# Designerly Ways of Knowing Internet Research: A Case for Critical Media Design

**Daren C. Brabham**
Annenberg School for Communication & Journalism
University of Southern California
USA
brabham@usc.edu

### Abstract

This essay presents a case for critical media design, a methodological framework for approaching Internet studies research that blends the investments of critical theory, the practice of applied, grounded research, and a design-driven way of conceiving of problem solving in practical ways.

### Keywords

design; Internet studies; design thinking; methodology

### Toward Critical Media Design

In his book *Massive Change*, architect Bruce Mau (2004) asks, "Now that we can do anything, what will we do?" (p. 15). Mau's intention is to provoke the design disciplines to think of the world's problems as practical objectives to be solved through design and innovation. His argument in *Massive Change* is that technology is advancing quickly enough that designers may no longer want for resources for their breakthroughs, and, thus, we are running out of excuses for not taking action to improve the world.

I see Internet studies as an academic field with a unique vantage point for designing such solutions to the world's problems, as so many of us are technically proficient in the creation and manipulation of the technologies we study, all while these technologies become less expensive and more user-friendly every day. In this essay, I argue that Internet studies scholars should think of their academic work the way designers think of their work as an applied problem solving process. And for those of us whose work is critical in nature, a design-driven approach to Internet studies scholarship is, I argue, an ethical imperative. Conceiving of ourselves as designers and our work as **critical media design** may serve to strengthen the applied dimension of Internet studies research at a time when the field is reaching a point of maturity and technological convergence empowers scholars to be both creators and students of critical intervention.

This essay begins with an examination of applied research, grounded theory, and critical theory as three supporting concepts that explain a critical media design approach to research. I examine these topics mostly through the disciplinary lens of communication studies, specifically media studies, as communication studies offers a useful entry point into the articulation of these three concepts. I then turn to the design disciplines, design thinking, and design science in order to explore "designerly ways of knowing" (Cross, 2001) and the problem-solving pursuit. I then offer a theorem for critical media design, and I present three cases that illustrate the critical media design approach in action. I conclude with an appeal to Internet studies scholars to conceive of their academic work as a critical media design enterprise and offer six steps for doing so.

### Applied Research, Grounded Theory, Critical Theory, Design

The way Buddenbaum and Novak (2001) describe it, the distinction between basic research and applied research is that the goal of the former is "to create, test, and improve theory" while the goal of the latter is "to provide solutions to real-world problems" (p. 14). To be fair, Buddenbaum and Novak (2001) ultimately resist neatly containing these two approaches to social scientific research in such

simple definitions, and eventually they argue that the two approaches ought to "complement each other, working together to enhance understanding" (p. 14). Yet, there is much more to be said about the complex interplay between theory building and applied work in social scientific inquiry, particularly when this interplay serves humanistic, critical ends. Hickson (1973) asserted a definition for applied communications research in the inaugural issue of the journal by the same name: "the investigation of human communication events by a participant/observer of those events into a communication artifact that will help bring about communico-social change" (p. 3). That is, a researcher ought to "be, simultaneously, actor, observer, and critic" in relation to his or her research subjects (all the while acknowledging his or her subjectivity); must report findings in a way that non-scholars can understand and benefit from; and ought to strive for improving some aspect of the world through his or her work (Hickson, 1973, pp. 3–4). Following this definition, Tesch (1975) seems to refer to this kind of research not so much as applied, but as humanistic, adding also that such research should not claim to be generalizable and that it should be undertaken when the urgency of a problem does not allow for rigorous scientific research or other methodological considerations. No matter the label, this brand of inquiry is primarily problem-driven and concerned with real communicative interactions rather than hypothetical scenarios or laboratory situations.

Because of the primacy of the problem in the design of applied communication studies, there tends to be a drive to select issues or problems first, usually coupled with research sites or texts or events, and then to select appropriate methods for tackling the problem at hand. Applied research then tends to be inductive rather than deductive, making sense from the data that emerge in the course of understanding the problem being investigated and developing solutions for bringing about change. And as these research practices cobble together cohesive theories of human communication, we come to know the greater project of applied communication research as often akin to grounded theory (Denzin & Lincoln, 1994; Glaser & Strauss, 1967; Strauss & Corbin, 1990, 1997).

The notions of problem solving, connecting research with non-scholars, and working to change the world for the better through communication research resonates with the mantra of critical theory as well. Critical communication research, with its roots in the Frankfurt School, Marxism, feminism, and other schools of thought, is concerned with injustice and imbalances of power in the world—often in consideration of historical material conditions and along lines of race, class, gender, sexuality, and other identity markers—and seeks to intervene in such unjust discourses and practices (Hardt, 1992; McChesney, 1993; Rogers, 1982; Slack & Allor, 1983).

If one is both a committed critic in this sense and an applied researcher, then, coupled with an interest in the power of media to play a role in such critical intervention, one may seek to practice critical media design in his or her work.

Internet studies researchers, then, ought to conceive of themselves not only as students of mediated communicative phenomena, but also as designers of the very mediated environments they study. Scholars in related disciplines, such as Noveck (2003), Fischer (2002), Cross (2001), Illich (1973), and Mau (2004), have also called for design-minded research programs; the roots of design thinking as a part of applied social research can be traced at least back to Mumford (1934) and Buckminster Fuller (1963, 1992); and early figures in computing encouraged designerly ways of thinking as well (Engelbart, 1962; Licklider, 1960; Nelson, 1974).

### A Theorem for Critical Media Design

I suggest the following theorem as a justification for critical media design:

*If:*

- A researcher embraces a critical purpose (a desire to improve the world) in/through his or her work;

- A researcher assumes the role of media in constructing our social reality and thus also a role in contributing to unjust conditions in the world;
- A researcher values the importance of media as tools for social change; and
- New technologies increasingly enable everyday citizens to take charge of the media production process and design messages for themselves;

*Then:*

- Researchers can develop research programs that work to create original media processes and products that improve the world. These media processes and products can be the basis for, and the results of, a carefully crafted, iterative, grounded, and applied series of studies.

### Critical Media Design in Action

Case 1: Resource Development International designs a mobile karaoke studio to educate children in rural Cambodia about arsenic-poisoned water wells (Talbi, 2005; Wade, 2010). See Figure 1.

**Figure 1:** Mobile karaoke van educating Cambodian villagers about the dangers of arsenic in local water wells. (Credit: RDI Cambodia, from http://www.rdic.org/ground-water-arsenic-in-cambodia.php)

Case 2: Urban Ministries of Durham collaborates with McKinney communications agency to develop SPENT, an online game about surviving poverty and homelessness ("SPENT," 2011). SPENT is just one example of the power of the kinds of "serious games" advocated by scholars such as McGonigal (2011) and Flanagan (2009). See Figure 2.

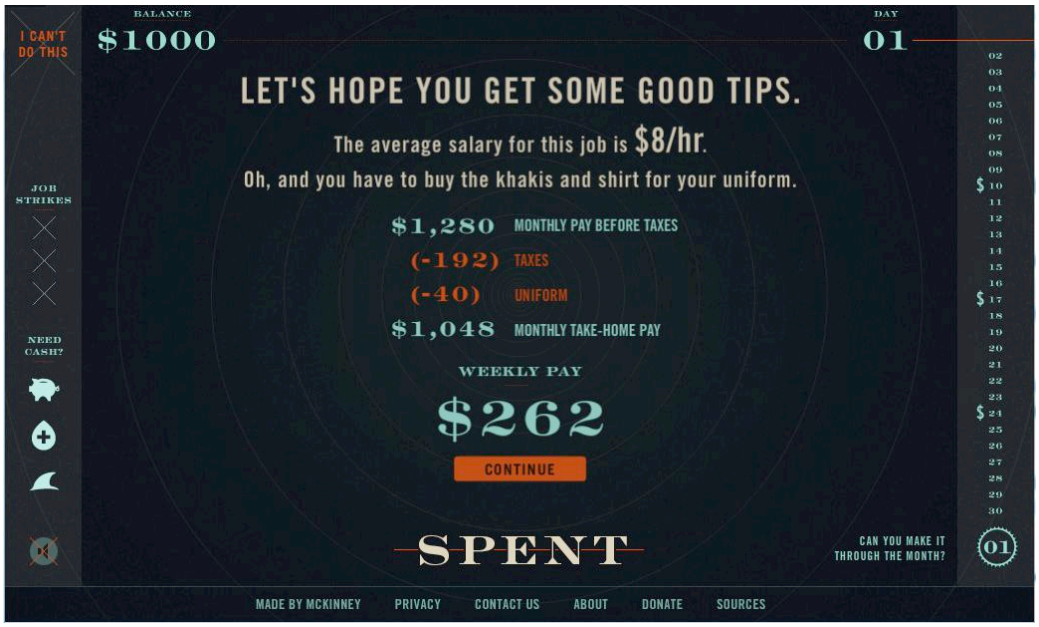


**Figure 2:** Screen shot from SPENT. (Credit: SPENT, McKinney for Urban Ministries of Durham, from http://playspent.org)

Case 3: A team of researchers, in collaboration with the Utah Transit Authority, launches Next Stop Design, a bus stop shelter design contest to crowdsource public participation in transit planning (Brabham, 2010, 2012). See Figure 3.

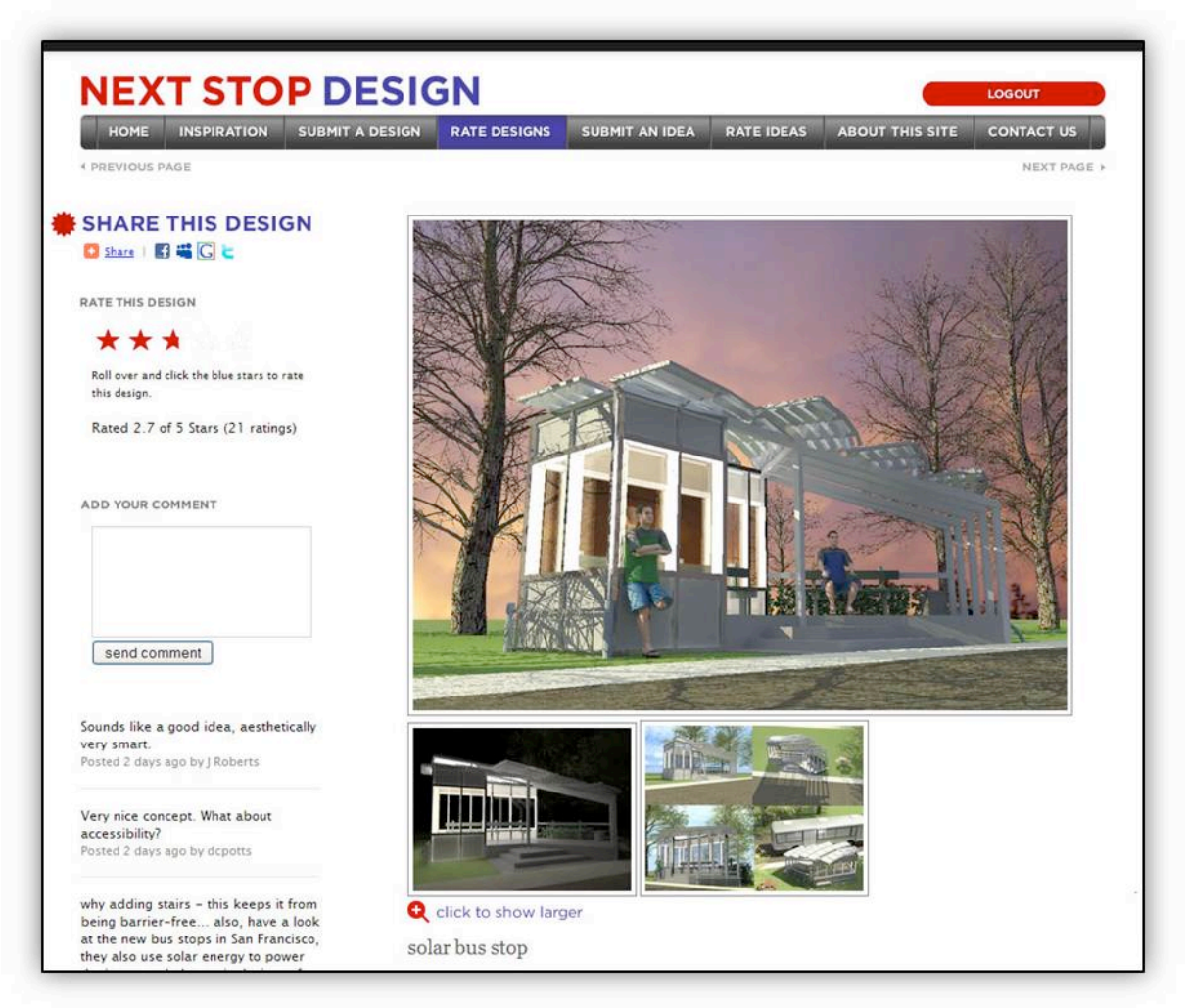


**Figure 3:** Screen shot from Next Stop Design. (Credit: Next Stop Design, supported by Federal Transit Administration in cooperation with University of Utah and Utah Transit Authority, from http://www.nextstopdesign.com)

It is my hope that Internet studies scholars may embrace a critical media design approach in their work, eager to put ideas into action as designed technological artifacts for the public good, all while building theory and advancing the field. Critical media design is a viable model for engaging in this kind of scholarly enterprise.

## References

Brabham, D. C. (2010). *Crowdsourcing as a model for problem solving: Leveraging the collective intelligence of online communities for public good* (Unpublished doctoral dissertation). University of Utah.

Brabham, D. C. (2012). The effectiveness of crowdsourcing public participation in a planning context. *First Monday*, *17*(12). Retrieved from http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/4225/3377

Buddenbaum, J. M., & Novak, K. B. (2001). *Applied communication research*. Ames, IA: Iowa State University Press.

Cross, N. (2001). Designerly ways of knowing: Design discipline versus design science. *Design Issues*, *17*(3), 49–55.

Denzin, N., & Lincoln, Y. S. (1994). *Handbook of qualitative research*. Thousand Oaks, CA: Sage.

Engelbart, D. C. (1962). *Augmenting human intellect: A conceptual framework* (Summary report No. AFOSR-3233). Washington, DC: Air Force Office of Scientific Research. Retrieved from http://www.invisiblerevolution.net/engelbart/full_62_paper_augm_hum_int.html

Fischer, G. (2002). Beyond "couch potatoes": From consumers to designers and active contributors. *First Monday*, *7*(12). Retrieved from http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1010/931

Flanagan, M. (2009). *Critical play: Radical game design*. Cambridge, MA: MIT Press.

Fuller, R. B. (1963). *Operation manual for spaceship earth*. New York: E. P. Dutton.

Fuller, R. B. (1992). *Cosmography: A posthumous scenario for the future of humanity*. New York: Macmillan.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory*. Chicago, IL: Aldine.

Hardt, H. (1992). *Critical communication studies: Communication, history and theory in America*. London: Routledge.

Hickson, M., III. (1973). Applied communications research: A beginning point for social relevance. *Journal of Applied Communications Research*, *1*(1), 215–219.

Illich, I. (1973). *Tools for conviviality*. New York: Harper and Row.

Licklider, J. C. R. (1960). Man-computer symbiosis. *IRE Transactions on Human Factors in Electronics*, *HFE-1*(2), 4–11.

Mau, B. (2004). *Massive change*. New York: Phaidon.

McChesney, R. W. (1993). Critical communication research at the crossroads. *Journal of Communication*, *43*(4), 98–104.

McGonigal, J. (2011). *Reality is broken: Why games make us better and how they can change the world*. New York: Penguin Press.

Mumford, L. (1934). *Technics and civilization*. New York: Harcourt Brace.

Nelson, T. H. (1974). Computer lib/Dream machines. In N. Wardrip-Fruin & N. Montfort (Eds.), *The new media reader* (pp. 303–338). Cambridge, MA: MIT Press.

Noveck, B. S. (2003). Designing deliberative democracy in cyberspace: The role of the cyber-lawyer. *Boston University Journal of Science and Technology Law*, *9*(1), 1–91.

Rogers, E. M. (1982). The empirical and the critical schools of communication research. *Communication Yearbook*, *5*, 125–144.

Slack, J. D., & Allor, M. (1983). The political and epistemological constituents of critical communication research. *Journal of Communication*, *33*(3), 208–218.

SPENT, the online game about surviving poverty and homelessness, reaches its millionth play and invites Congress to accept the challenge. (2011, August 31). *McKinney News*. Retrieved from http://mckinney.com/news/spent-millionth-play

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research*. Newbury Park, CA: Sage.

Strauss, A., & Corbin, J. (Eds.). (1997). *Grounded theory in practice*. Thousand Oaks, CA: Sage.

Talbi, A. (2005). *An overview of current operational responses to the arsenic issue in South and East Asia* (Volume II Technical Report No. Paper 2). Washington, DC: World Bank. Retrieved from http://tinyurl.com/aommjhl

Tesch, R. (1975). *The humanistic approach to educational research* (ERIC Document Reproduction Service No. ED140475). Santa Barbara, CA: The Fielding Institute.

Wade, C. (2010). *Born sweet*. Cynthia Wade Productions.

### License