

# Book Review

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Improvizational Design : Continuous Responsive Digital Communications  
Suguru Ishizaki  
Design Issues  
Volume 22, Number 1, Winter 2006



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## Contents

- 1 Introduction

**Silvia Fernández**

- 3 The Origins of Design Education in Latin America:  
From the hfg in Ulm to Globalization

**Stuart Walker**

- 20 Object Lessons: Enduring Artifacts and Sustainable Solutions

**Eric Van Schaack**

- 32 The Division of Pictorial Publicity in World War I

**Jocelyne Le Boeuf**

- 46 Jacques Viénot and the “Esthétique Industrielle”  
in France (1920–1960)

**Guy Julier**

- 64 From Visual Culture to Design Culture

## Books and Reviews

**JohnPaul Kusz**

- 77 *Cradle to Cradle: Remaking the Way We Make Things*  
by William McDonough and Michael Braungart

**R. Roger Remington**

- 78 *The Gendered World of the Bauhaus:  
The Politics of Power at Weimar Republic’s Premier Art Institute,  
1919–1932*  
by Anja Baumhoff

**Adam Kallish**

- 80 *Improvisational Design:  
Continuous Responsive Digital Communication*  
by Suguru Ishizaki

**Paul Shaw**

- 82 *Five Hundred Years of Book Design*  
by Alan Bartram

- 84 *Karl Gerstner Review of 5X10 Years of Graphic Design, etc.*  
edited by Manfred Kröplien

**Jonathan E. Schroeder**

- 86 *Identity: Trademarks, Logotypes and Symbols*  
edited by Lena Holger and Ingalill Holmberg

**Jan Conradi**

- 89 *Typography: Formation and Transformation*  
by Willi Kunz

*Improvisational Design: Continuous Responsive Digital Communication* by Suguru Ishizaki (Cambridge: MIT Press 2003) ISBN 0-262-09035-X, 155 pages, hardcover, illustrated, \$37.00.

The purpose of Suguru Ishizaki's book is "...to provide a conceptual framework that helps designers impose a structure on a dynamic design problem and its solution. At a tactical level, it provides a methodical process that designers can use in the course of solving a design problem." Published by MIT Press as an outgrowth of Ishizaki's dissertation at MIT's Media Lab, *Improvisational Design* provides a clear wellspring of influences from the legacy of Muriel Cooper and others that redefined design within an institute of technology. Part of his motivation for his journey was that he was "...increasingly frustrated by the fact that although I could avoid participating in generating low-quality products for digital communications, increasing numbers of such artifacts were starting to surround my visual environment."

It is difficult to separate process from methods within the field of digital technology and Ishizaki attempts to address both process and method throughout the book. Sensing that traditional design approaches lack models and languages for developing solutions that are digital in nature, this book tries to take a rational approach to an emotional debate within design—what skills and knowledge should designers have towards digitally pervasive experiences?

Many designers who were trained in traditional print technology use digital technology to recreate print technology and then migrate to temporal solutions that remain digital in nature. Every new medium that is created emulates the medium that it is challenging before finding its own language, theory and rules. When photography was invented, many photographers were influenced by the rules and values of painting and created compositions and narratives that were based upon painting. They were essentially painting with light, until photography became a medium with its own philosophy, rules and skills.

According to Ishizaki, the designer's role in a digital context "...is similar to that of a director of an improvisational dance performance: the director selects dancers (agents) with the desired expressive skills (design systems)..." Ishizaki describes a digital landscape populated by "agents"—or performers responsible for components of digital experiences that interact with one another through time to create meaning. The temporal nature of digital technology, where functions and content continually change based on interaction, personalization,

and customization are important factors to him. Time and movement also become key variables that need to be integrated in design thinking as one learns to manipulate a digital palette.

Ishizaki points to the work of artificial intelligence of multi-agent systems (MA) and distributed problem solving (DPS) where agents can be coordinated to achieve one of a number of goals. Descriptions are created for agents with a "computational engine" that interprets the descriptions and generates temporal actions—each may have a different value at different times. Agents interact with other agents; and based upon changes in context, agents can change themselves. As one can imagine, managing one agent can be simple, managing many agents could become "unpredictable and incomprehensible."

Ishizaki defines the temporal actions of agents who act as vessels that express intangible concepts. The physical elements within his digital geography such as content (for example headlines and text) can express themselves in a number of ways (scale, color, translucency, or other behaviors) to express intangible concepts. It is this temporal world that designers need to learn. Given the variables that a designer needs to consider, it may seem analogous to riding a bicycle when one is hyper-aware of balance, speed and braking—difficult to coordinate, but once you experience the variables, riding becomes natural.

The term improvisation is derived from the Italian word "improvvisare" meaning on the spur of the moment and the Latin word "improvosus" meaning unforeseen. Suguru Ishizaki's *Improvisational Design* is less about describing improvisation, but rather articulating a deep understanding of the syntax and systems of digital technology to create maximized media experiences. Ishizaki states that there needs to be strategies, actions and states that work together to run the world that agents interact within. Therefore, one cannot improvise until one learns a system, and then its limits and possibilities.

Due to the temporal nature of digital solutions, Ishizaki emphasizes the iterative nature of improvisational design where a number of fluid outcomes can be created with a finite palette of tangible and intangible elements—until an ideal solution is discovered. He describes "building on abstractions of action, the abstractions of strategy, along with the concepts of sensor and messaging, provided a means of describing dynamic solutions that could respond meaningfully to the changes in context."

One issue that was addressed in the book, yet could have been better articulated, was the difference between personalization vs. customization within digital solutions. A reader of this book can easily become lost or overwhelmed by the abstractions Ishizaki uses to describe how agents behave and what programming

can achieve to create more sophisticated results by these agents. Customization is the ability of the user to select features, functions and content from a determined set of choices. Personalization is the ability of a digital system to learn user behaviors, often using “artificial intelligence” through a pattern of use and change the digital experience for the user.

He states that “...designers must design a way of designing, or a process” where “...designing is an explicit description of how specific design elements that are unknown at the time of designing change over time with changes in the immediate context.” Ishizaki believes that context is information, intention and the presentation environment—each can change over time. Yet, he does not make a clear connection between these variables and where maximizing existing repertoires of agents leaves off and customized repertoires begin. Part of Ishizaki’s challenge is distilling his doctoral research and language into a more accessible syntax that can encapsulate abstract concepts.

While Ishizaki focuses on developing a theory about how to interpret and frame the elements of digital media, and steer clear of “computer systems or design automation,” unfortunately his path—and a reader’s understanding—is hampered by issues around programming. While new robust software technology is increasingly available to the public with drag and drop visual interfaces, there are limits to the temporal aspects of these interfaces, outside proscribed effects. Programming languages create instructions that manage precise and predictable solutions. Ishizaki admits that text based “if-then” programming to many designers is an impediment to essentially visual based solutions, yet he warns designers of the trade-off between both text and visual tools to create predictable digital solutions.

This is where he emphasizes the development of design systems. Developing visual systems is nothing new to graphic designers as they have been designing corporate identity and typographic systems for much of the twentieth century. What is different in this book is the recognition that digital design systems are based upon computer programs that understand rule-sets which “...requires designers to generalize and articulate their design solutions more than they had to do for traditional design systems.”

Therein lies the conundrum for designers. By developing rule sets that need to be executed by computers, designers need to create an exact landscape of agents and rules. While designers have used rules in an implicit fashion for print media, few have developed explicit systems for others to follow due to the many variables

that were out of a designer’s control or were not identified as variables to consider. The model of improvisational design “...emphasizes the precise, structural descriptions of a design solution. It encourages systematic design thinking in order to make responsive design solutions computable.”

While the book is a good resource primer to understand the issues around developing digital solutions with design sensibility, the layout of the book and the static nature of the medium could have been enhanced with an interactive CD-ROM or website to visit which could have animated the content of the book. A strength of the book is in his references section which highlights Ishizaki’s influences such as Edward Tufte, J. Müller-Brockman, Gyorgy Kepes, Karl Gerstner, Gui Bonsieppe, Jacques Bertin, Rudolph Arnheim and Christopher Alexander.

Ishizaki sums up his explorations by pointing out the process was one of “resistance and resolution. My emotion had to be justified by reason, and reason had to be accepted by my feelings.” A reader can sense this struggle and appreciate Ishizaki’s journey.