Institute of Design
Illinois Institute
of Technology

Chicago

Vision for the Future: *Featured Environment*

Charter

Background

Next year marks the Centennial of Daniel H. Burnham's and Edward H. Bennett's 1909 ***Plan of Chicago***. Internationally celebrated then and now, what became known as the Burnham Plan redirected Chicago from an unplanned trail of disorganized industrial and commercial growth to a planned path toward the "city beautiful". Along the way, Chicago became a green city celebrating its fortunate location on Lake Michigan with a necklace of parks and boulevards recognized around the world for its beauty. The Burnham Plan challenged Chicago leaders to arrest uncontrolled development and tame the technological revolution that characterized the early 20th century. Galvanized into action by Burnham, Bennett and the Commercial Club of Chicago, the city committed its resources to creating an urban environment that could meet the challenges of the new vision, one that could be both functional and beautiful.

One hundred years later, Chicago and other major cities worldwide face different but equally portentous problems and opportunities. New and powerful forces, both negative and positive, confront cities and society. Global warming is changing climate and energizing unpredictably destructive weather. Population growth and movement to the cities is at an all-time high. Global economics are reshaping trade and disrupting established patterns of supply and demand, Voracious energy needs are depleting traditional energy resources, forcing an increasingly urgent search for energy sustainability. High-tech materials, communications, computing, biological and engineering sciences are reshaping what is possible. Negative and positive, the agents of change have raised the stakes.

Cities like Chicago must evolve more quickly. Cities like China's Shenhzen, now springing up full-grown almost overnight, need to plan for change from the beginning. Both will need vision to weave new technologies into their urban fabric. Both will need wisdom to adapt their living cities to tomorrow's pressing changes. The famous dictum, "Make no small plans" is attributed to Daniel Burnham. Whether he actually said that is not certain, but in the Plan of Chicago, he came close enough:

> "At no period in its history has the city looked far enough ahead. The mistakes of the past should be warnings for the future. There can be no reasonable fear lest any plans that may be adopted shall prove too broad and comprehensive. That idea may be dismissed as unworthy of a moment's consideration. Rather let it be understood that the broadest plans which the city can be brought to adopt to-day must prove inadequate and limited before the end of the next quarter of a century. The mind of man, at least as expressed in works he actually undertakes, finds itself unable to rise to the full comprehension of the needs of a city growing at the rate now assured for Chicago. Therefore, no one should hesitate to commit himself to the largest and most comprehensive undertaking; because before any particular plan can be carried out, a still larger conception will begin to dawn, and even greater necessities will develop."

Inspirational then, his words ring even more strongly true today.

Relevant Trends

Trends initiated by emerging technologies, changing environmental conditions, and evolving social change will have real impact on urban evolution. Among such trends evident today are:

Water Resources
Already in many parts of the world, water supplies are reaching levels of insufficiency. Complicated by agricultural needs for irrigation and the needs of urban centers becoming megacities, the fresh water resources of our lakes, rivers and subsurface aquifers are subsiding. In 2003, 9,500 children were dying daily from insufficient or contaminated water supplies. One-third of the world' s population, by some experts' analysis, live in water-stressed countries now, with two-thirds of the world to share their dilemma by 2050. Chicago' s great Lake Michigan water resource will very likely decline over the next century with impact for shipping, water supply, and even the flow of associated rivers, including the Chicago River.

Mineral Resources
Mineral resources are approaching finite limits, exhausted in some locations, more difficult to extract in others. While supplies of some minerals are in no immediate danger, others are under severe pressure. Oil is a resource of vital concern, with production expected to peak in this decade or shortly thereafter. The Hubbert Curve, long-used as a predictive tool in the petroleum industry, when coupled with modern corrective tools, predicts that we are reaching worldwide peak production *now* and face a reduction in production of approximately 3% per year very soon. Not only will that oil production have to be replaced as an energy source, additional energy sources will have to be found to keep pace with the population curve.

Population Movement
In an interesting paradox, the countryside is becoming less—not more—inhabited as we add to the population. The people are moving from the country to the cities. As of 2005, the world was more urban than rural for the first time. In the next twelve years 300 million rural Chinese will move to the cities. In 1950, only two cities in the world, Tokyo and New York City, were over 10 million in size. By 1975 there were 4 such megacities, and by 2003, there were 20. By 2015 there will be at least 22. In China alone there are between 100 and 160 cities with over 1 million inhabitants (America has 9, and Eastern and Western Europe together have 36). Cities are complex, sophisticated systems, but their managers will need all the skill they can command to deal with the great urban migration. The major changes will take place in the developing countries, but Chicago and cities of the developed world will feel the effects through immigration as well as local relocations.

Climate Change
Climate and weather patterns are changing. Some regions are simply getting drier or wetter, but the great damage will come from sustained, severe droughts and intense, prolonged flooding. The problem is change: eco-systems confronted with (1) wetter or drier conditions for periods far longer than the environment or its inhabitants are prepared, and (2) sudden, short-term, intense weather events such as violent super tornadoes and hurricanes, cloud-bursts, blizzards and heat waves. Climate zones for cities will change; by the end of the century, Chicago will have summers similar to those now experienced by Mobile, Alabama and winters like those of today' s northern Arkansas.

Increasing Expectations
The growing availability and capabilities of communications such as cellular telephones, satellite and cable TV, and the Internet across the country (and the world) are providing people with daily knowledge of living conditions, problems, products, threats and services everywhere. The media are creating growing avenues for fast communication between protectors and populace. They are also educating the populace on the state of conditions and creating expectations that both fuel demand and create willingness to change.

Internet Penetration
Computer use and Internet access grow exponentially every year. Information of encyclopedic detail can be obtained more and more easily, and complex, sophisticated processes can be used remotely. Access to high-quality communications and sophisticated computer tools are increasingly available to individuals and groups anywhere. In North America, Internet penetration reached 71% in 2007.

Emerging Technologies
The pace of technological change continues to accelerate, bringing new science to commercial, institutional and industrial uses at an ever quickening pace. Most notable among many fields, major technological innovations can be expected in the new disciplines of molecular nanotechnology, robotics and the biosciences. Computing capacities continue to grow at the exponential pace predicted by Moore' s Law, radically increasing power and decreasing size and cost – and dramatically increasing the usefulness of digital electronics in almost every aspect of business, institutional and personal life.

New Relationships
Greater public mobility and access to information is changing the nature of association for many individuals and organizations. Organizations that once operated in isolation are now players in a common environment. Sometimes the emerging relationships are competitive, sometimes cooperative. New forms of relationship can be expected to be created as conditions evolve.

Focal Point: *Featured Environment*

Most cities took root where they did because of locally important environmental features. Chicago has its lakefront and river. How can such environmental features be transformed into assets unifying elements of the city, vitalizing urban life and celebrating natural and human values?

Project Statement

Using Structured Planning methodology, develop a vision for 21st century Chicago (and, by inference, other major world cities). Explore the changes to cityscape and urban living that could be implemented from an enlightened response to fast-changing social conditions and the application of such all-pervasive omni-technologies as bio-technology, information science, robotics and nanotechnology. In the spirit of the Centennial, use Burnham' s ***Plan of Chicago*** as inspiration for a maximized "no small plans" approach to describing the city of the future. In particular, consider your proposal as a view toward the realization of the full potential of featured environment.

The proposal should:
1. consider governmental, institutional, commercial and professional uses as well as uses for individuals and the public.
2. collect, incorporate and refine best projections and concepts as they have been conceived by organizations, publications and planning experts throughout the futures community.
3. accommodate concepts developed by other project teams to extend and enhance the effectiveness and reach of featured environment.
4. integrate formats for report and presentation with those of other project teams to present a coherent, holistic set of concepts.

Goals

As general guidelines the proposal for featured environment should:

• Explore a full range of possibilities, paying especial attention to the products of emerging technologies successfully advancing through research and development.

• Include ideas for any processes, tools, systems and products needed for services—including procedures, policies, events, activities, organizational concepts and any relevant relationships among them.

• Explore revolutionary as well as evolutionary ideas.

• Accommodate all users of the system, from implementation to adaptations and provide for them in the design. Thoroughness is a step toward system integrity.

• Consider potential costs thoughtfully; the proposal should not incorporate frivolous concepts, but it should not ignore potentially breakthrough ideas simply because they may be expensive.

• Treat the design problem as design from the inside out; users' needs come first, with every attempt possible made to satisfy them in some way, even when tough design decisions must be made.

• Conceive the properties and features of systems and their operations as means to build trust and cooperation with the community and its institutions.

Overall, the solution should:

• Assume that the proposal can be acted upon as it is conceived. Do not under-propose on the assumption that a concept might be politically difficult to achieve.

• Demonstrate what might be achieved. The value of the proposal is in its ideas, not its certain attainability. Ideas that might not be fully attainable under today's conditions may be achieved tomorrow—*if they are known.*

Resources

Resources for the project will be:

Physical:
• The facilities of the Institute of Design, including Room 514 as general meeting space at the beginning of each class session, and 2nd, 3rd and 5th floor for team activities.
• Computing support from the fifth floor computer facilities.
• Equipment as necessary from ID resources.

Financial:
• (to be determined)

Human:
• *Planning Team:*
(to be determined)

• *Project Advisors:*

Charles L. Owen	Distinguished Professor Emeritus
John Pipino	Adjunct Professor

Schedule

The project will be conducted from August 26 to December 5, 2008.

Week		Phase	Activity	Product
1	**Aug 26**	Introduction	Introduce project, process & Charter (L)	
	Aug 29	Project Definition	Issues and Defining Statements (L)	
2	**Sep 2**		Develop Issyes & Defining Statements	
	Sep 5		**In-Progress Review**	Issues DefStates 1
3	**Sep 9**		Function Structure (L) Modes and Activities	
	Sep 12		**In-Progress Review**	DefStates 2 Fn Struc 1
4	**Sep 16**	Information Development *Action Analysis 1*	Activity Analyses, Design Factors and Solution Elements (L)	
	Sep 19			
5	**Sep 23** **Sep 26**			
6	**Sep 30**		**In-Progress Review**	DefStates cmplete Fn Struc 2 DesFacs 1 SolnEls 1
	Oct 3	Information Development *Action Analysis 2*	Complete Functions, Design Factors and Solution Elements	
7	**Oct 7** **Oct 10**		Interaction analysis; RELATN program (L)	Fn Struc complete DesFacs complete SolnEls complete
8	**Oct 14**	Information Structuring *Interaction*	Score Soln Elements vs Functions	
	Oct 17	*Structuring*	Structuring; VTCON program (L)	RELATN input

Week		Phase	Activity	Product
9	**Oct 21**	Concept Development	Means/Ends Analysis (L)	Inf Structure
	Oct 24			
10	**Oct 28**		Ends/Means Synthesis (L)	Inf Structure named
	Oct 31			
11	**Nov 4**		System Elements; System Element Interaction (L)	
	Nov 7			
12	**Nov 11**		**Presentation**	Initial System Elements
	Nov 14	Communication	Plan, Report, Overview, Communication Structure (L); Refine final SysEls; write report; complete illustrations	
13	**Nov 18**			
	Nov 21			
14	**Nov 25**			
	Nov 28	***Thanksgiving***		
15	**Dec 2**			
	Dec 5		**Final Presentation**	Illustrated Report

Methodology

The project will be conducted using Structured Planning (See articles on the subject by Charles Owen at ***http://www.id.iit.edu*** under the ***Publications*** section of ***Our Research***.
1. *Context for Creativity,* 1991.
2. *A Critical Role for Design Technology,* 1993.
3. *Design, Advanced Planning and Product Development,* 1998.
Also, see the book by Charles L. Owen. available at the Institute of Design: **Structured Planning. Advanced Planning for Business, Institutions and Government.** 2007),

Issues

Consider the following topics as initial issues to be investigated. Supplement them with additional issues as information is developed during the first phase of the project.

Technology. What approach should be taken toward the incorporation of available and emerging technologies?

Adaptivity. How should elements of the system be prepared to respond to evolving social, political, technological and environmental conditions?

Partnerships. What approach should be taken toward partnering with governmental organizations, institutional organizations, suppliers of funding, educational institutions, etc.?

Disaster Contexts. What provisions should be made for extreme environmental conditions and the changes that can be expected with climate change?

Means of Introduction. How should the system be introduced to facilitate acceptance and implementation?

Inter-institutional Relationships . How should relationships with potentially competing or cooperating governmental entities be developed?

Cost. How should costs and funding of system elements and their operations be approached?

Geographic Focus. How narrowly or broadly should the vision for the city be drawn—local, metropolitan, regional?

Mission. What balance should be sought among commercial, governmental, institutional, general public and private sector services?

Sustainability. How should elements of the system approach tradeoffs between functional effectiveness and sustainability?

Defining Statement

Issue
Current status of environment

1

Project
Chicago Vision for the Future //
Featured Environment

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Amanda McKown

Contributors
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Matthew Swift
Dongzhe Sun
Mehmet Cirakoglu

Question at Issue

How will the plan address improvement of water quality in the Chicago River and Lake Michigan?

Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This plan should aim to create systems that will promote the ongoing improvement of water quality and thereby over time also improve the current water quality.

Alternative Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This plan must focus effort towards reversing water quality damage as rapidly as possible.

- ☐ Constraint
- ■ Objective
- ☐ Directive

Sources

1 Illinois EPA, 2000.www.epa.state.il.us/water/water-quality/report-2000/fact-sheets/lakes-strms01.pdf (accessed November 22, 2008).

2 Todd Ecological Inc., 2007-2008.http://www.toddecological.com/about/whatwedo.html (accessed November 22, 2008).

Background and Arguments

The City of Chicago needs to prioritize the future safety of the environment and therefore needs to implement sustainable processes that are able to ensure the quality of the water over time.

Improving the quality of the water in Lake Michigan and the Chicago River is a crucial focus for the system, but by focusing energy on reversing the damage that has been done, the system would be taking a retroactive approach rather than prioritizing protection against future risks.

It is smarter to focus on creating systems that slowly and effectively clean the water in a way that both addresses the improvement of the current water quality and ensures high water quality in the future.

In their Conservation Plan 200 the Illinois EPA ranked the quality of the Chicago River fair to good[1] and has been working towards improving the water quality since then. While this does not mean that there is no need to improve the quality of the water it does show that the water quality is not posing an immediate health risk. This allows the system some cushion in the amount of time it allots to clean the water.

This system will favor a slower and more thorough process like what was used in . Todd Ecological, Inc in conjunction with Ocean Arks and LivingDesign developed a system to "mimic the great washing ability of nature and provide the ability to filter human and animal wastes into usable water that is both economical, reduces the odor associated with wastewater treatment, and blends with the environment".[2] This process will allow newly created storm and wastewater to be filtered and cleaned before entering the river and the lake protecting the system against future contamination. It will also improves the water quality in the river and the lake, especially the river as the water slowly recycles through the system passing through the natural filters.

Defining Statement

Issue
User engagement

2

Project
Chicago Vision for the Future // Featured Environment

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Question at Issue

To what extend will the plan be responsible for managing the engagement of their users?

Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This plan should manage the users engagement by managing a network of providers and partners rather than directly offering entertainment and safety.

Sources

1 Paseo del Rio Association, 2008. http://www.thesanantonioriverwalk.com/ (accessed November 22, 2008).

2 Larson,Erik. The Devil in The White City: Murder, Magic, and Madness at the Fair That Changed America. Chicago: Random House Inc., 2004.

Alternative Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This project should directly offer entertainment and safety in order to manage the character of the system.

- ☐ Constraint
- ■ Objective
- ☐ Directive

Background and Arguments

It is important for the system to manage the engagement of the users, involving their entertainment as well as their safety. One logical solution would be for the system to take on the responsibility of offering features directly and developing it's own enforcement department.

While ensuring the enjoyment and safety of the users is the responsibility of the system, it requires great domain expertise to successfully run restaurants, galleries, retail stores as well as to enforce safety. This system should leverage the expertise of others by bringing them together is a cohesive and meaningful way. For this reason, to get the best quality offerings in the safest environment the system should to manage a network of industry leading providers and partner with existing city services.

In attempt to learn from the past, the system references the San Antonio Riverwalk and the Chicago Worlds Fair. The San Antonio Riverwalk opted not to offer features directly to the public and instead create a network of members responsible for the individual offerings. They created a River Walk Operator Committee that "meets on a monthly basis to discuss maintenance, operation, and management issues affecting the River Walk and its establishments."[1] The Chicago Worlds Fair did not attempt to develop the offerings on their own and instead worked to bring together the best of the worlds already available features.[2] Therefore, this system should work to develop and maintain a network over developing offerings themselves.

In reference to the safety enforcement of the river walk and lake front, these areas are currently in the jurisdiction of the city of Chicago law enforcement. While the system will further design and develop the river walk and lake front, it will not create a new jurisdiction. Therefore instead of taking on law enforcement on their own, the system must make efforts to partner with the city safety services to keep them updated with changes in the system that would affect their protocol.

Defining Statement

Issue
Development and preservation

3

Project
Chicago Vision for the Future //
Featured Environment

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Question at Issue

How will the plan address the balance of development and preservation on the riverfront and lake front?

Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This plan should limit development on the riverwalk and lake front and instead prioritize preservation.

Sources

1 Paseo del Rio Association, 2008. http://www.thesanantonioriverwalk.com/ (accessed November 22, 2008).

Alternative Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This plan should develop responsibly to make the area along the riverfront and lake front a pleasant commercial zone to shop and dine.

- ☐ Constraint
- ■ Objective
- ☐ Directive

Background and Arguments

While the system has the opportunity to develop a commercial zone by the lake and river that would both be financially lucrative as well as pleasant and enjoyable for people in Chicago, it is the responsibility of the system to protect the natural assets of those places.

Mayor Daley is largely responsible for the booming urban development in Chicago. David Bernstein in his Chicago Mag article Daley vs Daley said, "New buildings have sprouted up, as have new businesses, including Boeing and MillerCoors, both lured here by the mayor. Between 2003 and 2006, Chicago's diverse economy grew by more than $27 billion. Tourism is thriving." With the rise of urban development the imbalance between urban and nature is becoming more extreme as is the importance of protecting the natural assets of Chicago.

It is the responsibility of the system to focus efforts towards protecting the existing natural elements of the city and if possible creating new natural zones. Hugman, who was responsible for the development of the San Antonio Riverwalk highlighted the importance of preserving the natural quality if the river walk when he said, "Please do not allow these river assets to be eroded. Once they are gone it is too late." (133) He claimed that, "Lasting good taste, beauty and quiet dignity, satisfying aesthetics, and good food are the things that will perpetuate the river." He turned out to be right, since the San Antonio Riverwalk is "one of the most dynamic tourist attractions in the entire state of Texas"[1].

With the current imbalance of natural preservation to urban development in Chicago and the great assets of the river and lake that Chicago does have, this system must prioritize the preservation of these assets. Compounded by the proof that the success of the San Antonio Riverwalk was largely based on its lasting beauty and natural assets, the Featured Environment Program will focus it's efforts on preserving the natural elements of the city.

Defining Statement

Issue
Plan/Project Cooperation

4

Project
Chicago Vision for the Future //
Featured Environment

Originator
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Question at Issue

To what extent should the system accommodate for the 2016 Olympic bid?

Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This system should no be limited by the plans for the 2016 Olympic Bid.

Sources

Humphreys, Jeffrey M. "Economic Impact of Hosting the 1996 Summer Olympics." 1996. http://www.selig.uga.edu/forecast/olympics/OLYMTEXT.HTM (accessed 11/20/08).

GameBidsStaff, "IOC Announces Inspection Dates of 2016 Bid Cities." 10/22/08.http://www.gamesbids.com/eng/olympic_bids/2016_bid_news/1216133836.html (accessed 11/20/08).

Alternative Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This system should coordinate with current plans and directly aid in the bid for the 2016 Olympics.

- ☐ Constraint
- ■ Objective
- ☐ Directive

Background and Arguments

The city has entered a bid to host the 2016 Olympics. They are competing with Madrid, Tokyo, and Rio. There have been extensive plans created indicating the changes that Chicago would undergo in order to adequately host the event. As this will certainly impact the entire city consideration must be given as to how directly this will impact the plans of the featured environment.

Winning the 2016 Olympic bid would be a huge success for the city of Chicago. The exposure related to hosting an event as widely watched as the Olympics would be a tremendous platform for the city of Chicago. It would also be a tremendous economic success for the city. During the 1996 Summer Olympics in Atlanta, there was an estimated $1.2 in spending (Humphreys).

For both of the above reasons, aiding in the effort to gain the Olympic bid would be beneficial for the city. However, when considering the extent of that aid, one must also consider the scope of the Featured Environment plan and the time line for the Olympic Bid selection.

The winner of the Olympic bid will not be announced until the fall of 2009. As we are working with a shorter planning time line is can not be said with any certainty whether or not Chicago will even get the bid. While some of the solutions included in the plan for Chicago could make the city a more desirable pick for hosting the Olympics planning for and accommodating aspects of the city that will only be actualized if that bid is won is a risky endeavor. Also the effort required in coordinating with the plans for a temporary event would not be worth the effort when considering the 100 year scope of the Plan for Chicago. Considering all of these points, it seems most logical to consider the Olympic bid when necessary but not to be limited by the city's effort to win that bid.

Defining Statement

Issue
Plan/Project Cooperation

5

Project
Chicago Vision for the Future //
Featured Environment

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Sources
Great Lakes Commission, "Great Lakes Basin Compact." 9.23.2008.http://www.glc.org/about/glbc.html (accessed 10.15.2008).

Question at Issue

To what extent should the system honor past treaties, plans, and projects?

Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This system should not be limited my past treaties, plans and projects.

Alternative Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This system should adhere to the letter of any past treaty, plan, or project.

- ☐ Constraint
- ■ Objective
- ☐ Directive

This system should build on the progress made my past treaties, plans, or projects.

Background and Arguments

There have been numerous plans throughout the course of Chicago's history that have focused on the use of Lake Michigan and the Chicago River. As the Featured Environment group explores system concepts moving forward it is inevitable that some of the concepts will conflict or support previous treaties, plans, and projects.

The spirit of most of treaties, plans, and projects are of support and benefit to the river, lake, and the people in surrounding areas. For instance the Great Lakes Basin Compact states that its purpose is, "To promote the orderly, integrated, and comprehensive development, use, and conservation of the water resources of the Great Lakes Basin"(GLC). Similarly, Daniel Burhnam's Plan for Chicago was based on the idea of a "city beautiful".
As most plans echo these types of goals or purpose there is little to no potential for the Featured Environment plan to conflict with the realization of those goals. However, as the environment in which the lake and river exist is rapidly changing the design challenges are also changing. As a result past plans and treaties are prone to become dated or irrelevant. Additionally, the effort of adhering to all past plans and treaties would greatly limit the potential elements of the system.

With these considerations the featured environment system align with the purpose or goals of many past plans, treaties, and projects but will not be limited by any of them.

Defining Statement

Issue
End Users

6

Project
Chicago Vision for the Future //
Featured Environment

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Dongzhe Sun

Sources
Ridgway, Kate. "Gov. Blagojevich announces Illinois tourism continues to break records." June 9, 2008.http://www.thetourismbureau.org/IllinoisTourismBreaksRecord.htm (accessed 11.05.2008).

Question at Issue

To what extent should the system be designed for tourists vs. Chicago residents?

Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This system should make the interests of Chicago residents a priority.

Alternative Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This system should focus on maximizing tourism in the city of Chicago.

- ☐ Constraint
- ■ Objective
- ☐ Directive

This system should be designed solely for the residents of Chicago.

Background and Arguments

When designing system elements it is imperative to think of the end users. The question of "Who will be using this?" must be raised. As Chicago is an extremely diverse population dividing it into user groups is a difficult task. One clear distinction within potential end users is residents and tourists.

In 2007, the Illinois tourist economy generated $30 billion. Over 45 million people visited Chicago alone. (Ridgway) Tourism is undoubtedly an integral part of Chicago's economy and culture. Because of accounting for tourists will be a big part of the design process. Ideally, the final elements of the system will serve both resident and tourists. A goal of this system is to make Chicago a nice place to live and visit. However, if there ever comes a situation where a decisions would not equally serve both user groups the interests of Chicago residents will take priority. Our group believes that in order for a city to be a nice place to visit it must first be a nice place to live.

Defining Statement

Issue
Planning for Climate Change

7

Project
Chicago Vision for the Future //
Featured Environment

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Matthew Swift

Sources
Hayhoe, Katharine and Donald Wuebbles. 2007. Climate Change and Chicago. Projections and Potential Impacts. November 7, 2007. Chicago Climate Action Plan.

Question at Issue

To what extent should the system account for climate change?

Position

- ☐ Constraint
- ☒ Objective
- ☐ Directive

The system should design for worse case (higher emission) weather scenarios.

Alternative Position

- ☐ Constraint
- ☒ Objective
- ☐ Directive

The system should design for lower emission scenarios.

Background and Arguments

There has been much analysis and speculation on future climate conditions based on our current trajectory, all of which points to a radical shift in our climate. Society is on the brink of cataclysmic lifestyle, energy, technology, and environmental shifts that can greatly assuage our negative impact on the planet. Nevertheless, it is assumed that future conditions will be far less hospitable than today's conditions.

The Chicago Climate Action Plan portrays two scenarios for future conditions: the higher emission scenario and the lower emission scenario. The higher emission scenario assumes Chicago continues to primarily depend on fossil fuels and atmospheric carbon dioxide levels rise from present day 385PPM to 1000PPM by the end of the century. Under the lower emission scenario, carbon dioxide levels could rise to 550PPM. Chicago would experience temperature increases of 3-4 degrees in the lower emission case and, under higher emissions, temperature increases of 7-8 degrees and up to a 10 degree shift during the summer. Additionally, a decrease of 1.5 feet in Lake Michigan's levels by the end of century is likely due to higher temperatures and decreased ice coverage.

The shift in temperature poses a major threat to public health, as Chicago has witnessed from the 1995 heat wave which resulted in 700 deaths. These heat waves are expected to increase in frequency and duration over the next century. The number of very hot days (defined as 90+ degrees) is likely to increase, from 15 days currently to an estimated 5-8 weeks. Proportionately, there is expected to be 30+ days over 100 degrees.

Overall, Chicago winters may closely resemble current conditions in northern Arkansas while summers will be on par with those in Alabama. The outcome of these climate changes could have significant adverse effects on human health and welfare, air quality, vector-borne and water-borne disease outbreaks, precipitation patterns, local ecosystems, hydrology, and economy and infrastructure. For this reason, the system has to take prudent action and design for the worse case, higher emission standards.

The Chicago Climate Action Committee does note that “It is very probable that timely and aggressive action to reduce emissions over the next few decades, such as that laid out in the Chicago Climate Action Plan, could limit climate change to below that projected under the “lower” emissions scenario.” However, when considering how to design the system decades in advance, it is simply too risky and reckless to assume for the best and under-develop the system when lives are in question. Design solutions that can tolerate the extreme weather conditions will also be able to tolerate the milder conditions, and thus provide solutions that will not fail in the inevitable extreme weather event.

Defining Statement

Issue
Planning for Seasonal Usage

8

Project
Chicago Vision for the Future //
Featured Environment

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Sources
Hayhoe, Katharine and Donald Wuebbles. 2007. Climate Change and Chicago. Projections and Potential Impacts. November 7, 2007. Chicago Climate Action Plan.

Question at Issue

To what extent should the system plan for year-round usage?

Position

- ☐ Constraint
- ☒ Objective
- ☐ Directive

The system should focus on warm weather activities and repurpose elements for cold weather activities when possible.

Alternative Position

- ☐ Constraint
- ☒ Objective
- ☐ Directive

The system should focus equally on warm and cold weather seasons.

- ☐ Constraint
- ☐ Objective
- ☒ Directive

The system could focus on warm weather activities with the understanding climate change will eradicate the harsh winter conditions experienced today.

Background and Arguments

Chicago has historically been known as a city of extreme seasonal fluctuations ranging from scorching hot summers to freezing cold winters. Use of the river and lake system is directly correlated to the degree of comfort of the climate. To best feature the environment, the system should capitalize on warm weather offerings and then strive to accommodate year round activities.

Since the plan needs to account for climate conditions over the coming decades, the system should recognize the increasing temperature trend that could result in the number of very hot days (defined as 90+ degrees) increasing from 15 days currently to approximately 5-8 weeks. Chicago winters may closely resemble current conditions in northern Arkansas while summers will be on par with those in Alabama. With regard to temperature, Chicago summers will become more inhospitable while winters may become less frigid and more tolerable. For this reason, the system should make designing for the summer climates a priority.

Priority should first be given to enhancing the river and lake system during summer months to capture the more apparent uses of the water system. In time, as the system gets built out and climates change, the solutions can be modified to become more usable throughout the year.

Whenever possible, the system should try to re-purpose elements to be relevant all year. The elements should shield people from the harsh conditions that will likely persist in all seasons. The system should ideally work harmoniously with nature so that resources don't get ignored for greater parts of the year. A system that does not plan for seasonal fluctuations delivers a partial solution. The featured environment is present in all seasons, and should be enjoyed throughout.

Defining Statement

Issue
Adaptability

9

Project
Chicago Vision for the Future //
Featured Environment

Originator
Judd Morgenstern

Contributors

Mehmet Cirakoglu	9 Sep., 2008
Amanda McKown	9 Sep., 2008
Dongzhe Sun	9 Sep., 2008
Matthew Swift	9 Sep., 2008
Charles Owen	19 Sep., 2008

Sources

Dempsey, Nicola, and Mike Jenks. **Future Forms and Design for Sustainable Cities**. Oxford, UK: Elsevier.(Architectural Press), 2005.

Question at Issue

How should the system balance being open and adaptable for the future while still delivering discrete, functional solutions in the present?

Position

- ☐ Constraint
- ☒ Objective
- ☐ Directive

The system should evolve incrementally and modularly to balance the need for functional solutions in the present with the need for adaptive options in the future.

Alternative Position

- ☐ Constraint
- ☒ Objective
- ☐ Directive

The system should remain as open and adaptable as possible in order to successfully respond to changes in future economic, social, and environmental conditions.

- ☐ Constraint
- ☒ Objective
- ☐ Directive

The system should be optimized for fast-track installation and full control with tried-and-true, efficient and economical best-available technology.

Background and Arguments

There is an inherent trade-off between remaining open and adaptable and making decisive plans in the present. On the one hand, the system needs to be easy to develop, manage, and control. On the other hand, the system needs to remain relevant for the long term when future conditions will obsolete current thinking and solutions. It is therefore highly desirable to devise a system that can satisfy current demands without jeopardizing future development - and the best method to ensure that is to employ adaptive strategies for incremental and modular development.

Good strategic planning is largely an exercise in option creation. It is vital to remain responsive and flexible as long as possible so that options may be left in play. Remaining open to change affords more opportunity for additional information to be uncovered and analyzed. As the information is digested, sounder decisions can be made. Further, the system can absorb more of emerging best practices and new technology. The downside to prolonging decisions and development is that parts of the system cannot be made immediately available. Making fast decisions will produce a working system sooner, but it may be one that may also be inadequate sooner as socioeconomic changes and emerging technologies reshape the working context.

Fortunately there is a strategic model that can balance current needs while remaining more adaptable to future demands. A modular, adaptive system can be modified over time more easily to respond to changing needs. At its best, components can be switched out and replaced as they become obsolete or inefficient without overhauling the entire system.

Arguably, the basis for an intelligent city resides in its adaptability. "In a world of constant change, the basis for a city's long-term success, and therefore maintaining its intelligent status, lies in the adaptability of its fabric, process, and systems." (Jenks and Dempsey 2005, 40) Modular, adaptive design improves the probability of success in both near and far terms.

Defining Statement

Issue
Sustainable Solutions

10

Project
Chicago Vision for the Future //
Featured Environmentt

Originator
Judd Morgenstern

Contributors
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Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Dempsey, Nicola, and Mike Jenks. 2005. Future Forms and Design for Sustainable Cities. Oxford: Elsevier.

Environmental Protection Agency. What is Sustainability? http://www.epa.gov/sustainability/basicinfo.htm

Question at Issue

To what extent should sustainability be prioritized in designing the system?

Position

- [x] Constraint
- [ ] Objective
- [ ] Directive

Sustainability must be a top priority in the system.

Alternative Position

- [ ] Constraint
- [x] Objective
- [ ] Directive

The system should focus first on recreation and enjoyment and then on sustainability.

Background and Arguments

Climate change, urbanization, and changing economies are radically impacting the way our cities are planned and our resources are used. Since the featured environment is a critical part of Chicago's vitality, it will be imperative in developing a system to take into account all dimensions of sustainability: environment, sociology, and economy.

Truly sustainable design is environmentally benign, socially equitable, and economically viable. These are all crucial considerations to the city. Therefore, sustainability must be of paramount concern to the system. Focusing on sustainability will lead to superior solutions and have tangential benefits. "The principles of sustainability can stimulate technological innovation, advance competitiveness, and improve our quality of life." (Environmental Protection Agency)

Further, in addition to better solutions, sustainabiltity can have numerous qualitative benefits to the system. “Sustainable communities foster commitment to place, promote vitality, build resilience to stress, act as stewards, and forge connections beyond the community.” (Northwest Policy Institute, Seattle, WA)

Failing to take into account sustainable design will yield insufficient solutions that will not withstand the test of time. These failing solutions will jeoparidize the lifestyle of future generations: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (World Commission on Environment and Development. Our Common Future. 1987)

In summary, solutions that are not sustainable, will either be harmful to the environment, hostile to society, or encumber the economy. In any case, such solutions can only be temprorary, which means that the system will have to be re-designed to fulfill its original purpose.

Defining Statement

Issue
Character definition

11

Project
Chicago Vision for the Future //
Featured Environment

Originator
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Matthew Swift

Question at Issue

How should FEP infuse a defined character throughout the system features?

Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

FEP should adjust its solutions depending on the special needs and potentials of an area/problem, at the same time ensuring some common characteristics and principles throughout the overall system, thus thriving for continuity.

Sources

Alternative Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

FEP should support a variety in its solutions in order to increase its appeal.

- ☐ Constraint
- ■ Objective
- ☐ Directive

FEP should look for defining character through consistency in its system features, by applying similar solutions in Chicago and creating a stronger image.

Background and Arguments

Chicago never shied away from supporting bold decisions when facing issues. Projects that helped to shape Chicago always sought for a fine balance between efficiency, innovation and aesthetics. Burnham Plan and reversal of the Chicago River is two of the most famous examples of that approach.

Featured Environment Project aims to make water a significant part of Chicago character. This is only possible by increasing the appreciation of water among its citizens and make water an indispensable part of their culture. We need a bottom-up approach.

In a city like Chicago, whose population is very heterogeneous, where many different cultures and lifestyles coexist, a project like FEP needs to come up with a variety of solutions. Through variety, it can reach out to all of its citizens, no matter what their identities and needs are.

On the other hand, without some traits that tie the solutions, they will risk to look like a sum of disjointed solutions. In this scenario. FEP would fail to contribute to Chicago character.

FEP should simultaneously adopt and balance these two approaches: Variety is indispensable in a time where customization is heavily demanded. At the same time, a certain amount of consistency is needed for an identity. Under these circumstances, FEP should strive for making its solutions to look like customized offers that belong to the same platform. To do so, FEP should aspire to ensure a continuity, by connecting them with some characteristic traits and principles.

Defining Statement

Issue
Integration of technology

12

Project
Chicago Vision for the Future //
Featured Environment

Originator
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Contributors
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Judd Morgenstern
Dongzhe Sun
Matthew Swift

Sources

Question at Issue

How should FEP approach to new technologies?

Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This system should use the most innovative, cutting edge technology available.

Alternative Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

This system should only use technologies that are proven safe and reliable.

Background and Arguments

It is the vision of Featured Environment Project (FEP), to put Chicago among cities like Venice, Paris, among the cities whose geographic and cultural character is unthinkable without the water. In order to realize this goal, Chicago should come up with new, innovative and characteristic ways of connecting with Lake Michigan and Chicago River.

In addition, the importance of water has risen substantially in the last decade, with the alarming changes in climate caused by global warming and the end of "The Age of Petroleum". Water will be a much more valuable resource for humanity. We are at a historical turning point.

There has been an increase in interest and in number of researches done in the fields related with water. New advances in domains (such as nanotechnology) are happening fast. Downside of this increased amount and speed is that, there is not enough time for new technologies to be proven safe and reliable on a larger scale.

If new technologies are expected to be proven safe and successful in other cities, Chicago and FEP will lose some valuable time to reach its aims. As a responsible city, Chicago should always prioritize public and environmental safety.

On the other hand, this should not lead to a conservative approach, and make Chicago a slow moving follower. Thus, efforts should be concentrated on researching possible effects of new technologies and investing on/taking necessary precautions.

It should be remembered that, Chicago has always had culture that solved problems with forethought and innovative design. They did not only answered actual needs, but also shaped the future. Burnham Plan which inspires FEP is the best example.

Within this context, Chicago should take the same approach.

Defining Statement

Issue
Balance between engineered and natural

13

Project
Chicago Vision for the Future // Featured Environment

Originator
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Matthew Swift

Question at Issue

To what extent should FEP support human intervention to natural environment?

Position

- ☐ Constraint
- ■ Objective
- ☐ Directive

FEP should be open to the use of human intervention to the natural environment, with the end goal of enhancing people's experience with water.

Sources

Alternative Position

- ■ Constraint
- ☐ Objective
- ☐ Directive

FEP should favor non-engineered connections between people and nature to reinforce the purity of nature.

Background and Arguments

Reliance on technologies that solely focus on the comfort of humanity ignored and damaged natural balance. This approach caused global warming, deforestation, pollution etc. Environmental threats became so serious that, leaving nature to recover is now impossible. That is the reason why we are inclined to perceive technology as if it contradicts the natural.

A conservationist approach will increase the value of water as a resource. Return to natural ways would improve the quality of drinking water, parks will provide better relaxation.

Meanwhile, such an approach risks to limit people's access to water, both in quality and quantity. Engineering and technology, when used with responsibility, can offer new ways of connecting people with water, better tailored to today's needs and reality.

As a plan that tries to redefine the role of lake and river in the city, FEP is trying to make them distinguished features of Chicago. This is only possible by making them more accessible to its citizens. Thus, FEP should prioritize connecting people to water with every possible mean that people need or demand, but with an increased effort to not causing additional disturbance in natural balance.

Design Factor

Difficult to frequently refresh offerings

1

Project

Chicago Vision for the Future // Featured Environment

Mode

Engagement

Activity

Promoting Discovery

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Fisher, Lewis F. 2007. River Walk: The Epic Story of San Antonio's River. San Antonio. Maverick Publishing

Associated Functions

30. Establish curiosity
31. Encourage/motivate action
32. Support persistence
33. Reward effort

Observation

Refreshing offerings on a frequent basis will require a lot of corollary effort.

Extension

Though refreshing offerings frequently is a nice gesture for patrons, it will require a lot of work on the system's behalf: changing and managing providers, re-outfitting physical spaces, and communicating new offerings to the public.

Depending on the time frame, providers may be hesitant to sign lease and service agreements if they feel the time is not sufficient for their service. If they do agree to change or refresh, the process will require a lot of work from the system's perspective in the form of selecting new offerings and managing the old and new providers. Additionally, new offerings may require spaces to be changed or reconfigured to satisfy new demands. The responsibility of making the changes may fall on the system or the providers, but either way, there will inevitably be some downtime while the space and service gets set-up. When the new service is available, there will need to be some form of communication to inform users of changes and assist promotion.

Additionally, frequently refreshing will require much planning and may necessitate additional human resources.

Design Strategies

Utilize modular riverwalk storefronts

Provide adaptable spaces

Structure flexible service provider agreements

Make current offerings highly visible at all times

Incorporate inherent service promotion

Solution Elements

M Provider Pop-Ups

S Plug-N-Play (Pod Connections to infrastructure)

S Farmers' Market

S Theme Change

Design Factor

Offering Avenues for Detour

2

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Integrating with Daily Life

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Associated Functions

6. Enhance commuters interaction
7. Encourage spontaneous excursions

Observation

Pedestrians typically stick to their usual route because it is the most convenient and efficient. However, it does not promote exploration.

Extension

People tend to stick to main thoroughfares because it is accessible, efficient, and obvious, which means they will not get lost. It also means they will not explore new roads or be exposed to new elements. There is a lot of congestion along the main thoroughfares that can distract to the overall experience. It is difficult to change behavior and get people to take new routes, but without doing so, the main walkways will be overcrowded and detract from the overall experience. The system needs to account for this and entice people to take alternate pathways, and in doing so, be exposed to new elements and disperse the congestion.

Design Strategies

Offer secondary routes

Encourage excursion

Refresh offerings and location

Solution Elements

S Veins and Arteries

M Virtual Tour Guide

S Provider Pop-Ups

E Temporary Exhibits

Design Factor

Capturing Commuter Attention

3

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Integrating with Daily Life

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Associated Functions

9. Blur the boundary between work and play
10. Infuse urban nature
11. Build on current habits of users

Observation

Various forms of Chicago public transportation pass next to or through the featured environment. This can cause disturbance to the system but also represents an opportunity to entice commuters.

Extension

Lake shore drive runs parallel to the lake, but drivers (hopefully) only pay attention to the road. The El trains pass right over the river, but only provide scenic views for a fleeting moment. The presence of public transportation represents a potential disturbance to the system. It also represents the opportunity to entice these commuters to interact with the system.

For instance, the trains running over the bridges at the riverwalk cause significant noise and disruption. It is difficult to carry on a conversation below, much less enjoy peace and quiet. Attention needs to be paid to these situations where the bustling city interacts with the featured environment. Ideally, the system would coexist harmoniously with the city and would not impede the city's functioning.

Further, these instances can be viewed as an opportunity to expose the featured environment to commuters. Capturing commuter attention, in a safe way, would provide instances of appreciation during people's busy day and would make the overall commuting experience more pleasant.

Design Strategies

Offer a peek

Shield the system from transportation

Incorporate nature in infrastructure

Solution Elements

M Window Shopping

M Koolhaas Tube

S Look at me Jets

Design Factor

Satisfying Ritual Adaptation

4

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Integrating with Daily Life

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Associated Functions

8. Create opportunities for rituals
11. Build on current habits of users
34. Refresh offerings/activities

Observation

The system seeks to provide opportunities for rituals while also always being adaptable and dynamic. These two goals may contradict each other.

Extension

Rituals depend on consistency and reliability. In order to offer opportunities for ritual, the system would need to remain fairly consistent so that individuals could develop their rituals over time. Establishing this habit would encourage repeat users, and in that sense, the system would be successful.

However, in order to remain relevant and interesting, the system ought to be dynamic. Refreshing elements would provide for an interesting experience, but it would contradict the dependability needed to satisfy ritual. For instance, people are often creatures of habit that like to follow a routine or ritual, such as going to the market on the weekends. If the notion was to change the location or offerings of the market, then someone going to the market for a specific habitual purpose would be sorely disappointed when it is no longer there.

Since the system must plan for the long term, adaptation needs to be a central tenet. Ideally the system will strike a balance in offering consistent, predictable experiences and also refreshing offering so as not to become stale.

Design Strategies

Establish specific zoning

Refresh offerings

Provide adaptable infrastructure

Coordinate schedules

Solution Elements

S Veins and Arteries

S Japanese House Field

S Provider Pop-Ups

S Activity Genius

Design Factor

Infusing Urban Nature

5

Project

Chicago Vision for the Future // Featured Environment

Mode

Enticement

Activity

Integrating with Daily Life

Originator

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Contributors

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Dongzhe Sun
Matthew Swift

Sources

Fisher, Lewis F. 2007. River Walk: The Epic Story of San Antonio's River. San Antonio. Maverick Publishing

Associated Functions

10. Infuse urban nature
13. Make visually appealing
64. Tend to landscaping
67. Clean public spaces

Observation

Infusing nature into urban settings is a romantic idea, but one that requires a lot of planning, coordinating, and upkeep to tie in with urban infrastructure.

Extension

There is little doubt that infusing more landscaping to contrast the urban environment would beautify the system. The greenery would additionally offer protection from the increasingly harsh climate and likely have a calming effect on users. However, infusing nature into an unnatural area requires a lot of costly upkeep and maintenance. For starters, landscape architects would need to be hired to plan the system, and then multiple crews would have to be organized to construct the environment, and then more crews would have to be staffed to maintain the environment. If the landscaping is not kept up, then it will deteriorate to an unsightly mess and contradict its original purpose. So once a decision is made to incorporate natural elements, their health must be maintained.

For this reason, the system must consider how to infuse nature in a way that requires minimal cost and upkeep. Options may include focusing on solutions that minimize manual labor or focusing on nature on a smaller scale. The latter solution was referenced for the San Antonio riverwalk and could work for Chicago as well. "Few municipalities recognize the possibilities for civic improvement which are to be found in even a small stream of water. Fewer still develop these possibilities when they are recognized."
-I.T. Frary in Architectural Record, April 1919

Design Strategies

Focus on the small details

Provide modular landscaping

Seek highly leveraged interactions

Solution Elements

M Good Things in Small Packages

S Entrance Framing

M The Bulwark

S Modular Landscaping

Design Factor

Turning up the Silence

6

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Engaging the Senses

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Associated Functions

12. Engage auditory senses
39. Provide respite
90. Optimize zoning and pace

Observation

The system needs to compete with a lot of ambient noise that can disturb users.

Extension

Ideally the system will offer respite from its busy surroundings. Part of this includes providing a break from the noise of the city. It is difficult, however, to emphasize the silence over the noise.

At the downtown section of the riverwalk there are numerous bridges that carry regular traffic. The ambient city noise plus rattling of the bridges produces a loud environment at the riverwalk below. Users will have a hard time relaxing at the riverwalk without addressing the noise issues.

Design Strategies

Reverberate the system sounds

Block out the city noise

Mask unpleasant noise

Solution Elements

M White Noise Speakers

M Zone Out Alarm

Design Factor

Making Both Open and Closed

7

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Engaging the Senses

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Associated Functions

10. Infuse urban nature
13. Make visually appealing
23. Signal Environmental transition
29. Establish focal points
64. Tend to landscaping

Observation

Landscaping does a good job of establishing boundaries, but in doing so often obstructs views.

Extension

Landscaping along the riverwalk would benefit users, but at the expense of hiding it from the greater public. Landscaping does a good job of establishing boundaries and offering privacy to those inside the landscaping, but if it obstructs a view, then people on the other side are at a loss.

For instance, landscaping Upper Wacker Drive would help isolate the riverwalk area from the urban chaos above. This would provide a greater sense of enclosure and peacefulness. However, the landscaping would obscure the view of the river from the street. There is clearly a trade-off between appeasing people below and providing a view for the pedestrians at street level.

Design Strategies

Provide occasional exposures

Design for all sides

Solution Elements

M Entrance Framing

M Multi-face design

M Galleries that open to river

Design Factor

Determining Level of Knowledge

8

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Raising Environmental Awareness

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Associated Functions

17. Identify audience
19. Prepare content
20. Impart knowledge
21. Support retention
22. Encourage action
76. Reassess environmental trends

Observation

It is difficult to determine the public's level of knowledge concerning the environment.

Extension

The system seeks to raise environmental awareness in users. To launch an effective communication campaign, it must assess the public's general level of knowledge concerning environmental affairs. Failing to do so may make the campaign come off as condescending and off-putting to the people.

It is difficult however to gauge the general level of knowledge of a group. Existing tools such as a test or survey could be administered, but are often superficial and an imposition to users. Further, knowledge changes constantly in this information age. The system should seek to keep up with the changing knowledge of users in order to provide relevant information.

Design Strategies

Turn it into a game

Solution Elements

M Environmental Trivia

S The Grapevine

E Web-site

E Intercept Survey

Design Factor

Encourage Coordinated Action

9

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Raising Environmental Awareness

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Associated Functions

17. Identify audience
18. Determine level of knowledge
19. Prepare content
20. Impart knowledge
21. Support retention
22. Encourage action
76. Reassess environmental trends

Observation

Activists are motivated to help causes, but groups of activists are not always aligned around a common goal.

Extension

The system needs to rely on its users to foster appreciation and care for the environment. Activists are often helpful for such a cause, but coordinating a large group of activists may be difficult. Often people share a common underlying belief, but disagree on the best way to reach their goal. This can result in chaos or inaction. Either way, their primary goal goes unfulfilled.

The system needs to encourage action while ensuring that people are acting in a concerted effort towards the same goal. Without such direction, a lot of time and effort is ultimately wasted.

Design Strategies

Coordinate large-scale efforts

Solution Elements

E Web-site

S FEP town council

Design Factor

(Over) Stimulating the Mind

10

Project

Chicago Vision for the Future //
Featured Environment

Mode

Engagement

Activity

Encouraging Activity

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Associated Functions

13. Make visually appealing
30. Establish curiosity
31. Encourage/motivate action
35. Stimulate the mind
39. Provide respite

Observation

The system needs to account for users that seek peace and quiet as well as activity and excitement.

Extension

Many times people go to the lake front and parks for mental respite and seclusion. It is an escape from the busy and overly-stimulated daily activities. However, the system also needs to provide excitement and activity. These two offerings can conflict and ruin the experience for those seeking a relaxed environment.

In this case, more is not necessarily better. Often a simple activity like sitting beneath a tree on a nice, quiet day would be ideal. The system has a lot to offer and needs to consider how to do so without forcing the information on users. The system should be aware of this and know when over stimulation is an issue. Ideally information is available whenever a user needs it, but it is not a consideration until the users needs it.

Design Strategies

Subtle stimulation

Pull versus push information delivery

Guided Tours

Solution Elements

S Analog & Digital Environmental Information Tags

S Virtual Tour Guide

Design Factor

Maintaining the Innocence

11

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Communicating Offerings

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Associated Functions

2. Develop and maintain clear communication channels
3. Promote system image/experience
40. Recommend additional activities

Observation

Promoting natural features such as beauty and tranquility may turn the system into a tourist destination.

Extension

There is a trade-off between promoting system elements and making them accessible versus exploiting virgin features. The system must accommodate both tourists and residents, but in doing so, it risks exposing the system as a tourist destination that residents likely will not enjoy.

Part of the mystique of nature is finding virgin spots that are not advertised or synthetic. The system needs to provide a curated experience without the feeling that users are in a theme park. The systems must seek a way to communicate offerings while maintaining its integrity.

Design Strategies

Subtle stimulation

Pull versus push information delivery

Guided Tours

Solution Elements

S Analog & Digital Environmental Information Tags

S Virtual Tour Guide

M Mystery Campaign

S The Nature Channel

Design Factor

Wasting Water

12

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Integrating with Daily Life

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

www.urbanlab.com/h2o/

Associated Functions

4. Associate daily water usage with lake
20. Impart Knowledge
76. Reassess environmental trends
77. Reassess social trends
78. Incorporate technological advancements
85. Manage storm water
86. Manage wastewater
87. Manage utilities

Observation

Chicagoans waste a lot of potable water.

Extension

Chicagoans have one of the Earth's most tremendous natural resources at their disposal. And they are literally disposing of it.

95% of the US' fresh water supply is on deposit in the Great Lakes. Chicagoans consume 1,000,000,000 (billion) gallons of lake water per day and less than 1% is renewed.

These habits must change. Unfortunately Chicagoans have grown accustomed to their water usage habits. As water becomes more valuable than oil, current consumption habits will no longer be sustainable. Chicagoans will have to adopt new behaviors.

Not only does the system need to use water more sustainably, but it needs to impart these values on Chicagoans so that we don't abuse this coveted resource.

Design Strategies

Make usage visible

Solution Elements

S Pressure Patrol

S Shock Signs

M Eco-Model Simulator

S Virtual Water Tank

S Water Credits

Design Factor

Predicting Technology Evolution

13

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Communicating Offerings

Originator

Judd Morgenstern

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Sources

Associated Functions

2. Develop and maintain clear communication channels
43. Enable personalization / tagging of the system
45. Facilitate sharing
78. Incorporate technological advancements

Observation

The system will rely on information technology to communicate, which may rapidly become obsolete.

Extension

A few decades ago very few people used the internet to communicate. Now it has perhaps become the most ubiquitous and important communication channel. In making a 100 year plan for the system, there needs to be some assumptions about information technology. But with the current rate of change in technology, assumptions are proved wrong within years if not decades.

Though the internet will likely be around, it may be in a form completely incomprehensible to us currently. The system will have to rely on information technology to function and communicate with users. If the system invests in costly overhead to establish a network, it risks becoming obsolete in a short time. If the system waits to invest in technology, it will be unable to maximize communications in the interim.

Design Strategies

Use riverwalk as a channel

Promote word-of-mouth

Lowest common-denominator technology

Solution Elements

E Wi-Fi network

S Analog & Digital Environmental Information Tags

S The Grapevine

Design Factor

Zoning over Time

14

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational Support

Activity

Land Use Planning

Originator

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Sources

Associated Functions

77. Reassess social trends
89. Define desired character
90. Optimize zoning and pace
91. Choose development partners
95. Reassess character

Observation

Large development projects that are erected quickly and reflect the current zeitgeist are leave little room for nature and are quickly outdated.

Extension

There is clearly impetus to develop the system. However, we must proceed cautiously. In planning nearly a century in advance, it is important to consider the changing surrounding landscape and environment. Solutions that are focused on current conditions will optimize for an environment that will no longer be relevant in a few decades. When done in large scale, these solutions will reflect the style of the time and not mesh with future qualities.

Postponing development has drawbacks as well. For starters, users will not be able to enjoy the system until it is developed. Planners may also point out that all solutions will inevitably become inappropriate or obsolete.

Design Strategies

Holistic design

Life-cycle planning

Evolutionary planning

Solution Elements

S Life-cycle development

S Provider Pop-Ups

Design Factor

Obstructing the River View

15

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational Support

Activity

Land Use Planning

Originator

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Sources

Associated Functions

13. Make visually appealing
55. Coordinate flow
90. Optimize zoning and pace

Observation

Development at the river, especially as it pertains to larger structures, may block the view from private buildings.

Extension

When developing the riverwalk, it is important to consider the impact on the neighbors. Though the riverwalk is public domain, many private residences and buildings enjoy views of the river. Building structures may obscure views, which will aggravate building tenants and may decrease property value.

A specific example is building at the Turning Basin. There is currently prime, undeveloped real estate that enjoys unobstructed views down the river. The site is also opportune for a public civic structure or monument, but such a structure could easily obstruct the views from the surrounding land. Obstructing the views may negate development, since developers may be reluctant to build where there is no view.

Design Strategies

Design for all views

Mixed use development

Solution Elements

S Multi-Face Design

Design Factor

Access vs. Regulating Usage

16

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Maintaining Functional Quality

Originator

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Sources

Associated Functions

65. Regulate Usage

Observation

There is considerable effort to make the system highly accessible. This will increase the difficulty of regulating usage.

Extension

The greater the number of access options that you give users the greater the variation there will be in their usage of the system. For example, If there was only one way to access the riverwalk it would be easy to anticipate the flow and potentially the usage of the space. If you add another access point are three more ways that users could enter and exit the space. As you add access points you exponentially increase the possible combinations for entry and exit in a particular space. In this way, the effort to make the system highly accessible will make the effort to regulate usage of the system more difficult.

Design Strategies

Communicate best practices

Reward desired usage

Solution Elements

E Sign Guides

Design Factor

Can't see underwater

17

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Resolving Damages

Originator

Matthew Swift

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Sources

Associated Functions

70. Inspect for damages

Observation

Underwater infrastructure is difficult to monitor.

Extension

Inspecting the system for damages is a critical task when trying to maintain functionality. A large portion of the system infrastructure will be underwater and will not be in plain sight of surveillance or inspection. It is important for the system to inspect for damages in all areas of the system, even underwater.

Design Strategies

Surveil underwater

Solution Elements

E SubCams

S Omni-beds

Design Factor

Difficult riverwalk access

18

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Mitigating Emergencies

Originator

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Sources

Associated Functions

60. Coordinate with response partners

Observation

Topography of the system is varied and emergency response access to some places along river walk and lake could be difficult.

Extension

Many areas along the river have narrow walkways and drop significantly below street level in a relatively short distance. This type of environment could pose a challenge to emergency responders when trying to access and tend to a victim.

Design Strategies

Modify Infrastructure

Provide Assistance

Solution Elements

E Emergency Assistants

S Lift Kits

Design Factor

Identifying Social Trends

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Adapting

Originator

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Sources

Associated Functions

77. Reassess social trends

Observation

The is currently no tool for identifying social trends.

Extension

In an effort to make a system adapt to cultural changes in a relevant and useful way it is important to be able to identify and react to social trends. Currently there are no tools that are specifically used for identifying social trends. The identification of social trends mainly consists of financial indicators involving consumer behavior. As this type of trend analysis and identification is useful there are other types of social trends that are important to understand and identify. For instance, what are people in the city doing on the weekend, what kind of activities are they engaging in at parks and recreational areas. It would be useful for there to be a tool for identifying these types of trends.

Design Strategies

Develop trend observation toolkit

Solution Elements

E Participatory observation database

Design Factor

Loud Mowers

20

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Maintaining Functional Quality

Originator

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Sources

Associated Functions

Tend to landscaping

Observation

Lawn mowers are loud and unpleasant to be around.

Extension

In order to maintain the functional quality of the system the landscaped elements of the system will need to be tended to on a regular basis. It possible to do this maintenance at low traffic times but it is inevitable that there will be some users in the system during the landscaping maintenance. The experience that those users have will be negatively effected by big, loud mowers cutting the grass.

Design Strategies

Regulate Operation

Use alternative means

Solution Elements

E Laser Mowers

Design Factor

Noisy City

21

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Mitigating Emergencies

Originator

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Sources

Associated Functions

61. Alert endangered parties

39. Provide Respite

Observation

The urban environment is loud and full of sensory distractions.

Extension

The city is a cacophonous environment. Anywhere in the city there are tons of audio and visual distraction. The people walking on the street, the car traffic, and the El create for quite a sensory overload. Combine this with whatever mental workload a user is already dealing with and the task of getting a user's attention in the city has become a very difficult task. In emergency situations, this presents an interesting challenge. Not only should the system get the attention of users but it must also communicate something useful to them. If they merely hear an alarm they don't necessarily know what the appropriate course of action should be.

Design Strategies

Overpower environmental distraction

Lessen environmental distraction

Solution Elements

S "Zone Out" Alarm

Design Factor

Recognizing Significant Trends

22

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Adapting

Originator

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Sources

Associated Functions

77. Reassess social trends

Observation

There is no way, other than subjectively, to determine what social trends are relevant to the adaptation of the system

Extension

Once a process has been developed for identifying a social trend the system must decide whether or not to respond to that trend. The system could potentially identify a large number of social trends throughout the course the system's existence. This identification is made for the purpose of adapting the system in a way that will make for a pleasant user experience in the midst of a constantly evolving society. Many of these trends will not have a significant effect on the experience of a user in the system and will therefore should not be a cause for system adaptation. For this reason, there must be a way to determine whether or not a trend is relevant to the evolution and adaptation of the system.

Design Strategies

Develop trend assessment toolkit

Analyze past trends

Solution Elements

S Trend comparison matrix

S Trend adaptation score

Design Factor

Slow Repairs

23

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Resolving Damages

Originator

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Sources

Associated Functions

73. Coordinate Resources

74. Remedy Damages

Observation

Road repair crews are always equipped to conduct repairs in stages

Extension

When the city dispatches repair crews they are often equipped to carry out a portion of the required steps in the repair process. They will conduct these steps at several different locations and then another crew equipped to carry out the final stages of the repair will revisit the sites and finish the repair or maintenance process. This results in an elongated repair or maintenance process and potentially a large number of areas that are unusable while they are awaiting the finishing crew to complete the final steps in the repair or maintenance process

Design Strategies

Increase versatility of tools or resources

Solution Elements

E Mr. Fix It crews

Design Factor

Tacit Knowledge

24

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Mitigating Emergencies

Originator

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Sources

Associated Functions

62. Debrief personnel

Observation

Explicit knowledge has a tendency to get lost in storage mechanisms.

Extension

Knowledge management is a very important undertaking for any business or organization. Acquiring, storing, and sharing knowledge are key components to developing innovative offerings and improving processes. There are two different types of knowledge, tacit and explicit. Tacit knowledge is first hand or working knowledge that some gains through experience. Explicit knowledge is written of documented knowledge, like a textbook. Both kinds of knowledge are useful, however, tacit knowledge is usually more rich and less likely to be forgotten. When dealing with emergency situations it would be nice to be able to engineer a system of tacit knowledge transfer by those members of the system that have taken part in an emergency response event. If this information was transferred into a form or dictated in transcript form it would probably be filed away and not used by many people. But if inexperienced emergency responders could link up with those who have recently been involved in an emergency response and benefit from first hand tacit knowledge that is still fresh in the responders mind, it would greatly benefit the response practice of the system.

Design Strategies

Increase participation in debrief

Recreate debrief

Solution Elements

E Emergency 101

Design Factor

Technology Updates

25

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Adapting

Originator

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Sources

Associated Functions

78. Incorporate technological advancements

Observation

New technologies are being developed at an increasingly rapid pace

Extension

The rate at which new technologies are being introduced to the marketplace rapidly increasing. As a result, the useful lifespan of technology is decreasing. As society adopts new technologies the technologies that they replaced or improved upon can become useless result in a poor user experience. In an effort to maintain a pleasant experience for system users it will be important to keep pace with the popular technologies of the society. However, if the system would implement the new technologies as they are introduced to the marketplace it would be in a perpetual state of implementation and upgrading. This would paralyze the functionality of the system.

Design Strategies

Create redundancy in system functions

Prioritize technological dependence within the system

Ensure functionality when implemented

Minimize implementation time

Solution Elements

E Tech Testing Environment

Design Factor

User Damage Reporting

26

Project

Chicago Vision for the Future //
Featured Environment

Mode

Maintenance

Activity

Resolving Damages

Originator

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Sources

Associated Functions

71. Report Damages

Observation

Users often notice damages but don't report them

Extension

In order to maintain a functional and safe system the system must be aware of areas that are in need of repair or maintenance. This requires either a high level of monitoring or a system that is self aware. As users will be constantly using the system they are in a way constantly aware of areas in the system that need to be repaired or require maintenance. However, there is often not an easy way for them to communicate this knowledge back to the system.

Design Strategies

Provide communication channel

Solution Elements

E Command Posts

Design Factor

People aren't sure where to be active

27

Project

Chicago Vision for the Future //
Featured Environment

Mode

Engagement

Activity

Encouraging activity

Originator

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Sources

Associated Functions

38. Activate the body

Observation

People have the desire to be active but often assume it will be difficult to do so within the city.

Extension

Communication of offerings for activity are as important as offerings for activity.

Design Strategies

Give permission to be active

Mark space for activity

Solution Elements

M Landscape boundaries

M Logos for activities

M Fallow fields

Design Factor

Efficacy of alerts

28

Project

Chicago Vision for the Future //
Featured Environment

Mode

Control

Activity

Mitigating Emergencies

Originator

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Sources

Personal Observation

Associated Functions

61. Alert endangered parties

Observation

Alerts are only useful when received and when the alerted parties know what to do in the present emergency.

Extension

An alert is helpful for parties that do not realize there is an emergency, but often an alert like a fire alarm comes once there is enough smoke that people have already realized the hazard. Like fire alarms, most alerts tend to be loud noises relying on peoples ability to hear. Not only does this ignore the needs of deaf people but also doesn't take into consideration the rising number of people listening to music, talking on their phones or otherwise overwhelming their ability to hear extraneous sounds.

As in the case of fire alarms, most alerts are without relevant information about next steps that the endangered parties should take and therefore their help is limited.

Design Strategies

Provide solution with alert

Provide smart locations

Solution Elements

M Bluetooth map

Design Factor

Artifacts need to add visual appeal

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational support

Activity

Capturing memories

Originator

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Sources

Personal Observation

Associated Functions

42. Assist in artifact generation

Observation

People want to keep artifacts that are beautiful and that can be displayed.

Extension

Artifacts that are not appealing do not have lasting power and become annoying. The system does not want to create clutter in peoples life or be associated with annoyance.

Design Strategies

Provide infrastructure for display

Provide beautiful artifacts

Solution Elements

M Memory wallpaper

Design Factor

People take the value of fresh water for granted

30

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational support

Activity

Coordinating Infrastructure

Originator

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Sources

Hooper, John. "Venice urges tourists to drink from water fountains." The Guardian, June 4, 2008.

Fishman, Charles. "Message in a Bottle." Fast Company, July 2007

Associated Functions

87. Manage utilities

Observation

"Americans spent more money [in 2006] last year on bottled water than on ipods or movie tickets: $15 Billion" - Charles Fishman

Extension

In order to feature the lake, the system needs to reinforce the asset that Chicago has. If people are buying drinking water they taking for granted the great asset of fresh water that Chicago has.

Design Strategies

Provide incentive for drinking from fountains

Solution Elements

M Bottle the fountain

Design Factor

Flood water systems are not adaptable

31

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational Support

Activity

Coordinating infrastructure

Originator

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Sources

Associated Functions

85. Manage wastewater

Observation

Solutions that are feasible in the near term are not always comprehensive enough for future needs.

Extension

As the climate worsens the system needs quick solutions but also ones that will adapt over time and grow with the system

Design Strategies

Plumbing that grows with us

Land that absorbs rain water

Solution Elements

S Water bladder

M Eco tributaries

Design Factor

Grass is time consuming and costly to upkeep

32

Project

Chicago Vision for the Future // Featured Environment

Mode

Maintenance

Activity

Maintaining functional quality

Originator

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Sources

1 Terry, Cliff. "Lawn Nation: An Innovative New Exhibit About America's Love Affair With Turf." 2008.http://www.greensceneusa.com/City-Scene/articles/Lawn-Nation-a-86.html?page_name=City%2BScene (accessed Nov 22 2008).

Associated Functions

64. Tend to the landscape

Observation

"Lawn covers three times more acreage than corn, America's largest agricultural crop, making turf grass America's largest irrigated crop. Lawn care is a $40 billion industry. Turf grass soaks up 10,000 gallons of water per summer on the average 1,000-foot lawn. Before the introduction of herbicides some 60 years ago, lawns were a mix of grasses, clover and dandelions."[1]

Extension

"A gas-powered leaf blower emits as many hydrocarbons in 30 minutes as a car driven cross country at 30 mph—twice. While gassing up our mowers and blowers, Americans annually spill 17 million gallons of fuel—6 million gallons more than the Exxon Valdez spilled in Alaska in 1989. Plant diversity requires fewer pesticides, less water, no mowing and more wildlife. Native plants also attract a variety of birds, butterflies and other wildlife by providing multiple habitats and food sources." [1]

The system would save the environment, money and man hours by finding a way to circumvent the use of grass turf.

Design Strategies

Offer grass replacements and alternatives

Solution Elements

E Clover for grass

E Native Gardens

Design Factor

Inclement weather lowers interest in water transit

33

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational support

Activity

Coordinating Infrastructure

Originator

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Sources

Personal Observation

Associated Functions

88. Offer water based transit
6. Enhance commuters interaction with the FEP

Observation

When it is cold, stormy, or rainy people are less likely to take a boat.

Extension

Water based transit needs to be useful as well as enjoyable. The system can rely on people wanting to take water based transits on warm nice days, but in order to make them an integral part of the system and really encourage commuters to interact with the water on a daily basis, the water based transit needs to be appealing in bad weather too.

Design Strategies

Modify offering based on the weather

Make people feel the boat is a solace from the elements

Solution Elements

M Puddles no more

M Rain in our favor

S Boats that multiply in the rain

M Sway less boats

Design Factor

Knowledge retention

34

Project

Chicago Vision for the Future //
Featured Environment

Mode

Control

Activity

Mitigating Emergencies

Originator

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Sources

Personal Observation

Associated Functions

62. Debrief personnel

Observation

When events occur the learnings are not always retained even if they are captured.

Extension

Documenting events, protocol and learnings are good for records but do not help the system retain the knowledge. In order for the knowledge and learnings to be retained the frontline staff must be involved and they must truly learn it rather than just be told or responsible for learning it on their own.

Design Strategies

Make the front line staff teach their learnings

Solution Elements

M Learning exchange workshop

Design Factor

Ensure variety of performance

35

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational Support

Activity

Curating Experience

Originator

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Sources

Personal observation

Associated Functions

80. Encourage Performance

Observation

People grow bored of the same means of entertainment.

Extension

In order for the system to keep the attention and interest of users, the system must provide a variety of entertainment options.

Design Strategies

Monitor the performers

Encourage ad hoc performances

Solution Elements

M Sidewalk stage

M Barge Show

S Water Token

Design Factor

People may want artifacts to be private

36

Project

Chicago Vision for the Future //
Featured Environment

Mode

Extension

Activity

Capturing memories

Originator

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Sources

Associated Functions

42. Assist in artifact generation

Observation

Memories, especially important ones people often want to remember but do not want to share.

Extension

The system wants to facilitate memory capture but not intrude in peoples lives.

Design Strategies

Provide ways for anonymous artifact generation

Solution Elements

M Virtual brick

S Memory locket

Design Factor

Providers need to be able to evolve

37

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational Support

Activity

Curating Experiences

Originator

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Sources

Personal Observation

Associated Functions

82. Manage the providers

Observation

Providers are hired into the system based on their current offerings, but as tastes of people evolve over time the systems offerings will need to evolve as well.

Extension

While providers want a large market of interested shoppers, it is not an easy process for them to change their offering. They measure their success on the profit they make and are motivated by what sells today, they are not motivated to be flexible to upcoming changes.

Design Strategies

Measure and reward flexibility

Communicate trends noted by the system

Help providers implement changes

Solution Elements

M Feature showcase

M Prototype store

M Provider Selfscore

Design Factor

Happiness of providers and partners

38

Project

Chicago Vision for the Future //
Featured Environment

Mode

Control

Activity

Mitigating Emergencies

Originator

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Sources

Personal Observation

Associated Functions

62. Debrief personnel

Observation

When events occur the learnings are not always retained even if they are captured.

Extension

Documenting events, protocol and learnings are good for records but do not help the system retain the knowledge. In order for the knowledge and learnings to be retained the frontline staff must be involved and they must truly learn it rather than just be told or responsible for learning it on their own.

Design Strategies

Make the front line staff teach their learnings

Solution Elements

M Learning exchange workshop

Design Factor

Reinforcing Water

39

Project

Chicago Vision for the Future //
Featured Environment

Mode

Sustain

Activity

Curating Experience

Originator

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Sources

Personal Observation

Associated Functions

80. Encouraging Performance

Observation

It is easy to create a solution to encourage performance that doesn't feature the environment.

Extension

Without the strong presence of the river in performance the differentiating factor of featuring performance by the river is lost or at the least not leveraged.

Design Strategies

Encourage water based performance

Incorporate water into performance infrastructure

Incorporate water into performance appreciation

Solution Elements

M Water curtain

M Water clap

M Barge show

M Guiding lights of water

S Water tokens

M Water walls

Design Factor

There is limited space on the Riverwalk

40

Project

Chicago Vision for the Future //
Featured Environment

Mode

Reception

Activity

Revealing the System

Originator

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Sources

Personal Observation

Associated Functions

82. Manage the providers

Observation

The riverwalk is not an easy place to walk. The walk way is narrow and not continuous, people must walk up to the main level to cross the bridge and then back down to continue on the riverwalk.

Extension

If the riverwalk is to be considered a destination it needs to be easy and enjoyable to navigate.

Design Strategies

Expand walking space

Solution Elements

M Multilevel paths

M Wide walkways

Design Factor

Southern Parks are far away

41

Project

Chicago Vision for the Future //
Featured Environment

Mode

Reception

Activity

Revealing the system

Originator

Amanda McKown

Contributors

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Sources

Personal observation

Associated Functions

25. Ease access to the system

Observation

There is a lot of great park land on the southern side of Chicago that is under used by residents living outside of the immediate park surroundings.

Extension

The neighborhoods on the south side of Chicago are generally less developed and less affluent than the north side, but with Chicago's bid for the 2016 Olympics the city will be devoting money and energy to further developing the south side of Chicago as that will be where the Olympic village and most of the events will be held.

With the development of the south side and the great park system present there the desire to travel to the parks will be greater. There will also be the opportunity to set money towards enhancing the parks. With the betterment of the park system and the increased desire to visit them, the system will need to focus efforts on easing access to them.

Currently the only way to access the parks is by bus, train and car, but there are no quick easy routes from the north side.

Design Strategies

Add reasons for people to be down near the parks

Make transport faster and more convenient

Solution Elements

E Hydroplane Ferry

Design Factor

The lake front is transient and not a destination

42

Project

Chicago Vision for the Future //
Featured Environment

Mode

Engagement

Activity

Promoting Discovery

Originator

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Sources

Personal Observation

Associated Functions

32. Reward effort

Observation

People pass along the lake using the path but rarely stay. Other than laying on the beach or playing beach volleyball people do not stay at the lake front.

Extension

The more the lakefront can be a destination for tourists and residents the higher the level of engagement between people and the lake. If the lakefront only plays a transient role in the lives of people in Chicago it is going unnoticed and unappreciated.

Design Strategies

Provide basic amenities

Provide bi-seasonal sitting areas

Provide unique destination experiences

Solution Elements

E Personal storage

M Food and drink

M Integrated Museum

E Benches

E Winter warmers

Design Factor

Time synch between water and public transit

43

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational Support

Activity

Coordinating infrastructure

Originator

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Sources

Personal observation

Associated Functions

88. Connect with public transit

Observation

Commuter transit doesn't always run on schedule and people become frustrated quickly.

Extension

For the system to expect commuters and visitors to use water-based transit they need to not only accommodate for the inconveniences of the water based transit but offer options that out weigh them.

Design Strategies

Offer useful ways to spend the lag time

Reward them for the extra effort

Match to their individual schedules

Solution Elements

M Water-vators

E Errand- doers

Design Factor

Development affects all

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational Support

Activity

Land use planning

Originator

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Sources

Associated Functions

91. Choose development partners

Observation

People who make development decisions are not the only ones who are affected by the decisions.

Extension

The system wants to promote transparency and show the citizens of Chicago that they are working in their best interests too .

Design Strategies

Create transparency

Solution Elements

M FEP Town Council

Design Factor

Water based transit is slower than mass transit

45

Project

Chicago Vision for the Future //
Featured Environment

Mode

Operational support

Activity

Coordinating Infrastructure

Originator

Amanda McKown

Contributors

Judd Morgenstern
Matthew Swift
Dongzhe Sun
Mehmet Cirakoglu

Sources

Personal Observation

Associated Functions

88. Offer water based transit
6. Enhance commuters interaction with FEP

Observation

Commuting is all about convenience.

Extension

Water based transit needs to be useful as well as enjoyable. The system can rely on people wanting to take water based transit on nice days when they are not in a rush, but to really enhance commuters interaction with the featured environment it has to be useful for commuters.

Design Strategies

Make it more convenient

Offer useful ways to spend time on the boat

Reward commuters for taking the boat

Solution Elements

M Reserve my seat

M Privacy of my own seat

S Company boat shuttle

M Relax your way to work

Design Factor

Not enough river

46

Project

Chicago Vision for the Future //
Featured Environment

Mode

Engagement

Activity

Encouraging Activity

Originator

Matthew Swift

Contributors

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Mehmet Cirakoglu
Donghze Sun

Sources

Associated Functions

38. Activate the body

39. Provide Respite

36. Stimulate the Senses

Observation

The river has a very small footprint in the city.

Extension

The Chicago river is one of the main attractions of the city. Chicago is one of the few major metropolitan cities in the world to have such a magnificent natural feature running right through its core. Unfortunately the river covers only a small percentage of land in the city and space to enjoy the river is limited.

Design Strategies

Extend river footprint

Increase access to current river

Solution Elements

E Canals

Design Factor

No extreme elevation change

47

Project

Chicago Vision for the Future //
Featured Environment

Mode

Activity

Originator

Matthew Swift

Contributors

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Dongzhe Sun

Sources

Associated Functions

36. Stimulate the senses

Observation

The topography of Chicago is relatively flat. This will make manipulating the characteristics of water in a canal much more difficult.

Extension

Interesting and boisterous bodies of water or white water are the result of elevation drops along the path that the water is flowing. The more drastic the drop the greater the accelerations of the flow of the water and the more boisterous the flow. Chicago is a relatively flat city. Because of this the possibilities for creating a variety of bodies of water becomes more difficult. In order to create a variety of flow speeds there would need to be significant excavation.

Design Strategies

Create artificial drops

Generate artificial flow

Solution Elements

E Whitewater tributaries

Design Factor

Can't zone sound

48

Project

Chicago Vision for the Future //
Featured Environment

Mode

Activity

Originator

Mehmet Tolgay Cirakoglu

Contributors

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Sources

Associated Functions

36. Stimulate the senses
39. Provide respite

Observation

Even when a noisy activity is limited to a certain place, it still affect other activities nearby negatively.

Extension

As parks provide enough open space for a crowd to gather, they are promary choices of locations for activities like concerts, festivals, celebrations etc. At the same time, they are places where people choose to relax people to have a rest, read, draw or even fish, in a quiet environment.

Time chosen for these events are not very different than the time that people allocate for relaxation. Even though these events are happening on a limited space specifically allocated to them, sound keeps reaching other areas. This disrupts their recreation, and makes that park not suitable to relax.

Furthermore, as most of the parks are very close to urban life, they are surrounded by roads. Trucks passing by, ambulances or cars honking creates another constant source of noise right next to these areas which are reserved for relaxation.

Design Strategies

Limit sound output

Enclose sound in areas

Solution Elements

E Sound regulations

E Sound panels

S White noise speakers

M Koolhaalf Tube

Design Factor

People create their own walkways

Project

Chicago Vision for the Future //
Featured Environment

Mode

Activity

Originator

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Dongzhe Sun

Sources

Associated Functions

43. Enable personalization of the system
52. Track usage patterns
54. Optimize flow
64. Tend to landscaping

Observation

People often create their own walkways.

Extension

Roads deigned for pedestrians are not always the most convenient. As the complexity of a system increases designers create hubs and connect roads to these. As a result, roads don't connect two points, but become a series of way points.

In addition, beside being a functional element, roads are a visual element for systems such as parks. That is another reason for them not to be built in the most efficient way.

To "overcome" this situation people go out of roads (even there are clear signs saying "keep off the grass!") and create new pathways. This damages landscape, causes a waste of resources for repairs and even brings some security issues.

Design Strategies

Make terrains instead of roads.

Change roads regularly according usage

Solution Elements

S Clover fields

S Intended routes

Design Factor

Stormwater is a wasted resource

50

Project

Chicago Vision for the Future //
Featured Environment

Mode

Activity

Originator

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Mathew Swift
Dongzhe Sun

Sources

Associated Functions

68. Maintain water quality
85. Manage stormwater
86. Manage wastewater

Observation

Stormwater a resource of drinkable water goes to waste because of the lack of proper methods.

Extension

Rain and snow is the only way to replenish reserves of water. When it rains, the water that touches the ground start to become polluted as it mixes with substances on the roads, alleys, sidewalks etc. Drainage systems don't treat stormwater separately than wastewater which is heavily polluted. They mix at some point, or dumped to some place like reservoirs or even lake.

Design Strategies

Separate drainage/collection system for stormwater

Directing them to underground water reserves

Solution Elements

E Permeable sidewalks

E Eco-tributaries

E Deployable water collectors

S Water-bladders

Design Factor

General recommendations don't meet personal needs

51

Project

Chicago Vision for the Future //
Featured Environment

Mode

Interaction

Activity

Enticement

Originator

Mehmet Tolgay Cirakoglu

Contributors

Amanda McKown
Judd Morgenstern
Mathew Swift
Dongzhe Sun

Sources

Associated Functions

1. Inform visitors of available offerings
27. Facilitate scheduling

Observation

General recommendations people get at an activity area do not perfectly meet their needs.

Extension

First thing people want to know when they arive to an activity area is to know the choices they have. After that, they want to choose what they are going to do, according to their available time, needs and expectations.

As that second stage is personal, a system will have some difficulties to make appropriate recommendations. A certain level of relevant knowledge about the visitor and personal interaction with him are needed to provide such information.

Design Strategies

Let visitors plan their visit

Creating personal histories to customize offers

Multiple recommendations

Solution Elements

S "Plan your visit" terminals

S Personal History Cards

E Recommendation Packages.

Design Factor

Constant sense of danger created by precautions

52

Project

Chicago Vision for the Future //
Featured Environment

Mode

Interaction

Activity

Enticement

Originator

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Dongzhe Sun

Sources

Associated Functions

57. Take preventative action
61. Alert endangered parties

Observation

The amount and the visibility of the precautions against emergencies risk to create a sense of danger.

Extension

Security of the visitors is one of the primary concerns of a system. That is why every necessary precautions are taken against known and potential hazards. They also give a sense of security and relief to the visitors.

But at the same time, if right balance is not found, those security measures may effect the experience in a negative way. For example if concrete was chosen over wood as the building material for a cabana, it would lose all of its appeal. In addition over-presence of security measures (flood panels etc) give a sense of danger to the visitor.

Design Strategies

Hide precautions

Make precautions a part of design

Solution Elements

E Reservoirs along the river

E "What's next?" terminals

E Terraced fields

E Recessed fields

Design Factor

Windy weather inhibits many activities

53

Project

Chicago Vision for the Future //
Featured Environment

Mode

Engagement

Activity

Encourage Activity

Originator

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Mathew Swift
Dongzhe Sun

Sources

Associated Functions

57. Take preventative action
61. Alert endangered parties

Observation

Windy weather prevents many outdoor activities.

Extension

Wind is one of the reasons to give up outdoor plans. Strong winds make walking, running, and biking significantly more challenging. And sports like basketball and swimming can become impossible.

Design Strategies

Create areas protected from winds

Promote activities unaffected or positively affected by wind

Solution Elements

S Wind Panels

E Recessed fields

E Permanent Kites

E Sailing areas

Design Factor

Intrusive personal messages

54

Project

Chicago Vision for the Future //
Featured Environment

Mode

Enticement

Activity

Communicating Offerings

Originator

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Mathew Swift
Dongzhe Sun

Sources

Associated Functions

2. Develop and maintain clear communication channels

Observation

Personal information messages tend to get intrusive.

Extension

Several systems were developed to deliver customized personalized messages to audience. AdSense, SMS messages, memberships are some of the examples to those systems. Some of them even gets user's consent about delivery of the message.

Even then, these messages gets abundant and intrusive. At that point, instead of creating an enticement, they create a bad image for the system.

Design Strategies

Enable user to disconnect

Provide "on-demand" information

Solution Elements

E Bluetooth connection

S "What's next?" terminals

Design Factor

Commuters' disconnection from environment

55

Project

Chicago Vision for the Future //
Featured Environment

Mode

Interaction

Activity

Engagement

Originator

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Dongzhe Sun

Sources

Associated Functions

2. Develop and maintain clear communication channels

Observation

While in their vehicle, a passengers' interaction with the environment becomes very limited.

Extension

Commutes longer than half an hour are common. During that time, even though people are outside, they have no contact with the environment. Especially spring and summer times offer great opportunities for the commute to be an enjoyable experience, but actually adopted public and private vehicle designs does not allow for that.

Design Strategies

Provide special views to commuters

Increase interaction between commuters and interaction

Solution Elements

S "Look at me" jets

S Comfy-Boats (wide windows, terraces etc)

Design Factor

Lack of free time for spontaneous excursions

56

Project

Chicago Vision for the Future //
Featured Environment

Mode

Interaction

Activity

Engagement

Originator

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Dongzhe Sun

Sources

Associated Functions

5 Offer reasons for detour
7 Encourage spontaneous excursions
8 Create opportunities for rituals
9 Blur the boundary between work and play

Observation

Fast paced urban lifestyle leave no place for spontaneous excursions.

Extension

Even though people in cities cope with stress and fatigue, because of their heavy schedule, of the time they waste during commute etc, can't find enough time to free their minds and relax. Even going to a park is not a possibility for someone who works, as he needs to allocate too much time for that activity.

Design Strategies

Combine excursions with daily activities & needs.

Commute as an excursion.

Solution Elements

E Grocery Boats

S Comfy-Boats

Design Factor

Themes are "hit-or-miss"

57

Project

Chicago Vision for the Future //
Featured Environment

Mode

Activity

Originator

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Dongzhe Sun

Sources

Associated Functions

34 Refresh offerings/activities
44 Create themes

Observation

If a person is interested in a theme, whole experience gets more exciting. But if he isn't into the theme, experience gets dull, even irritating.

Extension

It is common for open areas and public places to host some theme events, like exhibitions, celebrations etc. These events attracts lots of people, even people that would never come to that area if it wasn't for that event.

On the other hand, events may be a turn off for other people, as they may not find the theme interested, but in addition, they may be disturbed by the amount of noise and movement that the themes create, which disrupts their rest.

Design Strategies

Limit themes to certain areas.

Offer multiples themes at the same time

Very broad themes with the potential to maximize audience

Prior warning

Solution Elements

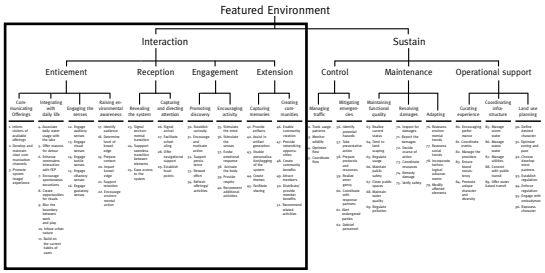
E Theme only areas

E Theme exhibits

E Theme-free weekends vs. Theme weekends

Chicago Vision for the Future: Featured Environment
Function Structure

October 10, 2008



Interaction

Enticement

Communicating Offerings

1. Inform visitors of available offerings
2. Develop and maintain clear communication channels
3. Promote system image/ experience

Integrating with daily life

4. Associate daily water usage with the lake
5. Offer reasons for detour
6. Enhance commuters interaction with FEP
7. Encourage spontaneous excursions
8. Create opportunities for rituals
9. Blur the boundary between work and play
10. Infuse urban nature
11. Build on the current habits of users

Engaging the senses

12. Engage auditory senses
13. Engage visual senses
14. Engage tactile senses
15. Engage olfactory senses
16. Engage gustatory senses

Raising environmental awareness

17. Identify audience
18. Determine level of knowledge
19. Prepare content
20. Impart knowledge
21. Support retention
22. Encourage environmental action

Reception

Revealing the system

23. Signal environmental transition
24. Suppport seamless transition between elements
25. Ease access to the system

Capturing and directing attention

26. Signal arrival
27. Facilitate scheduling
28. Offer navigational support
29. Establish focal points

Engagement

Promoting discovery

30. Establish curiosity
31. Encourage and motivate action
32. Support persistence
33. Reward effort
34. Refresh offerings/ activities

Encouraging activity

35. Stimulate the mind
36. Stimulate the senses
37. Evoke emotional response
38. Activate the body
39. Provide respite
40. Recomment additional activities

Extension

Capturing memories

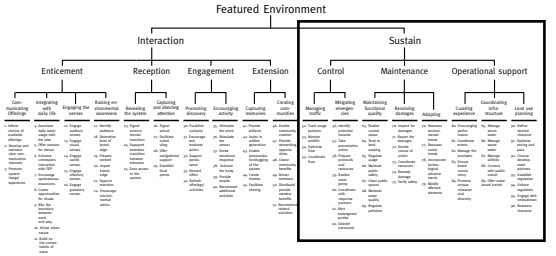
41. Provide artifacts
42. Assist in artifact generation
43. Enable personalization and tagging of the system
44. Create themes
45. Facilitate sharing

Creating communities

46. Enable community creation
47. Provide networking opportunities
48. Create community benefits
49. Attract members
50. Provide and distribute member benefits
51. Recommend related activities

Chicago Vision for the Future: Featured Environment
Function Structure

October 10, 2008



Sustain

Control

Managing traffic

52. Track usage patterns
53. Monitor wildlife
54. Optimize flow
55. Coordinate flow

Mitigating emergencies

56. Identify potential hazards
57. Take preventative action
58. Prepare protocols and resources
59. Realize emergency
60. Coordinate with response partners
61. Alert endangered parties
62. Debrief personnel

Maintenance

Maintaining functional quality

63. Realize current status
64. Tend to landscaping
65. Regulate usage
66. Maintain public safety
67. Clean public spaces
68. Maintain water quality
69. Regulate pollution

Resolving damages

70. Inspect for damages
71. Report the damages
72. Decide course of action
73. Coordinate resources
74. Remedy damage
75. Verify safety

Adapting

76. Reassess environmental trends
77. Reassess social trends
78. Incorporate technological advancements
79. Modify affected elements

Operational support

Curating experience

80. Encouraging performance
81. Coordinate events
82. Manage the providers
83. Ensure brand consistency
84. Promote unique character and diversity

Coordinating infrastructure

85. Manage storm water
86. Manage waste water
87. Manage utilities
88. Conenct with public transit
89. Offer waterbased transit

Land use planning

90. Define desired character
91. Optimize zoning and pace
92. Choose development partners
93. Establish regulation
94. Enforce regulation
95. Engage with ombudsman
96. Reassess character

Activity Analysis

Activity
Integrating With Daily Life

1

Project
Chicago Vision for the Future //
Featured Environment

Mode
Interaction

Originator
Mehmet Tolgay Cirakoglu

Contributors
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Dongzhe Sun

Scenario

A businessman, who is working Chicago downtown area gets out of his office after a work day, and heads to public transit. It is raining.

Users

Businessman
Colleagues
Tourists
Commuters
Drivers

System Components

Dock
Boat
Ticket shop
Shops
Benches
Tickets

Environmental Components

Sunset
Rain
Wind
Cold weather

System Functions

4. Associate daily water usage with lake
5. Offer reasons for detour
6. Enhance commuters interaction with the FEP
7. Encourage spontaneous excursions
8. Create opportunities for rituals
9. Blur the boundary between work and play
10. Infuse urban nature
11. Build on current habits of users

Associated Design Factors

2. Offering avenues for detour
3. Capturing Commuter Interaction
4. Satisfying Ritual Adaptation
5. Wasting Water
33. Inclement weather lowers interest in water transit
45. Water based transit is slower than mass transit

Solution Element

E M S

Provider Pop-Ups

1

Project

Chicago Vision for the Future //
Featured Environment

Mode

Engagement

Activity

Promoting Discovery

Originator

Judd Morgenstern

Description

Pod-like modular structures that house goods and services from providers and can be easily "plugged in" to the infrastructure, transported, and locked down when not in use.

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Source

New concept

Properties

Modular pod or crate structures (e.g. shipping containers)
Custom interiors, pre-arranged before arriving on scene
Lockable when not in use
Connections to plug into infrastructure ports
Barge-compatible size for transportation

Features

Allows services and their spaces to be quickly switched out
Establishes a standardization for providers
Ensures compliance with system guidelines
Easily transports down the river for storage
Houses inventory, appliances, and assets for providers

Associated Function/s

- Establish curiosity
- Encourage/motivate action
- Reward effort

Source Design Factor/s

Difficult to frequently refresh offerings

Solution Element

E M S

Virtual Tour Guide

2

Project

Chicago Vision for the Future //
Featured Environment

Mode

Engagement

Activity

Encouraging Activity

Originator

Judd Morgenstern

Description

An on-demand video and audio tour of the featured environment that users can access via personal devices (cellhpone, iPod, etc)

Contributors

Mehmet Cirakoglu
Amanda McKown
Dongzhe Sun
Matthew Swift

Source

Adapted from museum tours

Properties

A guided audio and video tour of the featured environment
Multiple episodes based on different themes and types of activities or moods (historical Chicago tourist episode versus the zoo tour)
Accessed through user personal device
Website and server with episode browsing

Features

Stimulates the mind by providing interesting facts and information
Allows users to pull information digitally, as opposed to forcing it on them
Promotes discovery through tours
Supports tourists without costly infrastructure
Offers personal experiences based on episodes

Associated Function/s

- Establish curiosity
- Stimulate the mind
- Recommend additional activities

Source Design Factor/s

(Over) Stimulating the Mind

Chicago Vision for the Future: Featured Environment Information Structure

October 28, 2008

601
Formation

401
System Engagement

301
Value extension

302
Environment and Utility

303
Atmosphere creation

304
Introduction

305
Initiation

201
Heightening interest

202
Preserving memories

203
Personalizing experience

204
Maintaining environmental quality

205
Providing utilities

206
Engaging the senses

207
Allowing for ritual

208
Providing access

209
Attracting users

101
Promoting discovery

- 30. Encourage/ motivate action
- 31. Support persistence
- 32. Reward effort

102
Sharing memories

- 36. Evoke emotional response
- 42. Enable personalization / tagging of the system
- 44. Facilitate sharing

103
Capturing memories

- 36. Evoke emotional response
- 40. Provide artifacts
- 41. Assist in artifact generation

104
Catering to user

- 11.Build on current habits of users
- 42. Enable personalization / tagging of the system

105
Maintaining land and water

- 63. Tend to landscaping
- 67. Maintain water quality
- 34. Stimulate the mind

106
Empowering users

- 4. Associate daily water usage with lake
- 67. Maintain water quality
- 85. Manage wastewater

107
Managing utilities

- 85. Manage wastewater
- 86. Manage utilities

108
Stimulating the senses

- 12. Engage auditory senses
- 35. Stimulate the senses

109
Relieving stresses

- 14. Engage tactile senses
- 35. Stimulate the senses
- 38. Provide respite

110
Enabling rituals

- 8. Create opportunities for rituals
- 10. Infuse urban nature
- 14. Engage tactile senses
- 15. Engage olfactory senses
- 35. Stimulate the senses

111
Connecting commuters with water

- 6.Enhance commuters interaction with the FEP
- 37. Activate the body
- 38. Provide respite

112
Getting users attention

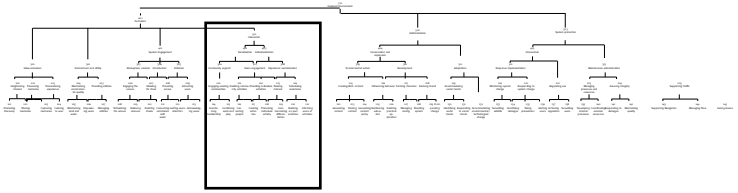
- 5. Offer reasons for detour
- 7. Encourage spontaneous excursions
- 10. Infuse urban nature
- 13. Engage visual senses
- 28. Establish focal points
- 35. Stimulate the senses
- 83. Promote unique character and diversity

113
Acknowledging users

- 10. Infuse urban nature
- 13. Engage visual senses
- 22. Signal Environmental transition
- 25. Signal arrival
- 28. Establish focal points
- 35. Stimulate the senses

Chicago Vision for the Future: Featured Environment Information Structure

October 28, 2008



501
Interaction

402
Socialization

403
Individualization

306
Community support

307
Users engagement

308
Experience customization

210
Engaging existing communities

211
Enabling community activities

212
Providing individual activities

213
Peaking interest

214
Scheduling assistance

114
Incentivizing membership

- 47. Create community benefits
- 48. Attract members
- 49. Distribute/ provide member benefits

115
Combining work and play

- 9. Blur the boundary between work and play
- 47. Create community benefits

116
Connecting people

- 45. Enable community creation
- 46. Provide networking opportunities
- 80. Coordinate events

117
Creating activities

- 33. Refresh offerings and activities
- 43. Create themes
- 79. Encouraging performance
- 80. Coordinate events
- 83. Promote unique character and diversity

118
Promoting individual activity

- 37. Activate the body
- 79. Encouraging performance
- 83. Promote unique character and diversity

119
Communicating differentiation

- 3. Promote system image and experience
- 29. Establish curiosity
- 83. Promote unique character and diversity

120
Building on past activities

- 26. Facilitate scheduling
- 39. Recommend additional activities
- 50. Recommend related activities

121
Informing users of activities

- 1. Inform visitors of available offerings
- 26. Facilitate scheduling
- 39. Recommend additional activities

Chicago Vision for the Future: Featured Environment Information Structure

October 28, 2008

- 502 Administration
  - 404 Conservation and expansion
    - 309 Environmental action
      - 215 Creating/distr. content
        - 122 Generating content
          - 18. Prepare content
          - 19. Impart Knowledge
          - 21. Encourage action
          - 34. Stimulate the mind
          - 61. Debrief personnel
        - 123 Sharing content
          - 2. Develop and maintain clear communication channels
          - 18. Prepare content
          - 19. Impart Knowledge
          - 21. Encourage action
          - 91. Choose development partners
        - 124 Generating content policy
          - 18. Prepare content
          - 19. Impart Knowledge
          - 21. Encourage action
          - 92. Establish regulation
          - 94. Engage with ombudsman
      - 216 Influencing behavior
        - 125 Reinforcing education
          - 17. Determine level of knowledge
          - 20.Support retention
          - 21. Encourage sex action
        - 126 Enabling practical application
          - 21. Encourage action
          - 66. Clean public spaces
          - 68. Regulate pollution
    - 310 Development
      - 217 Forming character
        - 127 Managing zoning
          - 89. Define desired character
          - 90. Optimize zoning and pace
          - 91. Choose development partners
      - 218 Evolving brand
        - 128 Branding system
          - 82. Ensure brand consistency
          - 89. Define desired character
          - 91. Choose development partners
        - 129 Incorporating change
          - 33. Refresh offerings and activities
          - 81. Manage the providers
          - 91. Choose development partners
    - 311 Adaptation
      - 219 Accommodating social trends
        - 130 Identifying social trends
          - 16. Identify audience
          - 76. Reassess social trends
          - 95. Reassess character
        - 131 Responding to social trends
          - 76. Reassess social trends
          - 78. Modify affected elements
      - 132 Accommodating environmental / technological change
        - 75. Reassess environmental trends
        - 77. Incorporate technological advancement

Chicago Vision for the Future: Featured Environment Information Structure

October 28, 2008

503
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405
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312
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220
Monitoring system change

133
Surveilling wildlife

52. Monitor wildlife
62. Realize current status

221
Responding to system change

134
Identifying damages

55. Identify potential hazards
58. Realize emergency
62. Realize current status
65. Maintain public safety
69. Inspect for damages
70. Report the damages

135
Taking precautions

55. Identify potential hazards
56. Take preventative action
65. Maintain public safety

136
Alerting users

58. Realize emergency
60. Alert endangered parties
65. Maintain public safety

222
Regulating use

137
Enforcing regulation

58. Realize emergency
93. Enforce regulation

138
Surveilling users

51. Track usage patterns
58. Realize emergency

313
Maintenance administration

223
Managing processes and resources

139
Developing internal processes

57. Prepare protocols & resources
61. Debrief personnel
71. Decide course of action
72. Coordinate resources

140
Coordinating external resources

59. Coordinate with response partners
65. Maintain public safety
72. Coordinate resources

224
Assuring integrity

141
Responding to damages

72. Coordinate resources
73. Remedy damage
74. Verify safety

142
Maintaining quality

64. Regulate usage
74. Verify safety

225
Supporting Traffic

143
Supporting Navigation

27. Offer navigational support
54. Coordinate flow

144
Managing Flow

53. Manage flow
54. Coordinate flow

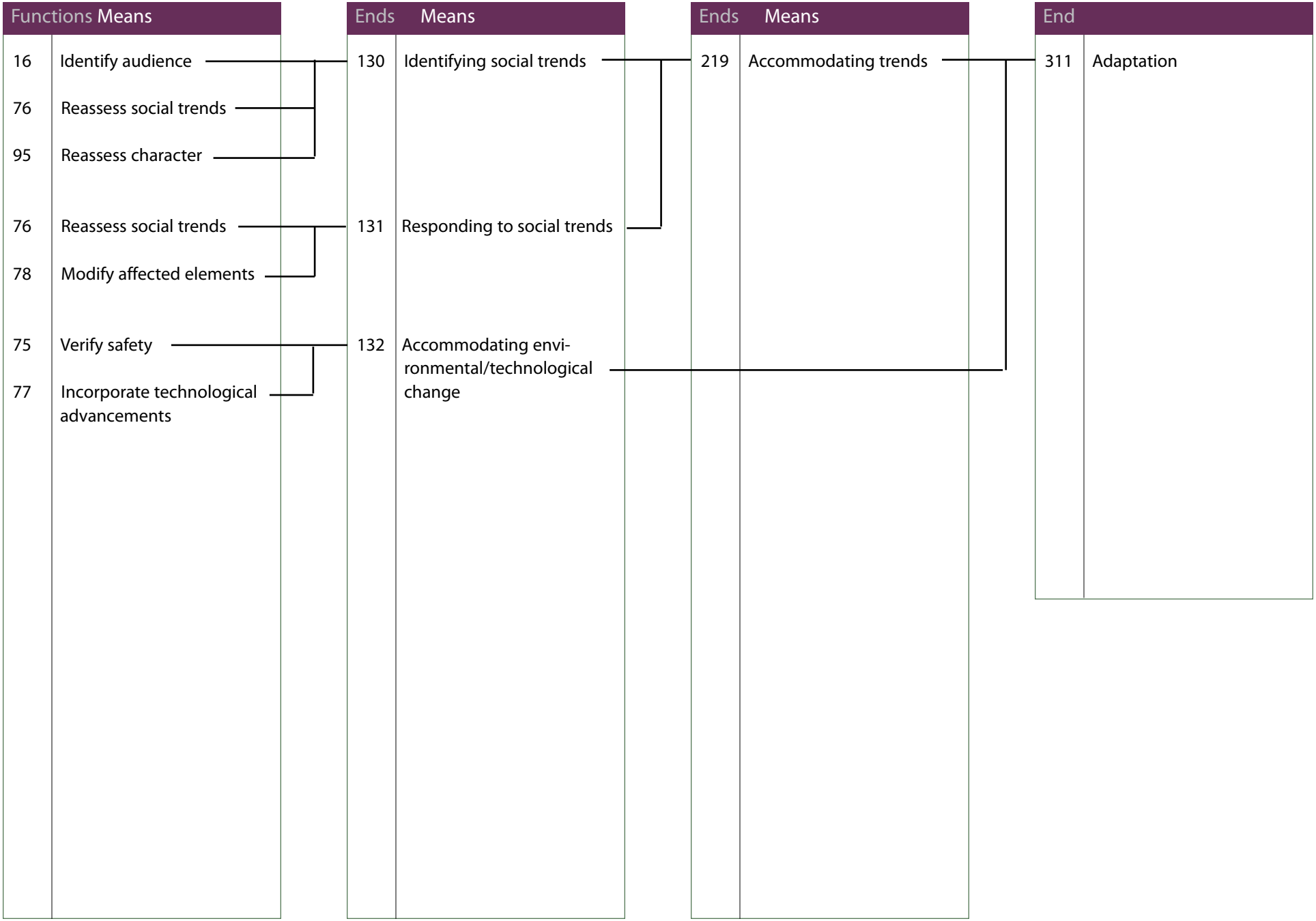
145
Easing Access

23. Support seamless transition between elements
24. Ease access to the system

Means/Ends Synthesis

Chicago Vision for the Future

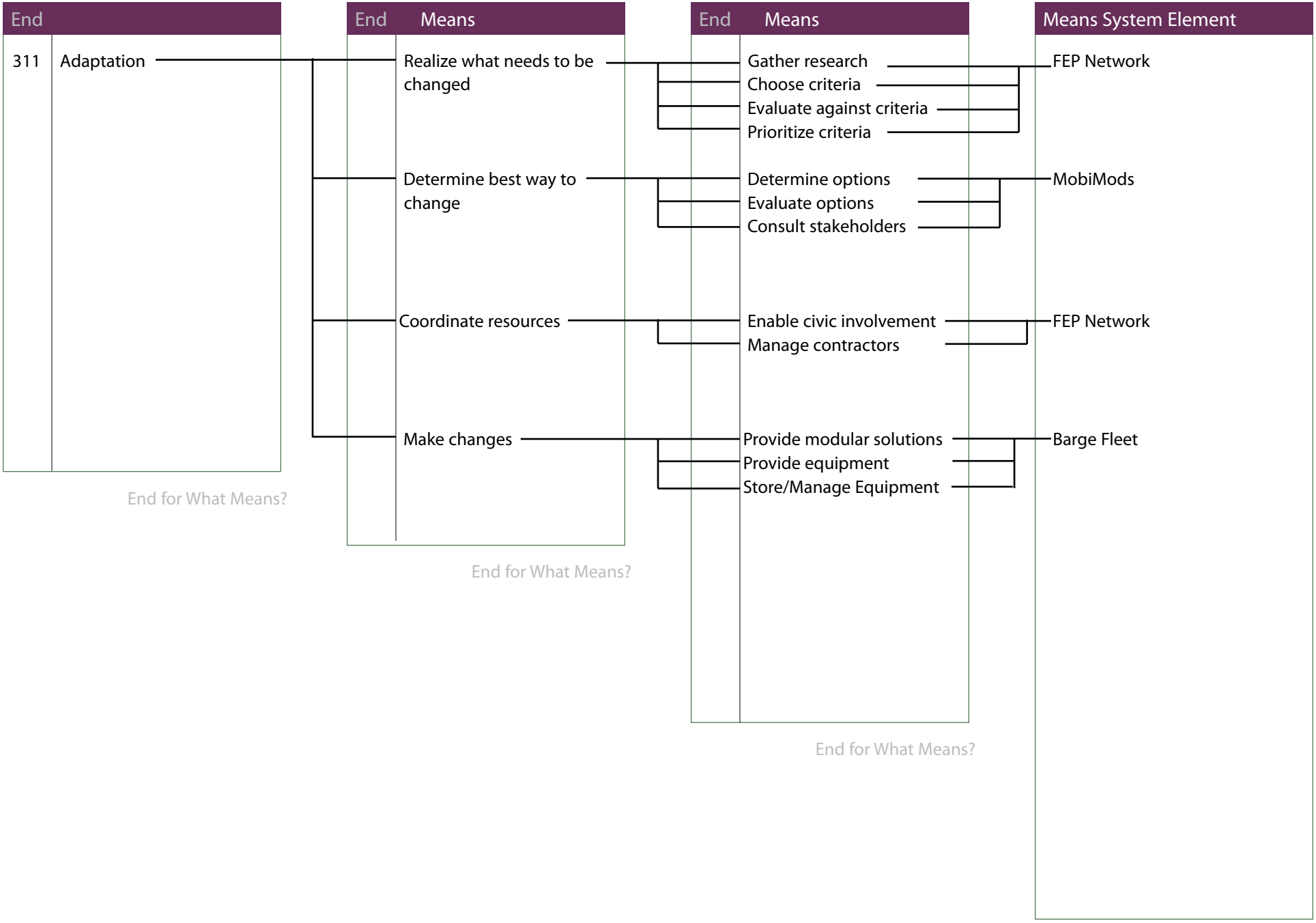
Cluster 311



Ends/Means Synthesis

Chicago Vision for the Future

Cluster 311



System Element

EMS

Barge Fleet

1

Originator

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Contributors

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Sources

SuperSet Element(s)

SubSet Element(s)

- Plantar barge
- Fixer barge
- Mr. Fix-it crew
- Foldable cranes
- Sweeper
- Feature barges
  - Theater barge
  - Floating market
- Modular Toppers
  - Sunken topper
  - Open topper
- TopperWarehouse

Related Elements

Canals
RiverWalk
MobiMods

Description

The Barge Fleet is a crucial enabling element of the Featured Environment system. It better enables the system to maintain itself, adapt to future needs and preserve the character of the environment.

As a set of many multifunctional barges and tugboats, the barge fleet leverages the space provided by the river, canals and lake. Access is eased for maintenance changes and undeveloped space along the water can be saved for green spaces by pushing development on to the water by using the bridges.

Properties

- Large entertainment barges with removable tops
- Series of barge toppers
- Foldable crane
- Large fixer barges
- Fixer crews
- MobiMod barges
- Sweeper attachments for barges
- Tugboats for barge movement

Features

- Allows for easy access to the system from the water
- Allows for speedy large scale landscape changes
- Allows for greener more natural zones by developing on barges on the water surface rather than on land
- Allows the system to prototype by investing in the significantly less expensive barge development
- Celebrate the city by encouraging people to spend time on barges that circle the city

Fulfilled Functions

3 Promote system image/experience
5 Offer reasons for detour
7 Encourage spontaneous excursions
8 Create opportunity for rituals
9 Blur the boundary between work and play
10 Infuse urban nature
63 Tend to landscaping
66 Clean public spaces
78 Modify affected elements

Associated Design Factors

1. Difficulty to frequently refresh offerings
2. Offering avenues for detour
4. Satisfying ritual adaptation
5. Infusing Urban Nature
10. (Over) Stimulating the mind
11. Maintaining the innocent
15. Obstructing the river view
22. Recognizing significant social trends
23. Slow repairs
39. Reinforcing water
40. There is limited space on the river walk
46. Not enough river

Discussion

As a set of many multifunctional barges and tugboats, the barge fleet leverages the space provided by the river, canals and lake. Access is eased for maintenance changes and development can be pushed on to the surface of the water through the use of barges to keep undeveloped space along the water for green spaces.

Maintenance needs of the system are great. Landscaping needs tending and rotation in order to keep it both functional and seasonal in all seasons. One barge in the fleet is a **PlanterBarge**. The PlanterBarge allows a team of workers to loop through the canals, RiverWalk and non beach areas of the lake front to swap out plants and seasonal decorations. The plants would be taken off-site to the city's vertical farming facilities to be tended to in the off season until it can be again placed in the system. This creates a seasonal and closed loop system for decorative landscape.

Landscape is not the only thing that would need to be maintained. For this purpose **FixerBarges** have been created to fix and repair the physical elements of the system. The crews on the barges will be outfitted with the necessary tools and expertise to address issues on the barge. The barges will be staffed with **Mr. Fix-it crews**. These crews are made up of multidisciplinary workers that represent a wide variety of skills. Multidisciplinary groups bring different view points to problem solving allowing things to be fixed better, more completely and systemically. This approach cuts down on 'fixed just enough' repairs and lowers the overall amount of repairs needed.

To facilitate the transition of landscape and hardscape to and from the barge, foldable cranes will be a part of the fixer barges. **Foldable cranes** fold into the surface of the barge, allowing the cranes to be hidden from view until they are needed and minimizing visual noise of the tall cranes on the barges.

Maintenance needs also involve the water and FixerBarges would have **Sweeper** components on the back of them that would capture debris along the water surface as they made their travels along the river or canals to provide other maintenance solutions.

As seen with the **MobiMods**, some barges will serve entertainment purposes. These barges will bring cafes, work spaces and light retail opportunities to the system. These MobiMods allow for recreational development to occur on the surface of the water which promotes greening of the system. They also promote adaptability, as the system only has to invest in light infrastructure that makes it easy to change offerings to adapt to evolving needs.

Other entertainment focused barges are **FeatureBarges**. These barges offer a variety of different features through a system of **Modular Toppers**. Toppers include **Sunken topper**, which holds water for a swimming pool in the summer and then is frozen for ice skating in the winter. The pool feature allows people wary of swimming in the lake to still swim and enjoy the lake by swimming in a pool on a barge in the lake. These barges could tour out into the lake to also provide a view back to the city. In the winter the barges with rink features could loop through the city allowing people to ice-skate while touring through the city. Other toppers include **Open Topper** which is flat allowing for multiple uses, most notably a **Floating Market** and a **Theater Barge**. These open toppers would allow for modular pieces to be added to them. The weekly farmers market could make its rounds through the canals and along the river for people to more easily access local produce. The Theater barge allows concerts to be held in the center of the river or canal and open both sides of the banks for seating. This system of FeatureBarges also makes it easy for the system to quickly respond to trends. Creating a barge topper to respond to a specific trend requires

Discussion (continued)

little resources and allows the system to offer temporary offerings. Also by using the movable barges, no offerings are constants, allowing for variation of features which keeps peoples interests peaked. It also allows the system to offer many features without having to commit to them all at once.

To store the barges and the toppers, undeveloped space south of the city along the south branch of the river will be acquired and the **TopperWarehouse** would be build. By using toppers the system is able to vertically store the multiple toppers which takes less space than creating and storing a specific barge for each feature.

Scenario

Alice and her daughter Lily are planning a day with Alice's friend Laura. Laura, who lives in New York is visiting her boyfriend Pablo, who lives in Chicago. Alice really wants to show off Chicago to try and convince Laura to move here.

Alice decides they'll start their day off heading down to the RiverWalk to pick up the PoolBarge shuttle. Enjoying the sun by the pool out in the lake is one of her favorite summer activities. She feels so far from the hustle of the city and the view is always amazing out there. The PoolBarge shuttles run often so she knows they can stay only as long as they want. She hopes Laura will return in the winter too as skating on the barge that winds through the canals is such a great way to see the city. Alice never like ice skating before, it just felt like you went round and round and made no progress, but this way the moving barge gives you the impression you're actually skating somewhere!

Next they'll grab some groceries for their dinner. The local produce in Chicago is such a great asset and the floating market is so quaint with all of the farmers displaying their produce under the canopy of their tents. Lily loves it too, she runs from vendor to vendor trying all the free samples and Alice feel safe letting her roam since the barge gives the space set boundaries and Alice knows she can't go far.

System Element

EMS

Sidewalk Stage

2

Originator

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Sources

SuperSet Element(s)

Canals

SubSet Element(s)

Sidewalk stage
Water tipping element
    Water token
    Water token receptacle
Sidewalk stage manager

Related Elements

MobiMods

Description

The sidewalk stage adds destination appeal to the river and celebrates the local talent of Chicago. The sidewalk stage is an area designated to encourage ad hoc performances, build a community of local performers as well as vitalize the urban life of Chicago through music.

Properties

- An open paved space along 1 city block of a watercourse canal
- A tipping system with water tokens and corresponding receptacles
- A place to relax, sit and eat
- A well managed system

Features

- Celebrates local talent
- Allows for relaxation
- Creates entertainment focal point
- Makes tipping a enjoyable activity
- Engages local residents with the arts
- Provides a stage for up and coming artists
- Reinforces interaction with water
- Honors Chicago's heritage as a music city
- Supports local artists

Fulfilled Functions

3 Promote system image/experience
4 Associate daily water usage with lake
5 Offer reasons for detour
7 Encourage spontaneous excursions
8 Create opportunity for rituals
12 Engage auditory senses
16 Engage gustatory sense
21 Support retention
23 Signal environmental transition
26 Signal arrival
29 Establish focal point
30 Establish curiosity
31 Encourage/motivate action
32 Support persistence
33 Reward effort
34 Refresh offerings
35 Stimulate the mind
36 Stimulate the senses
39 Provide respite
43 Enable personalization/tagging of the system
45 Facilitate sharing
46 Enable community creation
48 Create community benefits
49 Attract members
50 Distribute member benefits
80 Encourage performance
84 Promote unique character and diversity

Associated Design Factors

2. Offer reasons for detour
4. Satisfying ritual adaptation
35. Ensure variety of performance
39. Reinforcing water
56. Lack of free time for spontaneous excursions

Discussion

The **Sidewalk stage** is an open area that supports ad hoc performances. The open paved area will extend along one of the deeper canals, a Watercourse. It will be a large area extending a full city block to give ample space for the performers. The system will facilitate and encourage a variety of performers to vitalize the City of Chicago.

To build destination appeal, the Sidewalk Stage will feature benches, chairs, tables and light food/drink options thought he use of MobiMods, thus allowing people to come and stay to enjoy the performers. The use of a full city block and both sides of the Watercourse allows for multiple modes of interaction. Those wishing to come and relax can do so, while others can choose to pass through merely enjoying music on their way. The sound of the music will also rise to the street level, enhancing the experience of those walking above. It's location on the Watercourse not only allows for barge cafe seating but also increases the amount of people that can enjoy the SideWalk Stage as Watercourses are accessible to boats looping through the city.

The sidewalk stage will also vitalize the city by creating a downtown destination space at night. Currently the downtown Chicago loop is very quiet and empty in the evening, but if the sidewalk stage could mimic Prague's Charles Bridge it could be a vibrant evening destination of festive performers and crowds of onlookers.

The Sidewalk Stage would also strengthen the character of Chicago by honoring the city's strong musical history as a jazz city. This history makes the sidewalk stage a logical extension. The musical association of Chicago also draws many musicians to the city, which suggests that would be many interested musicians.

As a way to encourage performers to use this space, the system has developed a **Water Tipping element** to reward the performers for their contribution. The system encourages visitors to tip by making tipping an experience in itself. In the way petting zoos sell feed in bulk, the system will sell tokens in batches for people to distribute as they wish to the performers.

Discussion (continued)

This system prioritizes tipping as a way to support the success of Chicago's local talent. The tipping element also functions as a way to keep the caliber of performers high, because those who are not picked by visitors to receive tokens are self selected off the sidewalk stage.

The system sees this as an opportunity to reinforce the river by incorporating water into the tipping system. The tipping tokens will be capsules of water: **Water Tokens**. Each performer will receive a **Water Token Receptacle** from the **Sidewalk Stage Manager** when they set up for the day or evening. As people place the water tokens into the receptacles, the tokens (capsules) break and the water is released into the receptacle. The water token receptacles will be air tight, eliminating evaporation so that when the performers leave, the water in the receptacles will be a measurement of tips earned. The sidewalk stage manager will measure and deliver the equivalent amount of money to the performer. The sidewalk stage manager is helpful to the system for monitoring the environment, providing the woken token receptacles gives the manager added purpose.

Aggregating performers in a central location not only gives a forum for performers but also enables **Performer community.** By giving performers a place to meet, connect and build a network of fellow musicians, the system is supporting and strengthening local artists by facilitating community formation.

Scenario

Alice picks up her daughter, Lily after Lily's piano lesson and they head downtown to the sidewalk stage. It was a saxophone player that Lily had seen at the sidewalk stage 3 years ago that initially gotten her excited about music. Now visiting the SideWalk stage was a family ritual for them. Lily was given $8.00 in water tokens to distribute between her favorite musicians and she wandered up and down the block contemplating which her favorites artists were. Meanwhile Alice spotted her friend Laura, who was visiting from out of town drank and who had planned to meet Alice at the Sidewalk Stage. They drank a cappuccino while Alice described the sidewalk stage, "Its great, she said. Now there is a affordable and family friendly way to expose our daughter to the arts."

It began to get dark and Alice called to Lily to make her final decision so they could head home for dinner. Alice and Lily said farewell to Laura and headed home. Laura, who was originally in town to see her boyfriend, called him and suggested they stop and get a glass of wine at the wine barge at the sidewalk stage before dinner. She was really enjoying the sound of one of the Saxophone players and thought it might set the romantic tone she wanted for her rendezvous with Pablo.

System Element Relationships

1 RiverWalk			
2 RiverHaven	• Utilize Barges and Mobi-Mods • Leverage cleaning boats • RiverHaven helps alleviate RiverWalk flooding **2**		
3 Canals	• Canals distribute barge and boat traffic • Canals help alleviate RiverWalk flooding • Large boats cannot access certain canals from river **2**	• RiverHavens can be built around certain Canals • Rapids offer better water experience • Bridges extend over canals **2**	
4 Islands	• Direct boat access from RiverWalk spots to Islands **1**	• Facilitate connection to nature **1**	**0**

Scoring
3 Critical Relationship
2 Strong Relationship
1 Slight Relationship
0 No Relationship

1 RiverWalk | **2 RiverHaven** | **3 Canals** | **4 Islands**