices in designing such a project.

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5. Temporality

We know that time is a subjective experience, its perception radically determined by context, circumstance and other physical, mental and emotional factors. We also know that it is impossible for us to control the inexorable flow of time. Or is it?

a. Ordinarily thought of as something to be avoided, discontinuity may also be deployed as a powerful element of an interactive experience. Design a project that makes productive use of interruption, disruption or eruption.

b. Memories are shaped and constructed by social groups, historical circumstances and individual needs; in other words, they do not represent the past from an individual's perspective, they construct and reconstruct a dynamic and deeply social relationship to history. Create an interactive experience that invites us to rethink assumptions about our most cherished memories or historical beliefs.

c. Create an experience that takes as its primary variable aspects of temporality that may not be achieved in any other medium or real-life circumstance than the one you choose—i.e., the aspects of temporality you deal with should be fundamentally constitutive of your chosen medium—creatively altering the way we experience time, remember the past or imagine the future.

d. Conventional wisdom assumes that great art should be preserved indefinitely, but some of the most remarkable artworks are those that resist preservation or documentation, reveling in their own evanescence. Those who work in transient digital formats know all too well the pain of losing data or watching technologies become obsolete. Design an experience that embraces, celebrates or mobilizes its own ephemerality.

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