Extended Hyperlink Mobilizing Education through Social Networks

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Extended Hyperlink

Mobilizing Education through Social Networks

by Zack Johnson

A Terminal Project
Presented to the Faculty of
The College of Architecture at the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Master of Architecture
Major: Architecture
Under the Supervision of Professor Janghwan Cheon
Lincoln, Nebraska
May, 2012
Part I: Research + Analysis

- Thesis Abstract .................................................. 05
- Thesis Statement ................................................. 06
  My Facebook Social Network .................................. 07
- Social Media ...................................................... 08
  Social Media Revolution ........................................ 10
  Power of Social Networks, ...................................... 12
  Decline of Public Sphere ...................................... 14
- Place ................................................................. 18
  The Death of Place ............................................. 20
  Networked Place ................................................ 24
- Pedagogy .......................................................... 26
  A Failing Model .................................................. 28
  Distance Learning Model ...................................... 32
- Typology .......................................................... 36
  Urban vs. Rural .................................................. 38
  Case Studies ...................................................... 40
  Networking Classroom ........................................ 44
  Blurring the Edge ............................................... 46
  Social/Classroom Paradigm ................................... 48
  Trending Places ................................................ 50

Part II: Proposal

- Scenarios .......................................................... 52
  Vacant Model .................................................... 56
  Infrastructure Model .......................................... 64
  Open Space Model .............................................. 70
- Proposal ........................................................... 76
  Hyperlink ........................................................ 78
  Site Analysis ..................................................... 80
  Schematic Design .............................................. 88
  Final Proposal .................................................. 94

Part III: Summary

- Summary .......................................................... 110
  Conclusion ....................................................... 110
  Bibliography .................................................... 112
The moment we are living in is the largest increase in expressive capability in human history! The new media landscape that we are all now a part of has played a critical part in this and it has reconstituted the way people gather and transfer knowledge. The learning process is now continuous and does not begin nor end with the school building. This thesis is a critical look into the university educational system in America that starts by exploring the relationship between educational environments and the way new media and social networking are changing the social behavior of today’s student. The goal is to understand the role of learning environments in the process of learning and whether this process can benefit from new spatial typologies and teaching methodologies.

The significance of the public institution as a center for information exchange and knowledge transfer has diminished in the 21st century in favor of new forms of networking communications, including distance and mobile learning strategies. With seven thousand students dropping out every school day, the need exists for exploring the development of work environments for students that are more stimulating and engaging in order for them to benefit in our society.

This thesis rethinks the contemporary university institutional model to consider the affects of new media on a student’s individual and community interaction. If architecture is to respond to the evolving means of personal interaction, shouldn’t then architecture be able to adapt and respond to its users? The ability for architecture to meet the changing needs of evolving individual, social and environmental demands can suggest new ways to interact with space and other users and allow for a new form of sensory perception. This thesis aims to redefine the conventional thinking of people as users of architecture, to people as participants of architecture in order to understand how new adaptive spatial environments can challenge participant interaction and improve the education process.

As digital communication influences the way people communicate in society, there exists a need for an architecture that responds to this. I propose that contemporary urban space and architecture be designed with an integrative approach that address both urban and media spaces of social interaction. The construct of static architecture can no longer facilitate the needs of society and therefore what is required must respond more directly to the ever changing needs of the individual student.
CLAIM:
THE INTERNET IS THE FUTURE OF EDUCATION TRANSFORMATION AND WILL REVOLUTIONIZE UNIVERSITIES IN THE FUTURE.

We are currently witnessing a revolution in the way human affairs are arranged. Social networking platforms are proving to radically transform the political culture as authority is increasingly moving into the hands of the citizen. Platforms such as Facebook and Twitter are mobilizing the individual to gather and effect change and disrupt most parts of today's society, except one, education. This thesis proposes a social networking institutional model that aims to provide students an alternative to the traditional university model.
What it tells me about myself?

My Facebook social network when visualized as a diagram reveals connections I never knew existed between me and my friends. What it reveals are the shared friends I have in common with everybody. I feel this kind of information can be utilized to create a new kind of educational institution model that reveals existing connections we never knew existed. Educational institutions should no longer just be about simply educating their students, but must instead connect students with one another and become a new kind of social network.
book
Social Media

Social Media Revolution

What is the role of place in a networked society? This question is at the crux of an investigation that aims to understand how today’s student engages not only the physical world, but the increasingly more prevalent digital world. As we conquer the remainder of the physical world, the transition from a collective to a connective society will transform how we arrange human affairs.

“Give me extension and I will build you a world.”

-Descartes

“Networks of communication, like any technology, are prosthetic extensions of the body. They are new body parts and constitute a new organism, a new spatial system, a new architecture.”

-Jean Baudrillard

Toward a Critique of the Political Economy of the Sign

FIGURE 1.1
Transition from a global collective to a global connective.

FIGURE 1.2
Facebook network distribution/December 2010.
There are 206.2 million internet users in the U.S. 71.2% of the U.S. Web audience is on Facebook. 70% of the Facebook userbase resides outside the U.S.A.

57% of people talk to people more online, than in real life.

Facebook was the most-searched term in 2010.

800 million -active users on Facebook

350 million -active users accessing Facebook through a mobile device.

The 18-24 (College) Demographic grew the fastest at 74% in one year.

130 -number of friends average user has.

There are 206.2 million internet users in the U.S. 71.2% of the U.S. Web audience is on Facebook.

70% of the Facebook userbase resides outside the U.S.A.
The Power of Social Networks - Architecture of Participation

**News**

Social networks credited with role in toppling Egypt's Mubarak

Activists used Facebook, Twitter, YouTube to mobilize during protests

**By Sharon Gaudin**

February 11, 2011 09:29 PM ET

Computerworld - As Egypt's embattled President Hosni Mubarak gave up his presidency Friday, analysts and some of the Egyptian protestors said he'd still be in charge if not for the power of social networking.

After 18 days of tumultuous protests and stubborn refusals to leave a position he's held for 30 years, Mubarak gave up power today, handing over authority to the nation's military leaders. During a time of unrest that saw Mubarak's regime disconnect Egypt from the Internet for several days, social networking sites like Facebook and Twitter served as critical tools for the people seeking to topple the long-time ruler.

President Barack Obama this afternoon noted the role of technology in the uprising, praising Egyptians who used "their creativity, talent and technology to call for a government that represented their hopes and not their fears."

"I certainly do not think he would have left office at this point if it wasn't for social networking tools," said Brad Shimmin, principal analyst with Current Analysis. "I think they wanted all eyes to be turned away from the uprising, but the crackdowns on Internet access failed.

Not that long ago, if you asked Middle-Eastern leaders whether they felt threatened by social media tools and the internet, their answer would most likely have been NO. However, recent events in the region have presented new thoughts for consideration about the significance of social media to the political and social scene.

The growing trend of using social media in the Middle East is sparking change and fuelling transformation across nations. Networking sites are facilitating change, giving people hope that fundamental change is possible and that they have the power to drive it.

**FIGURE 1.4**

Facebook was used to help organize protests in the Occupy Movement as well as the uprisings in the Middle East.
YOU CAN'T EVICT AN IDEA WHOSE TIME HAS COME
The Decline of the Public Sphere

**Printing Press**
The introduction of print media facilitated the centralization of power and fostered national identity. Civic institutions are a critical component of public life, presiding over society and often dictating information exchange.

**Telephone**
The introduction of the telephone replaces the need to assemble in order to communicate with one another which initiates the decline in the public institution.

**Television**
The television and electric media turned the living room into a new form of public space and the role of the civic institution diminishes in public life.

**Internet**
Individuals can access global events and complete everyday activities from anywhere with mobile media devices, and can participate and engage in-depth in the unfolding of events through the internet. This severely diminishes the importance of the public library and other civic institutions.

**FIGURE 1.5**
The internet allows for a many-to-many connection and helps organize group intelligence.
Centralized Power

Decentralized Power

FIGURE 1.6
The book is quickly losing its centralized power as a source of knowledge to the decentralized power of the internet.

social media

Why is Social Media Popular?

The Institutional model in state at a majority of US colleges requires such vast management, economic, legal, and physical structural problems that they will always remain years behind what the market demands. The immediate issue universities face is that they require the physical presence of its students which is proving difficult for many to maintain their enrollment. They are simply losing out to online and more up to date learning models.

Where I see a real advantage for the traditional university is to adopt a social networking platform that allows for mobile learning. The cooperative infrastructure built into social networking platforms such as Facebook allows for education “in-real-time.” No need to plan years in advance, but instead, educational curriculums can be constantly updated on the spot.

Institutional Response

1. Management Problem
2. Have to bring structure into place (economic, legal, physical), creates additional costs
3. Inherently exclusionary

Cooperative Infrastructure

- Replaces planning with coordination
- Puts coordination into the infrastructure.

FIGURE 1.7
Cooperative Infrastructure challenges the need for physical places and acts as a much more efficient planning model.
Why is Social Media Popular?

The explosion of social media in the past couple years is large in part to today's young student population. This has ultimately created a new kind of student, one far more reliant and dependant on digital interaction. As a result, students often feel bored and incoherent in classrooms designed for previous generations. The need for a new understanding of how we organize group intelligence will help engage today's socially networking student.

---

### Internet Use

<table>
<thead>
<tr>
<th></th>
<th>June 2010</th>
<th>June 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Social Networks</td>
<td>22.7%</td>
</tr>
<tr>
<td>02</td>
<td>Online Games</td>
<td>10.2%</td>
</tr>
<tr>
<td>03</td>
<td>E-mail</td>
<td>8.3%</td>
</tr>
<tr>
<td>04</td>
<td>Portals</td>
<td>4.4%</td>
</tr>
<tr>
<td>05</td>
<td>Instant Messaging</td>
<td>4.0%</td>
</tr>
<tr>
<td>06</td>
<td>Videos/Movies</td>
<td>3.9%</td>
</tr>
<tr>
<td>07</td>
<td>Search</td>
<td>3.5%</td>
</tr>
<tr>
<td>08</td>
<td>Software Manufactures</td>
<td>3.3%</td>
</tr>
<tr>
<td>09</td>
<td>Multi-category Entertainment</td>
<td>2.8%</td>
</tr>
<tr>
<td>10</td>
<td>Classifieds/Auctions</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

---

**FIGURE 1.8**

Social Networking is increasing its stronghold as the primary activity students engage in online.

---

**FIGURE 1.9**

Facebook pioneered a new way of keeping in touch and being in constant communication with peers.
Is the lecture hall an ideal learning environment for today’s student...

when Social Media is already in the classroom?

FIGURE 1.10
The student has already brought social networking into the classroom. It’s time it is adopted to improve the learning process.
**The Death of Place**

The importance of places in today’s society is increasingly disappearing as the younger generation transition to a highly digitized social atmosphere. Once active places are now desolate. This is a condition effecting a majority of US cities as the desire to gather in public places is becoming a thing of the past.

“Our sense of place, as old as humanity, is coming to an end!”
-Marc Auge

*Non-Places; Introduction to and Anthropology of Supermodernity*

---

**place**  

*noun*  

*a: physical environment*  

*b: the three-dimensional compass of a material object*  

*c. space + character*  

*d. culture localized in time and space*
History of Place

**ARISTOTLE**

topos - feeling of belonging evoked by the “where” dimension

**ANCIENT ROME**

genioc loci - “spirit of place”

FIGURE 1.12
Places used to be the primary element for defining a person’s character.

Developing a sense of place and self

**Prepared Environment Method**
- promotes mastery of one’s self and environment.

**Aesthetic Environment Method**
- promotes strengthening of child-teacher relationship.

**Open Environment Method**
- promotes team teaching and collaborative learning.

**Natural Environment Method**
- promotes flexible and differentiated naturalized spaces

FIGURE 1.13
The importance of place in the learning process varies across learning and teaching practices.
Research has shown that there is a direct relationship between learning environments and student performance. So the need for learning friendly places is still an effective means for the transition of knowledge. What is missing is a new type of classroom that responds to today's technology driven student. But with the incorporation of technology into the classroom in the early 1990's, there is a greater risk for distraction for students.

**FIGURE 1.14**

The importance of place is losing ground to virtual reality.
FIGURE 1.15

The role of the teacher in the classroom is becoming increasingly less significant.
Networked Place

The internet is revolutionizing the way students are not only interacting and communicating, but also the way they are learning. Information is simply a mouse click away so the flow of knowledge and information is much faster than before. As a result, for most university students, the pace of the classroom is currently way behind the pace they use on the internet.

The way we understand and relate to places in the physical world can be adopted to the internet as well. The way physical space performs functionally, whether it be a group space or personal space, can be identified with online. For instance, a place may help establish a sense of identity or belonging, so to do numerous social networking platforms such as Facebook and MySpace. The idea that digital places manifest themselves in the same way physical places do can allow for a classroom that adapts both to better relate to a younger generation of students.

Group PLACE Behaviors: Reinforcing the identity of a self-defined group, and your position within the group, e.g. ‘stroking’ behavior to let the group share a sense of belonging, or mild competitiveness to signal hierarchies within the group etc.

Publishing PLACE Behaviors: Creating your own content or showcasing your talents to an audience outside of your usual social group.

FIGURE 1.16 Social network platforms vary in their design for connecting people.
Secret PLACE
Behaviors: Private, intimate communication, normally with only one or two others; often using private references, slang or code.

Watching PLACE
Behaviors: Passive viewing of a linear event as part of a large group. Organizing a group to attend an event, and sharing experiences afterwards.

Participation Space
Behaviors: Coordination of lots of small individual acts to achieve a common goal. Shared belief in the goal, and advocacy to encourage participation by others.

Performing PLACE
Behaviors: Playing a defined role within a game structure. Experimenting through simulation, rehearsal and teamwork to achieve a goal. Iterative exploration or repetition of activities in order to perfect their performance.

Group PLACE
Monthly Users: 965,000,000

Publishing PLACE
Monthly Users: 260,000,000

Participation PLACE
Monthly Users: 20,000,000

Performing PLACE
Monthly Users: 11,500,000

FIGURE 1.17-18
The internet isn't spatial, but instead has attributions we can relate to physical places.
PEDAGOGY

A Failing Model

By continuing the ancient teaching methodologies first used a millennia ago, the traditional place-based university is one of the least innovative places in our society. Not only is it ancient, it isn’t working. Retention rates are staggeringly low for a majority of teaching methods practiced in universities today. A 21st century model that puts the student first and understands the way students today interact will ultimately prevail.

The Price of Education

The financial annual costs of education are staggering compared to the results for the US.
**Online vs. Classroom Education**

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>CLASSROOM</th>
<th>ONLINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Community</td>
<td>- Smaller group sessions often encourage interaction.</td>
<td>- Requires instructor to add in opportunities for interaction among students.</td>
</tr>
<tr>
<td>Feedback</td>
<td>- Instructors often respond immediately to students.</td>
<td>- There are delays in providing answers when questions are asked. Instructor response time may be slower than anticipated.</td>
</tr>
<tr>
<td>Assessments</td>
<td>- Formal tests and papers are common.</td>
<td>- Tests usually offered during a larger testing window such as any time on a given day.</td>
</tr>
<tr>
<td>Discussions</td>
<td>- Often occur and add to interaction in the classroom.</td>
<td>- Allows instructor to assess quality of individual contributions.</td>
</tr>
<tr>
<td>Lectures</td>
<td>- Allows for immediate questions and changes for clarification purposes.</td>
<td>- Can be viewed at a time that is convenient for the learner.</td>
</tr>
<tr>
<td>Logistics/Pace</td>
<td>- Set place/Set location. Instructor typically controls the pace of the classes.</td>
<td>- Student determines the time of day and location for participating in activities.</td>
</tr>
</tbody>
</table>

*FIGURE 1.22*  
Online education is challenging the institutional model.
**PEDAGOGY**

**Educational Spaces**

Learning environments are no longer confined to the walls of our classrooms, but instead go beyond to include the city as a whole. As future learning models such as interdisciplinary learning and mobile learning take precedence over traditional teacher-centered methods, new learning approaches are required in order to address today's social networking student.

**Delivery**
- instructor controls presentation
- focus on presentation
- passive learning

**Applying**
- controlled observation
- active learning

**Creating**
- multiple disciplines
- leaderless/egalitarian
- casual/active learning/research

**Communicating**
- knowledge is dispersed
- impromptu delivery
- organise information

**Decision making**
- information is shared
- leader sets final direction
- semi-formal to formal/decision making

*FIGURE 1.23*
Pedagogy is changing, but the classroom is yet to adapt.

**EDUCATIONAL INSTITUTIONS**

**HIERARCHY**

**MASS**

**NETWORK**

*FIGURE 1.24*
The institutions of the future will transition from a hierarchical model to a network model.
FIGURE 1.25
Social spaces are becoming as important as classroom spaces.

Structure → Process
Strategy → Purpose
System → People

FROM hierarchical configuration and fixed coordination mechanisms TO self process-based organization
FROM strategy design for value appropriation TO responsibility and commitment for value creation
FROM centralized decision making TO empowered people

Learning Environments
What makes a good learning environment?

Physical Factors

<table>
<thead>
<tr>
<th>VISUAL</th>
<th>AURAL</th>
<th>BEHAVIOR</th>
<th>EXTERNAL</th>
<th>INTERNAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual stimulation can negatively effect a learning environment</td>
<td>Noise in the classroom is shown to distract and impede learning</td>
<td>Social behavior has been shown to enhance the learning process</td>
<td>External factors such as weather can distract from learning</td>
<td>Internal factors such as desks can influence cognition</td>
</tr>
</tbody>
</table>

FIGURE 1.26
Physical factors play a key role in determining the effectiveness of a learning environment.
Studies show effective learning requires interactive environments. The level of interaction online is growing to the point where the effectiveness of learning online is equal to that of learning in a physical place among young children. The youth generation is one of devices that extend our selves beyond the physical world, so the need for digital learning places will help students relate and achieve an education more suitable to them.

**FIGURE 1.27**
Online education is growing at a steady rate, unlike physical education.
traditional education is growing by **1.2%** annually while online education is growing by **17%** annually.
**Platform Shift**

The shift occurring in today’s universities is one where the role of the teacher is increasingly moving towards the periphery and the internet is assuming the role of primary information resource. Open source software is allowing information to be freely accessible so the need for place-based education is slipping away, and the university is proving slow to respond.

**FIGURE 1.28**
The global market is one that requires a need for interdisciplinary studies.
Future Learning Approaches

Mobile Learning Model

Advantages of Mobile Learning

**Interaction**
- Student interaction with instructors and among each other.

**Portability**
- Enable the student to take notes or input data directly into the device regardless of location either typed, handwritten or using voice.

**Collaborative**
- Enables several students to work together on assignments even while at distant locations.

**Engaging Learners**
- The new generation likes mobile devices such as PDAs, phones and games devices.

**Increase Motivation**
- Ownership of the handheld devices seems to increase commitment to using and learning from it.

**Bridging the Digital Divide**
- Since handhelds are more affordable than larger systems they are accessible to a larger percentage of the population.

**Just-in-Time Learning**
- Increases work/learning performance and relevance to the learner.

*FIGURE 1.29*
Mobile Learning is creating a more actively engaged student learner.
TYPOLOGY
**TYPOLOGY**

**Urban vs. Rural**

The earliest rural universities were designed as places set apart from the city. This created an inherently inward thinking model that is still encouraged by most universities today. However, with open source software and the internet making information widely available today, the role of the university shouldn’t be to look inward, but instead to engage its local community and make its services more accessible to not only local students, but students internationally.

Universities in an urban context traditionally are shaped by growth as they sprawl to absorb adjacent site locations. So engaging not only the local student population but the city as a whole increases the importance of a university in an urban context.

**FIGURE 1.30**

Rural universities are more inward thinking, while urban universities engage their local context.

---

**Penn State University**

- **Established:** 1855
- **Enrollment:** 43,252
- **# of Campuses:** 24
- **# of Schools:** N/A
- **Land Area:** 5,448 acres

**New York University**

- **Established:** 1831
- **Enrollment:** 50,917
- **# of Campuses:** 6
- **# of Schools:** 16
- **Land Area:** 229 acres
Prior Typologies

Previous classrooms emphasized the relationship between the student and the teacher and failed to recognize the importance of group/shared learning. Prior to 1950, social spaces weren’t included in the design of educational buildings. This was because of the belief that acquired knowledge could only be achieved in the classroom, but the internet is proving this not to be the case anymore. Knowledge is increasingly mobile, ubiquitous, and easily accessible.

The inclusion of social spaces within the education typology freed up the monotony of the classroom typology and allowed for increased opportunities for student interaction. Although it allows for improved student interaction, this model is highly inefficient where for every 3.7 meters of allocated space, only 1 meter is deemed efficiently used meaning it receives more than 6 hours of use per school day. What is needed clearly is a model that improves this by creating spaces that can adapt from classroom spaces to social spaces on demand.

Non-social spatial typology - pre-1950’s

Social spatial typology - post-1950’s

FIGURE 1.31
Open space learning is now an important part of the educational building typology.

FIGURE 1.32
The social spatial typology improves student interaction.
CASE STUDY

EyeBeam Museum [diller + scofidio]
manhattan, new york city

Diller and Scofidio take the idea of interactivity beyond the theoretical sense of social and pedagogical interaction, and incorporate it in the use of media technology throughout the building, which in this case, is a viable necessity to the program of the building. At ground level where the users enter the building, the ground is illuminated with text and moving images through the use of fiber optic cable gridding. Fiber optic cables work when at one end, light enters the cable, then at the other end, light is emitted from the cable. The [in]put of the fiber optics in this case was a grid of LED lights that can read images and text from a computer. These images and text in turn are [out]put through the other end of the cable, which end at the surface of the concrete. This is a very innovative idea and creates this questionable floor of concrete, and also adds a dynamic dimension to its typically static materiality.
1. How many students attend The Cooper Union?

1000
175 in The Irwin S. Chanin School of Architecture,
250 in The School of Art
550 in The Albert Nerken School of Engineering.
50 students in graduate engineering program.

2. What is the size of a freshman class?

20-35 in Architecture
65 in Art
120 in Engineering.

3. How many students apply and how many of those are accepted?

3,500 applicants (900 Architecture; 1,400-1,500 Art, and 1,100 for Engineering);
275 admitted students (35 in Architecture, 65 in Art and 175 in Engineering).

4. How much does it really cost to attend The Cooper Union?

Tuition for the academic year 2011–2012 is $37,500.

Mandatory student fees (totaling $1,650 per year)
Room and board (about $14,000 per year)
Books and supplies (about $1,000-1,800 per year)
General living expenses (about $2,000-3,000 per year)
totaling approximately $20,000 per year.

In addition, international students are assessed a $1,850/year filing fee. All
students must prove medical insurance coverage or participate in our medical
insurance plan for a health services fee of approximately $1,469/year.

**Space Utilization**

<table>
<thead>
<tr>
<th>3.7 square meters provided</th>
<th>1.0 square meter used</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 percent utilization</td>
<td></td>
</tr>
</tbody>
</table>

-Thesis is about creating a better model that maps the dynamic space/time patterns through the academic cycle.

**Space Planning Model**

- Core tends to be owned by courses
- Flexible is bookable
- On-demand is freely available.

01 Cooper Union Facade
Students are allowing classrooms to become digitally connected.

The real power that lies within the infrastructure of social networking platforms is the ability for users to control and create their own experience. Therefore, new educational environments should afford students the ability to do the same. A new prototype is required that is therefore able to make the communication network visible in a space.
The educational institution has become a network of classrooms.

**Student’s Personal Network**

- student
- classmates
- professors
- friends

**Student’s Linked Network**

- students
- classmates in common
- professors in common
- friends in common

**FIGURE 1.34** Classroom network model.
Blurring the Edge

School buildings have increasingly turned their focus inward, protecting themselves against the exterior world even though the learning process has become a continuous cycle. The introduction of social spaces into the educational building helped facilitate new connections between students.

The ability for today’s student to connect outside the classroom while being present within one is redefining the classroom and challenging the idea that a classroom is a “container for knowledge.” The edges of the classroom are becoming increasingly blurred and so the bounded classroom is now becoming boundless. This repositions the idea of a classroom being place specific and maintaining one function, but instead a new classroom is being created single handedly on the part of the student. One where the function of the classroom is now in the control of the student.
FIGURE 1.35
Boundless classroom typology
Social/Classroom Paradigm

The relationship between social and classroom spaces is being shifted where a student, with the use of a computer or mobile phone, is able to re-program a classroom into a social space. So instead of a static model, the relationship between social and classroom spaces is an adaptable one which functions to improve efficiency, adapt to meet the needs of the student, and improve communication across disciplines.

FIGURE 1.36
Juggling the relationship between classroom and social spaces
The variability in the system responds to program needs throughout the course of a day.
Trending Places

An aspect of social networking that establishes popularity among a topic at a specific time is referred to as trending. This can be applied to a building program when certain areas or programs are utilized in higher numbers, it is considered a trending space. This information is then available to users in the building to either increase trending spaces, or improve ones that are not.

FIGURE 1.38
Classroom is no longer place specific but its location changes based on the number of students that day.
Social Networking Building Interface

**ARRIVAL SEQUENCE**

1. Identification
2. Select Class from Schedule
3. Find out location in building
4. Log out - Proceed to new classroom location

**ENTRY SEQUENCE INTERFACE**

Interface shows connections to existing friends within a building and locates potential new ones.

**Spontaneous Mobilization of Educational Environments**

- Classroom Location Notification Text
- Mobile Directions to Location
- Arrive at new classroom location for the day

**FIGURE 1.39**

Interface system that acts to recognize networks in the building.
SCENARIOS

Mobilizing Education

Three scenarios were devised in the borough of Manhattan in New York City to pursue the mobilization of a typology that rethinks the static learning model that exists in the university today. They range from a mobile classroom typology that engages the existing infrastructure and transitions from location to location when needed. The second includes the opportunity to extend the classroom to public open spaces and the third model aims to mobilize program within a static building type.

FIGURE 2.1
The city is now alive and talking to each other.

FIGURE 2.2
Mobile learning strategies.
FIGURE 2.3
Public education institutions in Manhattan.
West Chelsea

West Chelsea has become an emerging fashionable neighborhood and a new center for art galleries, boutiques, clubs and residential development. West Chelsea was a neglected New York City neighborhood until galleries forced out of SoHo due to high rents began moving into West Chelsea between 10th and 11th Avenue. This area has become the epicenter of New York City art and is now known as the “Gallery District.” Over 250 art galleries have moved to West Chelsea in the last 10 years.

Property Description
Block: 697
Lot: 60
Lot Size: 100’ X 98.5’
Zoning: M1-5/WCH Current FAR: 5 to 6.5 with Community Facility Bonus

Stacking Plan Estimate (Assumes 5 FAR with no community facility)
Lower Level: 10,000
Ground: 10,000
Second Floor: 5,925
Third Floor: 5,925
Fourth Floor: 5,925
Fifth Floor: 5,925
Sixth Floor: 5,925
Seventh Floor: 5,925
Eighth Floor: 3,950
Total SF: 59,500
*Assumes no mechanical deductions.

Building Description
Stories: 0
Size: Approximately 9,900
Real Estate Taxes: $33,143

FIGURE 2.2
Vacant site approach.
FIGURE 2.3
Manhattan networks analysis.
SCENARIO 01

Vacant Model

As one of the densest areas of New York City, Manhattan is considerably built up, and because land value is high, justifying building a new education facility is a difficult task. However, by initially aiming to improve the efficiency of a university building, this model will allow for an increased number of students.

FIGURE 2.4
Student circulation pattern.
FIGURE 2.5
Single node network pattern.
Programmatically, the vacant model can be used to explore new and emerging disciplines. As an example, the design of a new media arts school was chosen to explore the vacant model and the creation of a new networking typology that aims to connect and improve communication in the field of new media arts.

**NEW MEDIA ARTS PROGRAM**

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<th>Program</th>
<th>Amount</th>
<th>Width (ft.)</th>
<th>Length (ft.)</th>
<th>Height (ft.)</th>
<th>Area (sq ft.)</th>
<th>Total Area (sq ft.)</th>
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<td>06</td>
<td>01</td>
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<td>2400</td>
<td>4800</td>
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<td>2800</td>
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<td>40</td>
<td>101</td>
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<td>30</td>
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<td>101</td>
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<td>1200</td>
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<tr>
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<td>06</td>
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<tr>
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<td>21</td>
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<td>01</td>
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<td>600</td>
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<td>52</td>
<td>5</td>
<td>10</td>
<td>375</td>
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Sub Total: 31

- structural = 2%
- circulation = 22%
- mechanical = 3%

Total: 30,630

Total Users: 38,900 sf = 2,593

**FIGURE 2.6**
Social proximity diagrams.

**FIGURE 2.7**
Program analysis.
FIGURE 2.8
History of the creative arts.

FIGURE 2.9
Program matrix diagrams.
SCENARIO 01

FIGURE 2.10
New Media Arts program distribution.
**SCENARIO 02**

**Times Square**

Times Square is a hotspot of tourism and entertainment, not your typical place to implement an educational building typology. Upon my visit this summer, I noticed the incredible energy in Times Square that persisted throughout the entire day. Although the area is heavily built up, I decided to implement an infrastructural education model that utilizes small transportable modules to exhibit student work, essentially becoming another entertainment mechanism for the public.

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**Mobile Exhibition Case Study**

Nomadic Museum - Shigeru Ban

The Nomadic Museum is a case where the artist wanted to exhibit his work outside of the traditional gallery environment. Thus the idea was to design a transportable gallery that could be mobilized throughout the city. I decided to implement a similar strategy to exhibit student work throughout New York City.

---

**FIGURE 2.11**

*Mobile “food truck” model.*
FIGURE 2.12
Twitter user location in NYC.
**SCENARIO 02**

**Trending Places**

Scenario 2 is an investigation into the way we can create connection on the existing infrastructure of Manhattan. The automobile has isolated the individual and creates minimal connections across a community. By distributing mobile classrooms throughout the streets of Manhattan, it can create a wider awareness for learning.

---

**NYC SUBWAY SYSTEM**

<table>
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<th>MILES</th>
<th>% of BOROUGH</th>
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<tr>
<td>NYC SUBWAY INFRASTRUCTURE</td>
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<td>3%</td>
</tr>
<tr>
<td>ROAD INFRASTRUCTURE</td>
<td>351</td>
<td>35%</td>
</tr>
</tbody>
</table>

---

**FIGURE 2.13**

Rapid deployment system.
Figure 2.14
Network distribution along Broadway.
FIGURE 2.15
Deployed classroom in Times Square.
Washington Square Park

Upon my visit to Washington Square Park this summer it was easy to see in just a few minutes that the park has nearly all of the key attributes of a great public space. People are engaged in a wide range of activities and uses. There exists a high level of diversity of ages and genders and also there seemed to be equal amount of people in groups as well as alone. Most of the parts of the park are used (there are few empty or unused areas) and I noticed that people use the park at all different times of day and week. Washington Square Park seemed like a good location to engage students by implementing mobile classrooms throughout the park in order to encourage interaction across student groups.
FIGURE 2.17
NYU campus network.
SCENARIO 03

By understanding the way students use public spaces, a new kind of model can be adapted and deployed in these spaces in order to bring the classroom to the student. Washington Square Park is at the heart of NYU and as use of the park changes variably throughout the day, so can the location and number of mobile classrooms in the park based on student need.

FIGURE 2.18
Mapping activity and use on a daily basis at Washington Square Park.
NYU Student Network

Pedestrian Entry Analysis and Overall Activity Map

Light Use

Heavy Use

Mobile Classroom Network

FIGURE 2.19
Network distribution model.
FIGURE 2.20
Mobile Classroom deployment.
By understanding how students circulate online and interact with friends on social media sites, a new building circulation model can start to imitate this. The Hyperlink, which is the connections between websites, is a model that is no longer sequential, but chaotic as a network that allows one not only to move forward, but backwards, and side to side.

**Narrative - path**

*Sequential*

*Linear*

---

**Hypertext - network**

*Non-Sequential*

*Non-Linear*

---

**FIGURE 2.21**

Hyperlink circulation network.
Internet Hyperlink

Spatial Hyperlink

FIGURE 2.22
Internet Hyperlink vs. Spatial Hyperlink.
SITE ANALYSIS

By analyzing the proximity of existing universities in Manhattan, the location of Chelsea was clearly a growing influence on the future of learning in NYC as a number of universities are moving or expanding to this location. One of these universities is Parsons, a liberal arts college that has called NYC its home for a century. As a part of this growth, I propose a new building as a part of the campus that doesn’t distinguish itself as a certain kind of school, but can adapt to meet the needs of the future market.

FIGURE 2.23
Parsons New School Map of NYC.
ZONING ANALYSIS

MANUFACTURING DISTRICTS: M1

M1 districts range from the General District in Manhattan and Putnam to the Bronx with multi-family dwellings in New York and residential multifamily. M1 districts are generally located in areas where single-family homes do not exist, such as warehouses, offices, and other similar uses. M1 districts are characterized by buildings that are at least 60 feet in height, with some exceptions. Buildings in M1 districts are typically used for light manufacturing, warehousing, and storage. Zoning analyses and site plans are required in M1 districts, but streets are allowed.

COMMERCIAL DISTRICTS: C6

C6 districts permit a wide range of commercial uses requiring a central location. Most C6 districts are in Manhattan, where commercial activity is concentrated. C6 districts are characterized by commercial development, where buildings are generally at least 60 feet in height. Zoning analyses and site plans are required in C6 districts, but streets are allowed.

FIGURE 2.25

Zoning Analysis

Chelsea Transit Map
SITE ANALYSIS

FIGURE 2.26
Subway network and site location.
FIGURE 2.27
Existing north facing elevation.

FIGURE 2.28
Existing west facing elevation.
FIGURE 2.29
View looking west on one way street.

FIGURE 2.30
View looking east on one way primary road.

FIGURE 2.31
View looking northeast showing adjacent convenience store.
FIGURE 2.32
Street condition
Early in the design phase, the need to allow students to freely circulate between classroom and social spaces was utilized through a mobius path circulation that extends vertically. Along this path, the hyperlink acts to renavigate a student when a space is private and being used for classroom function.

**FIGURE 2.33**
Hyperlink intervening is circulation path.

**FIGURE 2.34**
Section iterations.

**FIGURE 2.35**
Exploded Axonometric.
FIGURE 2.36
Early floor plate and circulation schemes.

FIGURE 2.37
Initial Proposal.
FIGURE 2.38
Floor plate and core study model.
- museum board and resin

FIGURE 2.39
Floor plate, structure, and core study model.
- chipboard, basswood sticks, and resin

FIGURE 2.40
Structure and circulation study model.
- acrylic
SCHEMATIC DESIGN

The initial proposal is a transparent shell consisting of a split open floor plan system that extends beyond its footprint to maximize available classroom floor space. The facade is a split system that creates openings based on the interaction within the building.
The final proposal expanded on the hyperlink as a way to create connections across floor levels. The facade acts to distinguish hyperlink circulation from ordinary circulation as it wraps and folds to support the stair and ramp system. The hyperlink exists on the periphery of the building to engage not only the interior space, but the exterior as well.

FIGURE 2.42
Exploded Facade Hyperlink Diagram.
FIGURE 2.43
Exploded Axonometric with context.
The final model shows the high level of interaction created by staggering the floor plates. In order to create a more open and connective interior space, the vertical wall flattens out and becomes the stair, ramp, and staggered classrooms spaces within.

FIGURE 2.44 Final model. -acrylic and resin on painted mdf base.
FIGURE 2.45
Final model at night.
FIGURE 2.46
Final model at night.
An abstract site model was developed that showed the digital interaction across buildings in the local context. The use of fiber optics represents the physical and material aspect of the virtual realm. It is through fiber optics that data and information is able to run along at lighting fast speeds.

FIGURE 2.47
Fiber optics site model.
FIGURE 2.48
Interior views
FIGURE 2.49
Final plans and sections
FINAL PROPOSAL
Conclusion

As media is increasingly becoming less a source of information and increasingly a coordination device, and as power shifts to the individual, leadership itself must shift with it. With 5 billion mobile connections every day, social media is changing the way society operates, effecting everything, including the toppling of government regimes. It is changing how we socialize, communicate, play, work, and it will increasingly effect the way we learn in the future.

Social media has effectively disrupted most every part of society, except for education which is growing more isolated and insulated from society. The global market today is rapidly demanding new fields of study in order to compete so although traditional university aren’t able to respond quickly enough, social networking has proven the ability to evolve in real-time, with no lag or wasted resources. As social media continues to revolutionize the way human affairs are arranged, the classroom of the future will adapt to this change and we will see students being able to directly effect their surround educational environments.

Special Thanks

Special thanks to my mentor Janghwan Cheon for encouraging me to constantly venture deeper down the rabbit hole.

Special thanks to guest critics Brian Kelly, David Karle and Steve Hardy for helping me along the way with their wisdom.

Special thanks for Jimmy Rohr for video assistance and Taylor Hammack for assisting me with building models.

Special thanks to my parents for your support, even though you still don’t know exactly what I “do.”

Special thanks to my fellow Thesis students for always staying classy.
FIGURE 3.1
Final Thesis Review - April 5, 2012
Guest Critic (left): Matt Burgermaster NJIT, with Professors Brian Kelly and David Karle
<table>
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<th>Title</th>
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