Exhibition Next: The Future of Exhibition Design

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EXHIBITION NEXT: THE FUTURE OF EXHIBITION DESIGN

A Thesis

Submitted to the Graduate Faculty of
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
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in
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Santanu Majumdar
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ABSTRACT

The ubiquitous presence of design guides our day-to-day actions, determining our awareness, configuring our environment, and modifying our lives. We must acknowledge the power and the opportunity of this dynamic force of design. (http://www.massivechange.com/exhibition)

“At the very least,” Peter Lunenfeld says, “design research saves us from reinventing the wheel. At its best, a lively research methodology can reinvigorate the passion that so often fades after designers join the profession.” Lunenfeld inspires me to consider the evolution of exhibition design. My thesis is about the future of exhibition design, enabling me to explore the changes this area of design is now facing. After attending a lecture on “Processing” (the building of interactive software through programming) in the fall of 2007, I was fascinated and excited with the possibilities of this emerging technology. I felt compelled to explore how exhibition designers might prepare themselves for the likely demand for work using this cutting edge technology. It is apparent that with recent advancements in digital technology, present day exhibitions utilizing multi-disciplinary approaches are moving towards a single exhibition approach. For instance, today’s exhibition requires product design, structural design, textile design, graphic design, light, sound, etc. In the near future, digital technology will leave little scope for so many other disciplines. Exhibition design appears to have a vibrant future, even with the fast growth of digital communication. Although there has been some interest in “virtual” exhibitions, these are unlikely to experience growth, as they lack the key advantages of a live arena—namely face-to-face contact and the ability to demonstrate products and services live.

EXHIBITION NEXT is a communication device with which the visitor may obtain information of interest in a digital format. It centers on the effort to learn and build tomorrow’s exhibition technology. In our lifetime graphic design has seen technological advancements evolve beyond recognition in the fields of typography, printing, photography, and interactive media. Similarly,
digital advancements in the area of exhibition, and the accompanying programming
requirements, emerge today as new challenges for visual communicators. It is for the graphic
designer to embrace design research and reinvigorate the passion that will fulfill the most
creative potential of new technology.
CHAPTER 1- INTRODUCTION

In the past decades, individuals have experienced spectacular changes in human life. The constant evolution of technology and design reconfigures time, space, awareness, and individuality. The global economy compels us to work and travel across various time zones like never before. We deal with an excess of information; where we cope daily with dozens of changes in technological complexities. One of the most elementary tasks in design is to solve problems and to help people deal with change. Designers have always coped with this fast change in technology by contributing thoughtful concepts and guidance that can provide reassurance (http://www.moma.org/visit/calendar/exhibitions/58). This change is happening already in multifunctional devices like Apple’s iPhone, LG vue and other 3G cell phones. This phones provides a watch, clock, diary, notebook, navigation system, pager, calendar, barometer, television and, in addition, a standard phone.

EXHIBITION NEXT is a study of and research into how communication methods could change in near future with the additional involvement of digital technology. As designers, we all discuss the future. We ask how is communication going to be more flexible? We can debate for hours and still not reach a sustainable solution. Unless we examine needs and potential applications, we cannot determine how best to implement digital technology that shapes the future.

Design is intrinsic to business and daily life. As designers contribute and connect in new eras, the common question begs, “Do we wait or start now?” EXHIBITION NEXT suggests that now is the time.

My thesis began with exhibition design, an area of specialization that I have known and worked in for several years. Traditionally, exhibition design has often been a launching pad for new products, education, technology, etc. In its best form, it is a multidisciplinary field where various professionals collaborate to communicate a message, idea, or product. Multi-disciplinary
collaboration is a key element in the success of effective exhibition. Historical examples would be The Crystal Palace, a cast-iron and glass building originally erected in London’s Hyde Park to house the Great Exhibition of 1851 (http://en.wikipedia.org/wiki/The_Crystal_Palace). A Paris landmark, the Eiffel Tower, was created for the entrance of the Exposition Universelle, a World’s Fair marking the centennial celebration of the French Revolution (http://en.wikipedia.org/wiki/Eiffel_Tower). Both exhibits represented monumental advances in design, ushering in a wave of imagination.

In Communication Tomorrow, E.W. Brody mentions that “today’s audiences differ demographically and socio-economically as well as psychologically from those of earlier decades. Changing occupation, economic, and family circumstances have produced change in behavioral patterns. Changed behavior patterns limit communicators, access to audiences and alter audience responsiveness to mass media messaging”.

**Mass Communication in the Future**

Making predictions is commonly a very risky affair, especially when dealing with an uncertain future in experimentation. With the tremendous growth in technological advancement, enough of the future is already in sight. Every society is moving rapidly into the epoch of information, an era in which each individual will be empowered with sea of information on their finger tips. There is a vast educated population who is better equipped to access the information through technology to make political, economical, and personal decisions. These numbers are growing everyday.

The primary focus of commercial communication is shifting from perception to reality with the drive of new technology, new media, and new audiences. Instead of attempting to convince consumers the value of a product, service, organizations, the professionals in the field of communication are restructuring the methodical and technological support.
With new technology there is an initiative to educate, more unconvinced, and create better-informed audiences. In this fast moving, informed, and technologically advance age the audiences are strongly oriented and highly influenced by emerging technologies and accustomed to the mass media. Increases in numbers of media, contemporary and traditional, printed and digital, have created a massive competition in the field of communication. The speed of the Internet has given us instant indulgence, which has made us less patient and more demanding. The most overwhelming impact of information technology has been the transfer the ever-expanding growth of knowledge—in the cultural sphere. The Internet allow us to connect any two computers, enabling global connection of networks and generating a worldwide cultural gathering beyond imagination, available to anyone, anywhere. With the help of Internet we are empowered an extraordinary knowledge sharing ability to collect, understand, and communicate information, which enables a holistic view of the world. With the limitless growth of the virtual world it became larger and more powerful, which requires a change to customized information to suite individuals need.

This particular project EXHIBITION NEXT explores the complexity of design communication that links the audience with customized and secure information process. The design of information in this particular project eventually emerges from technology demonstrating that the world of information is through and through linked to the world of design. (E. W. Brody)
CHAPTER 2 – PROBLEM AREAS

I visited several exhibitions and museums while working on this project. Even though I have worked in the exhibition design field for several years, I wanted to step back and unlearn what I had already learned.

Key Issues in Commercial Exhibitions

- At the time of registration visitors have to give their personal data.
- The visitor receives either a magnetic card or a name tag with bar tag which contains their personal information.
- The exhibitor (at booths) will record the visitors’ data in exchange for information in a form of CD or brochures.
- At the end of the day, visitors have collected a huge amount of materials, which may not be of importance.
- Waste of money and resources as the visitor is not going to make use of all the materials collected.
- At times exhibitions are huge and overwhelming. Visitors do not have enough time to collect all available information.
- After the exhibition is over, visitors receive unwanted posts or e-mails.
- The data collected in every booth at the exhibition might not be real-time data.

Key Issues in Museums

- Most of the exhibits have a small description.
- Photography is not allowed.
- If it is a semi-permanent exhibition or a temporary exhibition there is no printed catalog.
• At times the exhibitions are huge and overwhelming. The visitors do not have enough
time to collect all the required information.

• It is a costly affair to collect data in museums. Feedback from visitors is immensely
important to expand or reduce the collection.
CHAPTER 3 – DESIGN PROCESS

Design Process is a system, component, or process to meet desired needs. It is a decision-making process by which the designer works out a method to meet the challenges.

Figure 1: Diagram of Design Process
CHAPTER 4 – THE INSPIRATION

This particular project was a product of a number of inspirational information inputs.

**Microsoft surface** is a multi-touch product from Microsoft which is developed as a software and hardware combination technology that allows a user, or multiple users, to manipulate digital content by the use of natural motions, hand gestures, or physical objects.

(http://www.microsoft.com/surface/)

Figure 2: Microsoft Surface (http://www.microsoft.com/surface/)

**Christiane Paul** is the Adjunct Curator of New Media Arts at the Whitney Museum of American Art and the co-founder, publisher, and editor-in-chief of Intelligent Agent, a print and
online information resource dedicated to digital art. She has written extensively on new media, net art, information architecture; hypermedia, and hyper fiction; and her articles have been published in magazines such as Sculpture, Leonardo, and Intelligent Agent. She is the author of Digital Art (Thames and Hudson, 2003), which surveys the field of new media art.

http://transliteracies.english.ucsb.edu/post/conference-2005/participants/christiane-paul

**Mindstorm** is an award-winning software company that converts static surfaces into intelligent displays, and passive customers into active participants. (http://mindstorm.com/)

Figure 3: Surfaces converted by Mindstorm (http://mindstorm.com/)

**John Maeda** is a world-renowned artist, graphic designer, computer scientist, and educator. (http://en.wikipedia.org/wiki/John_Maeda)

Processing is an open source programming language and environment for people who want to program images, animation, and interactions. **Ben Fry** and **Casey Reas** initiated this project. It evolved from ideas explored in the Aesthetics and Computation Group at the MIT Media Lab. (http://processing.org/)

Figure 4: Exhibition Walls and Surfaces (http://processing.org/)

Canadian artist **Charlotte Davies** is internationally recognized for pioneering artworks using the
technologies of virtual reality. Originally a painter and filmmaker, Davies transitioned to digital media in the mid-80s when she began exploring three-dimensional computer imaging as a means of expanding depth beyond the picture plane. In 1987, she became a founding director of Softimage, the 3D software company whose intuitive design philosophy reconfigured the computer graphics industry. A developer of software tools used for special effects in such landmark films as Jurassic Park, Softimage held its initial public offering on NASDAQ in 1992 and was ultimately acquired by Microsoft. (http://www.immersence.com/)

I had the opportunity to take a Digital Art History course last summer by Professor Susan Ryan at Louisiana State University, which had plenty of insight in the usage of digital media in art and design practices in the digital field. In this particular class, I created a digital art project “Key board Art”. This really helped me in getting the in depth knowledge of how programming + design can be the future tools to cope up with future design work.

Tangible Visualization is a Louisiana State University research group led by Brygg Ullmer. The focus of this class is the design and deployment of new kinds of physical interaction devices and associated software systems to simplify, strengthen, and extend computer visualizations, especially in collaborative environments. (http://tangviz.cct.lsu.edu/about.html)
CHAPTER 5 – RESEARCH AND FINDING

What Is the Current Scenario of Any Exhibition?

When you go to any exhibition, whether it is a commercial exhibition or a museum, you buy a ticket or pass. You visit different stalls/displays and move from one to another. In this process you collect a brochure or a CD to view details at your leisure. Eventually they gather dust and end up in the trash. For instance, SIGGRAPH has a magnetic card with the visitor’s information on it. So at every stall the visitor visits, his/her card is swiped. They are handed over a brochure, compact disc, or souvenir bag.

Figure 5: Present Technology and the Future Technology

How Does This System Work?

When visitors go to the reception/ticket counter they get an RFID card. They have to give their e-mail address and name for identification. Every stall/display that the visitor goes to will have an RFID reader which will allow them to log in automatically. Every stall/display will have a computer console to surf for more information regarding the product or exhibit. A local server
will contain all this information (there are limitations in providing all information online).

Whatever the visitor surfed is sent automatically to their e-mail address, and data regarding the exhibits visited goes to the client (exhibitor) without the visitor’s personal information.
CHAPTER 6 – DIAGRAM

This is a very efficient and cost effective model. A server will be centrally located in the museum or exhibition that will contain all the necessary information. This information will be channeled through various portable/ big screens.

- Visitor registers name and e-mail address, and photograph (optional) is taken at the registration desk.
- The visitor visits each exhibit and collects information as they please.
- E-mail will be sent to the visitor including text and images.
- Exhibitor will receive e-mail without personal information of the visitor as data.
- Easy interface template allows the exhibitor to change and update information.

Requirement

One Server

One / two computers for registration

RFID reader at $65.00 (depending on exhibits)

Portable / big screens

RFID card at $1.14 (depending on number of estimated visitors)

One of the main objectives in this project is to make the solution cost effective and user friendly. The interface is designed keeping in mind the exhibitors who can change/include information and images without involving a web designer or a web developer. They only have to use a simple template to do the necessary changes.
Technology Used to Make It Possible

Radio Frequency Identification (RFID) devices, can improve cost effectiveness and remove waste and lost revenue. RFID tags and readers have been available for many years -
mainly as low-end passive security devices in stores, and powered active tags that have internal batteries to enable them to be read from a much greater distance. The simple passive tag holding a serial number is linked to the exhibitor’s database that holds the history and attributes of the specific item attached to the tag. Wal-Mart, Tesco and the US Department of Defense have been using the technology since 2005. (http://en.wikipedia.org/wiki/RFID)

What Is Python?

Python is a dynamic object-oriented programming language that can be used for many kinds of software development. It offers strong support for integration with other languages and tools, comes with extensive standard libraries, and can be learned in a few days. Many Python programmers report substantial productivity gains and feel the language encourages the development of higher quality, more maintainable code.

Python runs on Windows, Linux/Unix, Mac OS X, OS/2, Amiga, Palm Handhelds, and Nokia mobile phones. Python has also been ported to Java and .NET virtual machines. (http://www.python.org/)
CHAPTER 7 – CONCLUSION

Easy Access to Information

In today’s world we want information to be at our fingertips.

No More Login or Logout

This particular system is made keeping in mind people who are not computer literate. The viewer can log in automatically by placing the RFID card on the RFID reader and will be logged off the moment he removes the RFID card from the reader.

No More Waste

Whether it is money invested for marketing or awareness, it is always wasted if not effectively used. Visitors pick up catalogs, brochures, CD’s to collect information but they eventually land up in the trashcan. A study shows newsstand sales of magazines fell 6.3 percent in the first half of 2008. With this information we can come to a conclusion that it is important for us to look at every piece of information critically.

![Magazines](image)

Figure 8: Magazines (Google image)

This particular technology helps in preventing waste. The viewer can secure the information without physically carrying it back home. They can read customized information on screen or print it, which reduces waste.
Keeping Personal Information Private

I visited SIGGRAPH 2008 in Los Angeles. Siggraph is a seminar/exhibition for the computer graphics and interactive techniques community. There they use magnetic cards, which contain personal information. So when the viewer visits a booth his/her card will be swiped and they are handed over some information either in a brochure or a CD.

With digital technology we do not want to share our personal information. It is very easy with digital technology to lose the personal information of customers. This makes it necessary to take specific steps to protect against unauthorized access to, or use of, personal information under specified circumstances.

With this technology viewers keep all personal information private. With these technology viewers keeps all personal information with themselves.

![Figure 9: Magnetic card reader (Google image)](image)

No More Junk Mail

By common practice, the visitor receives a magnetic card at a registration desk that contains his/her personal information. This magnetic card is swiped or read at exhibit counters. His/her information is stored, resulting in the visitor being sent mail, some of it unwanted, for an indefinite time.
**Customized Information**

When visitors visit an exhibition/museum they like to gather information, which interests them the most. The visitor may be interested in a particular product but with the current system (brochure, CD/DVD ROM and swiping magnetic card) they gather unnecessary information, which either goes in the bin as junk mail or sits in some corner to gather dust. With this technology the viewer can pick up information as he pleases.

**Detailed Information**

The viewer can get detailed information with this technology. Usually museum or company websites do not hold all necessary information. With a lot of text and images, a web server needs to have sufficient space. Depending on the browser, the images may appear at a slow speed. Since the information is stored in a local server, the viewer can pick up any information they like. For example in a museum there are exhibits of paintings, sculpture, artifacts etc. If the viewer is interested in specific paintings, he can carry back detailed information customized for him. In any museum, brief information is supplied but with this technology the viewer can access detailed information of each specific element of the exhibit that interests them.

**Data Collection for the Client**

Every museum/exhibition collects data. Data collection is an important aspect of any type of research or study. Inaccurate data collection can impact the results of a study and ultimately lead to inaccurate conclusions.

Data may be collected in four broad ways:

- **Documentary sources**
- **Observations**
- **Surveys**
- **Tests, measurements and experiments.**
With this simple method, data may be collected without filling up a form or involving anyone. This helps the exhibitor to use this data to enlarge a section in the exhibition or re-plan the entire exhibit.

**Easy Information Transfer**

The visitor simply reads/views the information sent by e-mail to a personal computer or a web-linked cell phone at his/her leisure. Another potential system application might also include an auditory format for the sight-impaired.

**The Steps**

Images demonstrating the steps from the registration process to accessing the information of each exhibit. In reality the screens will not overpower the exhibit. They will be small digital touch screens (like the DVD screens) and the RFID reader will be housed in a sleek aluminum case.

![Figure 10: Registration Process](image)
Figure 11: Exploring the Exhibit

Figure 12: Sending e-mail
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APPENDIX A: VISITORS’ QUESTIONNAIRE

How was your experience in the Museum?

_____________________________________________________________________________

How was your previous experience in the Museum?

_____________________________________________________________________________

Did this particular system seem beneficial to you?

_____________________________________________________________________________

Do you think Museums should consider this system?

_____________________________________________________________________________

Thank you for your time. Any other feedback will be much appreciated.

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APPENDIX B: VISITORS’ FEEDBACK

Enjoyed the exhibit. I think it is a cool idea. It seems as though this could work well for both sides of the exhibit. Very nice. – Trey Roth

That’s a very good idea! You should definitely patent it. My only suggestion is to use the type of card where the user doesn’t have to place the card down. But still, that’s a very, very good idea! – Quang Le

Great job Santanu! I really enjoyed your exhibit – Ellee Thomas

Very interesting concept and design – Lacey Little

Congrats Santanu, Great concept. Very well worked out - Matthew

Fabulous! Brilliant!– Veni Harlen

Most of the time exhibits has a small description, which is not very helpful also it is not allowed to take pictures in the Museums. With this system the viewer can receive a wealth of information and the image which is otherwise difficult – Becky Hood

Makes the museum experience much easier it is also very simple for individuals who are technically driven or not – Jonathan Ryan

Interesting exhibit. I like it very much. The idea seems to be promising for the future. Great job. – Ashok De

Very unique and innovative idea. Very much practically useable, user friendly and easy to use the system, which helps tracking the exhibitions. – Prasad Kalghati

Cool idea Santanu! – Malia
Figure 13: Registration Desk at Louisiana State University Museum of Art
Figure 14: Kiosk 1 and Kiosk 2 at Louisiana State University Museum of Art

Figure 15: Description Board of the Project at Louisiana State University Museum of Art
Figure 16: Using RFID card to access information of the exhibit

Figure 17: Going through the information
Figure 18: Received information via e-mail

Figure 19: Received information via e-mail
VITA

I was born in a beautiful small city, Siliguri, India, in 1971. In 1999, I graduated from The National Institute of Design, India. I worked mainly on Exhibition Design in India after graduation. Then I received the opportunity of moving to London, UK in 2001 to work with the country's fourth largest Retail Design group. A few years later I started my own design place in 2005 called Lotus Design Ltd.

I wanted to break from the mundane day-to-day work of the industry for a while. The led me to join the MFA program in Graphic Design at Louisiana State University. I will receive my Master of Fine Arts degree from the Louisiana State University in May 2009.