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\(Discussion/Chat\)](#)[LUMINARIES](#)[SPECIAL PROJECTS](#)[PROFILES](#)[:: ARCHIVE](#)[:: ABOUT](#)[:: CALL FOR PAPERS](#)**Responsive Environments and Data Landscapes**  
by Teri Rueb**Responsive Environments and Data Landscapes**

by Teri Rueb

Rhode Island School of Design

Department of Digital + Media

**Abstract**

Created as part of the interdisciplinary curriculum in Digital + Media at the Rhode Island School of Design (RISD), this graduate studio offers a space in which artists, designers, and architects, as well as geographers, computer scientists, and engineers can come together to explore new possibilities for creating and mapping responsive environments and data landscapes using wireless, mobile and locative media.

**Keywords:**

interdisciplinary, graduate, studio, art, design, architecture, computer science, locative, hertzian, geography, education

**The Course: Responsive Environments and Data Landscapes (DM7019)**

New forms of public space, social interaction and cultural expression have emerged with the proliferation of mobile phones, portable computers, GPS, Wi-Fi, RF, Bluetooth and related wireless technologies. These technologies have also been exploited to support new methods of mapping, data gathering, data mining, and surveillance. We are immersed in a landscape of invisible networks and clouds of transmission frequencies that increasingly envelop us wherever we go. What are the fundamental cultural forces that have produced this landscape and how can artists, designers and scientists participate in shaping it with a broader awareness as to its cultural impact? As active agents in shaping and interpreting culture, artists, designers, and scientists can embrace the capabilities of wireless technologies and geo-spatial data systems to explore new ways to design, represent, interpret and critique this space of flows and its impact in shaping the landscapes of our everyday lives.

**The Model: Interdisciplinary Graduate Education**

Created as part of the interdisciplinary curriculum in Digital + Media at RISD, this graduate studio offers a space in which artists, designers, and architects, as well as geographers, computer scientists and engineers can come together to explore new possibilities for creating and mapping responsive environments and data landscapes using wireless, mobile and locative media. An important goal of the course is to develop bridging methodologies, languages, and vocabularies across disciplines related to the field of locative media. In the past the course has enrolled graduate students from Digital + Media, Computer Science, Glass, Sculpture, Landscape Architecture, Architecture, Graphic Design, Industrial Design and Interior Architecture, as well as Computer Science, Geography and Environmental Sciences.

Students work independently or in collaborative teams to create designs as concept proposals explored through material process or as working prototypes built to scale. A variety of tools and techniques are introduced to support the design of technologically mediated landscape, architecture, and responsive environments, in particular GPS, GIS, Wi-Fi, RF, Bluetooth and portable computers (pocket PC, laptop, and micro-controllers).

**The Approach**

The course focuses on design process across disciplines, with an emphasis on issues

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that are specific to designing within electro-magnetic space. Theoretical, historical and contemporary issues are addressed with an emphasis on discourses emerging from art, architecture, design, urban studies, computer science, and geography. The common ground is located in a shared medium and tool set, and a design process based in material iteration and critique.

### **Exercises**

As a starting point for conceptualizing responsive environments, a basic design approach is offered that loosely combines 2D and 3D design principles with time-based concepts as they relate to architecture, installation, performance and interaction in fixed, mobile, and mobile ad hoc networks.

#### **#1 Mapping Hertzian Space**

Read: Selected chapters on Hertzian space from “Design Noir: The Secret Life of Everyday Objects” (Anthony Dunne and Fiona Raby, August/Birkhauser 2001).

Using a device of your choosing (cell phone, wi-fi enabled laptop or pda, radio, GPS, etc.) map the Hertzian space of a given frequency domain (wi-fi, bluetooth, cellular, etc.) in a given region (a room, building, city block, neighborhood, or journey through such spaces). If you are using a wi-fi enabled laptop or GPS you may wish to use a packet sniffer software or GPS tracking software to get more detailed information about the signals you are receiving.

The assignment is as much about becoming aware of Hertzian space through an experiential interaction with it as it is about understanding the quantifiable nature of invisible landscapes of electromagnetism. Your maps may take the form of a rational visualization of spatial data, or they may explore the subjective image you carry of this landscape as your accumulated experience with it begins to form mental maps in your imagination.

You may present your results in any medium or format you find best communicates the experience and information you have chosen to map.

### **Biography**

*TERI RUEB's* large-scale responsive spaces and location-aware environments explore intersections of architecture and urbanism, landscape and human movement, and sonic and acoustic space. She was an early pioneer in using GPS to create location-aware responsive installations and environments in urban and remote landscapes. She has received grants and commissions from The Banff Centre New Media Co-Productions, Turbulence.org (with funding from LEF and the Jerome Foundation), Artslink, the Maryland State Arts Council, and The Puffin Foundation.

Her work has been presented internationally and reviewed in diverse publications including "Information Arts: Intersections of Art, Science and Technology", edited by Stephen Wilson, MIT Press, 2001. Rueb received her master's degree from the Interactive Telecommunications Program at New York University and a B.F.A. in Sculpture, Painting and Literary and Cultural Studies from Carnegie Mellon University. She is a professor in the graduate Department of Digital + Media at the Rhode Island School of Design. <http://digitalmedia.risd.edu>

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