CPeLevated:
Chicago YouMedia TeenSpace
Project Post-Mortem
05.09.2009

Project Team:
Cory Garfin
Madhuri Koushik
Eun Jung Lee
Michael Lewis
Matthew McLean
Drew Harmon Pollock

Advisors:
Drew Davidson
Jesse Schell

Part I: Introduction

A. Project Description

During the spring semester of 2009, CPeLevated, a client-sponsored project team at Carnegie Mellon's Entertainment Technology Center, designed a multimedia, multipurpose center for teenagers at The Chicago Public Library. Funded by the MacArthur Foundation, and in partnership with Chicago Scenic Studios, the aim was to design an environment in which teens can get excited about creating and not just consuming media. The room will house YouMedia, a workshop-based program run by scholars from the University of Chicago and taught by volunteer mentors from the community. It will also provide a place for teens to hangout, explore new media, and develop a greater awareness of the library as a resource.

B. Clients and Partners

The Chicago Public Library came to the project with a space measuring one hundred and fifty feet (150') by forty two feet (42') and a desire to make the library more comfortable and engaging for teenagers. The space was ideal for the accommodation of a teen curriculum (named 'YouMedia') developed by the Digital Youth Network, a program founded by Nichole Pinkard out of the University of Chicago. The DYN had already been working with teens in auxilary spaces at the Harold Washington Library Center prior to the completion of the new teen space. Anticipating the need for the creation and installation of creative custom elements, designer Jeff Bartle and project manager Gary Heitz of Chicago Scenic Studios were brought on for consultation, fabrication, and installation. The MacArthur foundation provided the funding grants for this project and Connie Yowell helped to coordinate all of the players. A company named Pearson generously agreed to donate the technology needed for the space. Lastly, Katie Salen's Institute of Play was enlisted to develop an online webspace related to the physical space and the activities occurring therein.

1. Clients

Organizations for whom we specifically designed the space for are herein referred to as "clients."

        a. Chicago Public Library

        b. The MacArthur Foundation

        c. The Digital Youth Network

2. Partners

Organizations who provided design consultation, donations, or worked on other aspects of the YouMedia design are herein referred to as "partners."

a. Chicago Scenic Studios

b. The Institute of Play

c. Pearson

Part II: Pre-Production

A. Clarifying Client Requirements

1. Setting Goals Early

Our clients and partners made it very clear that the new space had to accommodate many of their needs in one package. The space will be open to all teenagers whether or not they are a part of the Digital Youth Network's workshops, but should also be compelling enough to draw them deeper in to the locations where actual new media creation will happen. Early in the process, the clients outlined a three-tier concept to define how the space will provide for multiple levels of functionality: "hanging out," "messing around," and "geeking out." These terms refer to the levels of involvement available to every teenager who walks into the room. Above all, the space is meant to introduce, nurture, encourage, and teach specific digital arts to teens in a comfortable setting outside of school, as well as to provide a physical place where their work can be presented to their peers.

2. Incorporating Goals from all Parties

Although the clients provided an outline describing how the space might be used, the goals of each party had to be understood in order to help drive the design process. The library was primarily interested in getting more teenagers to use its resources, while the Digital Youth Network had more specific concerns surrounding the implementation of its curriculum. These differences would highlight the fact later in our process that the goals of everyone involved in the project may not always be aligned. Indeed, this would influence the design recommendations for the space throughout the project as many objectives were not established from the outset. Accordingly, it is here that we highly recommend that all objectives around the table are accounted for and understood by all parties from as early on in the process as possible, and that these objectives are in harmony with those of the others involved.

B. Initial Research

1. Books and Internet

Research was a crucial step in planning for production. First, we examined several pertinent texts, such as Christopher Alexander's *A Pattern Language*, which helped us better understand the connections between human psychology and architectural spaces. Joseph Pine and James Gilmore's *The Experience Economy* introduced us to the idea of designing an experience, as opposed to merely a space or a service. *Teen Spaces,* by Kimberly Bolan, provided a series of detailed examples of spaces created specifically for teenagers, and included helpful data collected from previous library and community projects. We also consulted a variety of modern design, color, and lighting books. Likewise, we made use of the internet, reading articles and watching videos about teen areas opening in libraries across the country such as Oakland's TeenZone, Detroit's HYPE, Williamsport's Teen Space at the James V. Brown Library, and verbYL in Australia. Image searches gave us an immense amount of ideas regarding interesting products like furniture and bookshelves that could be both stylish and functional. We also visited the websites of organizations such as 826 National and After School Matters, both concerned with the non-profit tutoring of young people.

2. Visits

On our first trip to Chicago, we were fortunate enough to talk directly with the volunteer mentors and some of the teens from the Digital Youth Network. The entire ETC team visited the Themed Entertainment Association conference in Anaheim, California and while there also went to the Cerritos Public Library where we were able to see their teen area and talk directly with head librarian Mel Delaney. We also had the opportunity to visit 826 tutoring centers, and their heavily-themed storefronts, in San Francisco and Chicago. These interactions helped us understand what worked for teens in terms of theming, spatial allocations, and access to technologies.

3. Client-Provided Materials

Our research was supplemented by a resource of pictures and hand-held videos of the room itself provided by the clients. These materials allowed us to start working before even visiting the space. The clients also provided documents designed to familiarize us with the Digital Youth Network and what they hoped to achieve in the space, including details on the YouMedia curriculum. Included in this documentation were narratives of how our clients

imagined the space would function for certain types of students. These "vignettes" were incredibly helpful in allowing us to visualize how the space might be used and gave us a solid foundation from which to start our own brainstorming into finding solutions for the various needs the space would have to fulfill.

C. Preparing for Design

Using our initial research, several methods helped us to prepare for the production phase of our project. First, we did a lot of "blue sky" brainstorming in which we tried to be as creative and without limitations in our thinking as possible. Each team member sketched ideas of how items should be laid out on the floor plan, in consideration of flows of traffic and functionality, and made suggestions regarding interesting products that could be installed in the space, such as tensile fabrics, custom furniture and interactive touch-screens. At this time we also created concept art for unique custom ideas that could help make the room engaging and interactive. Many of our ideas during this phase turned out to be beyond the scope of the project, or simply not the most practical or affordable options. However, we really wanted to start from big ideas and scale back accordingly, rather than start out thinking conservatively and underwhelming our clients from the outset.

A lot of information gathering is involved in the pre-production process, and with a lot of ideas bouncing around it can be difficult to clearly state the responsibilities required of different teams, especially when there are a lot of people involved. We recommend that before the end of the planning stage, each team is made aware of their responsibilities as they relate to the other teams so that initial planning can be conducted as efficiently as possible. Setting boundaries early on can help with workflow, but it also ensures that nothing falls through the cracks because it is thought to be someone else's responsibility.

Part III: Production

A. Scheduling and Milestones

We set an internal schedule as well as periodic deadlines that would help us iterate quickly and produce designs for the clients in a short period of time. Very early in the process we specified a design deadline three months from the start of the project. This type of milestone kept us on track and reminded us of the big picture. As part of the schedule, we made sure to designate weekly meeting times for touching base with team members and advisors, as well as

weekly conference calls with clients and partners. Throughout the semester, those meetings would help us clarify any outstanding issues and further our design. Lastly, it was extremely important for us to be flexible enough to work around the schedules of the other clients and partners.

B. Client Feedback

1. Visualization and Communication Tools

We used a number of visualization tools to communicate our ideas and get the feedback we needed in order to iterate, including:

a. Sketches of floor plans and concept designs (i.e., custom furniture).

b. A scale model built out of foam core that helped us understand the proportions of the space and allowed us to easily place and move objects in it.

c. A 3D virtual model to assist in visualizing the space more realistically;

d. Stories and vignettes that were provided to us by the clients to give us an idea of how a teenager would use the space were re-imagined and re-told using our specific design.

2. Using Feedback in Iteration

At every step in our process, we shared our work with the clients who would then make remarks or suggestions based on their experience with the teens and library policies. We stayed flexible in our designs so that we would be able to accommodate new ideas, and our weekly phone calls with the clients were extremely helpful in continually modifying the design. We would take the suggestions and requirements each week into account and work them into a new iteration for the following week. Additionally, feedback acquired from the teens and mentors of YouMedia was gathered for design purposes.

3. Managing Expectations

Before we truly began designing, we knew we would have to manage our expectations and the expectations of the clients and partners due to the sheer size and ambition of the project. We managed our own expectations by immediately working within a budget and understanding how much things would cost during our research phase. This initial fact finding allowed us to maintain a realistic sense of scale and possibility even as the budgetary allocations changed over the course of the project. The research we did also helped us get an idea of the average size of these types of spaces and the sort of products one could expect to see in them. While we

encouraged each other to come up with fresh, interesting custom concepts, we were always mindful of the fact that any aspect of the project could be scaled back.

To help the clients manage their own expectations, we would focus during conference calls on specific action items for which we needed feedback or hard answers. That kept the meetings focused and restricted exposition on topics outside the scope of that week's issues. Setting deadlines for when questions should be answered also let the clients know that we had expectations of them. We also learned that it may be premature to show really ambitious artwork or visualizations before the budget has been nailed down, as it can create unrealistic expectations of what the space should look like in the future. This proved particularly true of our 3D models, which tended to fix our clients expectations during time periods when we meant the models to be seen as iterative.

Part IV: Design

A. Identifying Helpful Data and Policies to Shape the Design

We found that with a project involving a space for teens, multimedia specifications, and multiple clients and partners, certain key pieces of information and policies will drive design decisions throughout the project's life cycle. The following are some of the things that should be hammered out with all parties present in the early stages to help shape the design and set the most productive course.

1. Client-Specific Data

a. Capacity

Initially, we envisioned the capacity of the space as holding around two hundred students and we based our designs around that number. We soon learned, however, that our clients did not anticipate having more than one hundred students in the space at any given time. This figure changed how we looked at the space and allowed us more freedom with seating, both in terms of how much furniture to order and how to place the seating so as to maximize flow and minimize clutter.

b. Existing Spaces Available

One issue that occurred during the planning stages was whether or not to make use of pre-existing library resources, such as sound rooms and theater spaces. CPL has a dedicated sound room as well as a theater for readings and performances elsewhere in the building. Though

these spaces are open to the public, the initial desire was to have our space be as self-sufficient as possible, which would have the added benefit of allowing mentors to keep better track of their workshop participants. Throughout most of our design iterations, we planned on having high quality sound recording and a custom-built stage available just to the teens and without their having to go to other floors. However, because of budgetary concerns and ADA (Americans with Disabilities Act) requirements, we decided to have the teen space function primarily as a learning and digital display environment and to make use of the existing resources for more lavish productions. We kept sound recording equipment and a stage area in the design, but with scaled back parameters - for instance, the final stage area is delimited by flooring and furniture now as opposed to a built up platform.

c. Budget

The earlier a budget can be apportioned, and clearly understood by all parties, the better. As we have already noted, this effort had many separate teams working together to create a cohesive final product. Although budgetary fluctuations are to be expected in any design project, they can be reduced by initially defining the basic amounts that each team needs based on their responsibilities. At the beginning of the process, we knew how much money had been designated for the project and mistakenly believed this amount applied only to our design. Budgetary shifts soon followed and had to accommodate the following: power, data and flooring installation; painting; project management fees; Digital Youth Network services; miscellaneous technology and supplies; virtual web space development; and any Carnegie Mellon University-related overhead and fees. The introduction of these elements into the budget caused the perceived amount for design to drop by 72%. Making all partners aware of how much money needs to go towards simple things such as installation will help to define just how much money remains for design-specific decisions.

d. Allowance of Food

From our own experiences, we felt that teens would want the ability to eat in a space that was meant for them, would make them feel more comfortable, and would allow for more energetic and focused workshops. Also, during the school year most of the teens will be coming to the library straight from school and will probably be hungry. We wanted to make sure at least a portion of the space would accommodate food. Initially, the librarians hesitated about allowing food into the library at all, but we felt this aspect of the space to be quite important and could be

limited to a specific area. We used design elements, such as floor coloring and access to entrances, to separate the room into food accessible versus non-food accessible areas. We also made sure to specify the need for garbage cans and recycling bins in the areas where food would be allowed.

e. Allowance of Video Games

Additionally, we strongly recommended the allowance and availability of video games, which was against CPL policy prior to this project. To some degree, the space needs to act as a living room environment for the teens where they would feel comfortable unwinding after school. Video games are a great draw for kids especially if the use of a gaming system is readily available, and in this instance could help introduce the space and the YouMedia curriculum, if only by proximity at first, to the kids. We made our recommendations for video games known, and the library and the Institute of Play worked together to define a policy for YouMedia regarding their use.

2. Physical (Immutable) Data

a. Floor Plan

The first of several technical specifications that helped the design process immensely was the procurement of a floor plan with a scale indicating the dimensions of the space. This schematic provided a connection between a technical overview of the space and the videos and pictures we had reviewed earlier, allowing us to really understand the shape and size of the area we had to work with. It also helped when selecting furniture so that we could see how large the items were in the space and how many pieces would fit.

b. Electrical Plan

We recommend obtaining an electrical plan along with the architectural floor plan, and as early as possible in the design process. On this project, the electrical plan came much later, and due to its specific layout, changed our designs. An electrical plan should show any existing electrical and data access points as well as any underground or overhead raceways for wire routing. The electrical plan helped us define where technology should be located as well as how and where new access points should be installed based on our design.

c. Books

If books will be housed in the space, a measurement of the total linear feet of books in the collection should be provided. This number allowed us to figure out how many bookshelves would be needed to hold the five thousand books in the branch's Young Adult collection. The book *Teen Spaces*, by Kimberly Bolan, has some very helpful charts that helped us convert numbers of books, as well as other types of media, into linear feet. Bookshelves must be installed and anchored to walls, and they do take up a lot of space, so this figure is best provided early so that the design and installation teams can plan for it. Also, it is important to be conscious of the placement of the bookshelves. In our research, we found that the "book lined room" effect can easily overwhelm other features and make any space feel too much like a classic library setting. We were trying to avoid this feeling, so we localized the books to the hang out area, where there will be the most anticipated activity. The activity will counterbalance the shelving and maintain the look and feel of an area for teens that is fun and engaging. Also, we wanted to minimize interruptions to the workshops, so avoided placing shelving in the "geekout" area.

d. Existing Furniture

Lastly, if the space already contains furniture that the client approves for use in the project in lieu of purchasing more furniture, an accurate count of that furniture and their dimensions should be provided. This can save money in the budget and time spent researching new furniture. In our example, the CPL had close to 100 solidly built wooden chairs that were currently in storage. We received permission to repurpose those chairs for the new teen space, which both saved on costs and became a way in which we could promote "green" habits.

B. High Concepts

Several high concepts contributed to the overall design philosophy of the Chicago teen space. The first of these is the idea of the Hero's Journey, popularized by Joseph Campbell. In this narrative pattern, Campbell asserts: "A hero ventures forth from the world of common day into a region of supernatural wonder: fabulous forces are there encountered and a decisive victory is won: the hero comes back from this mysterious adventure with the power to bestow boons on his fellow man." (*The Hero With a Thousand Faces*, 1949) We wanted to make the teens feel, upon entering the space, as if they have crossed from the ordinary world in to an extraordinary one, where mentors would help them create the boons which they would later share with their peers and the wider world via the internet. Supplementing this was the analogy of the "Paddler, Swimmer, and Diver" put forth by Chicago Scenic Studios. The analogy

illustrates the different levels of immersion an experience must account for among its guests: the paddler tests the waters and stays on the surface; the swimmer, more skilled and experienced, has more freedom and gets a bit deeper; and the diver immerses him or herself completely, jumping into an experience with a sense of familiarity and the desire to explore still further. Since the clients wanted three distinct areas in the room that represented different levels of immersion, we found the analogy quite fitting and used it often to describe the space.

C. Determination of Functional Areas

Our next step was to use our high concepts to delineate the functional areas of the space. We did this primarily by sketching on paper copies of the floor plan provided by the Chicago Public Library, using a dry-erase board with the floor plan outlined in tape, and by creating a physical model out of foam-core. By iterating using these tools, we were able to come to an agreement about where each of the three areas should be located and how much they should overlap. We used these methods continually as the needs and constraints of the space changed. Once we had this information, we translated it into 3D Studio Max three-dimensional models and an Adobe Illustrator blueprint for presentation purposes which were updated accordingly as our design adapted to new information during the process.

D. Appearance of the Space

Once the areas had been delineated, our artists worked to design color palettes for the space. This was no small undertaking, as it required the coordination of flooring, wall paint, lighting and ceiling considerations to be successful.

1. Flooring

The flooring design included not only color choice, but the overall pattern. Color on the floor was also used to delineate and accent distinct areas since walls or other dividers were absent. We also designed a pathway that will, we hope, guide teens further into the space from the entrances to the workshops. Ultimately, even the stage area became distinguished by flooring color, pattern and shape distinctions. We produced several major flooring designs for the clients, the most popular choice of which would be installed. While we initially considered carpeting for the floor, the library was very enthusiastic about using recycled rubber flooring, so we adapted the colors to the available eco-friendly products.

2. Wall Paint

We studied paint samples from hardware and paint stores as well as contemporary color

design books. We visited Schell Games in Pittsburgh to see how their workspace was set up and to see how varying shades of the same color added depth to the walls while maintaining continuity. Lastly, our artists designed the wall colors to reflect the activity in the room, giving lighter, more energetic colors to the social zones and darker, warmer colors to emphasize a feeling of intimacy and focus in areas where teens would be doing work or participating in workshops.

3. Furniture

To some extent, the appearance of the space and the selection of colors was also dependent on the furniture that would be selected. This included not only comfortable lounge furniture, but items such as computer tables and bookshelves. We were initially influenced by our research in pre-production, but it became clear that while the furniture could be stylish and fun, it also had to be durable and was expected to last for many years. Additionally, the library's ideal products were ones that could be easily repositioned by a small number of librarians, mentors, or the teens themselves. This requirement informed our choice to look for products from companies with a reputation for sturdy furniture, such as Brodart and KI. For example, instead of placing large, bulky tables in the workshop area, we ultimately decided to go with smaller tables that could be pushed together. We also searched for products that had locking wheels, to allow for mobility and, when static, stability. For accent pieces, we decided to purchase from a custom lounge company. Doing so necessarily added to our expenses but will, we feel, add stylish touches throughout the space that will counteract nicely with the other primarily functional furniture pieces. Additionally, all of the color selections on the furniture had to resonate with the color choices we made for the floor and walls.

4. Lighting

The lighting in the space is provided by many banks of fluorescent bulbs. While we initially were hoping to provide alternative lighting to delineate areas and provide different atmospheres, we found that the library was comfortable with the fluorescent lights and were concerned about having to maintain a variety of specific bulbs as opposed to just one type. Although other design concerns became paramount after this information was shared, we would still recommend that fresh lighting be given some thought in the future as it can really give a space - especially a large one - contrast and dynamism.

E. Space Identity

Giving the space a name became a helpful early element in the design process. In our case, the clients had been internally using the name "YouMedia" to describe both the Digital Youth Network curriculum and the space itself. DYN contacted their teenagers for suggestions, and we provided some of our own. However, YouMedia was the name that really stuck with this project and the constant use of the name made its adoption convenient and familiar. The act of giving the space a confirmed name helped to characterize the space and influence the design to the extent that the space should reflect its name.

Additionally, the space needed a logo to go with the chosen name for branding and identity purposes. We went through over fifty variations and iterations of logos in an attempt to visually describe the space and its activities adequately. These included logos with simple fonts, custom-made fonts, iconography (such as light bulbs, computers and headphones), and stylistic elements such as pixels and trees. Ultimately, simplicity and ease of reproduction, both in color and black and white, won out. The final logo has a clean-lined font, with green and orange shades that complement the colors in the room and the existing CPL promotional color palette. The 'Y' in 'YouMedia' has a sweeping upper reach that connects 'You' with 'Media' and is vaguely reminiscent of the pages of an open book. An important thing we kept in mind while designing the logo was that it had to reduce and expand easily for printing on flyers, fixtures, t-shirts and banners.

F. Technology

1. Recommendations

In our blue-sky designs, we imagined teens using touch screens to navigate their peers' artwork and to sign up for workshops. However, we decided early on to work with technology that would be easy for the library to use and maintain and focused on more standard products. With our responsibilities tending towards the design of the space and not the technology needed for YouMedia, we decided to avoid spending time on developing our own hardware and software for the space. We did, however, provide a 'wish list' of recommended technologies and software packages that we thought would complement the space and the program well. We spent some time working on this list and trying to understand our responsibility in specifying the items on it before our communications with the client confirmed that they would be selecting the technology with Digital Youth Network to best fit their needs. We believe that our input was helpful for the

client, but this was one instance where establishing responsibilities earlier in the project might have been beneficial in terms of allocating our time and resources.

2. Displaying Student Work

We also made product and distribution recommendations for the use of projectors and LCD televisions for workshops and for displaying student artwork. There was a lot of back-and-forth communication between us and the head IT professional at the library regarding how to send content to each screen. We spent some time working on a VGA-over-ethernet solution, but in the end the library had a solution they were more comfortable with in the context of the rest of the technology in the library as a whole. Again, if we had pushed for a definition of our responsibilities earlier, it could have saved some time.

3. Sound Booth

From the beginning, our clients expressed their desires to have a sound booth installed in the room, so that the teenagers could record voice-overs and mix music. While our initial plans were to actually purchase a sound booth and assemble it on site, we found that the smallest booth that could be ADA (Americans with Disabilities Act)-compliant would not fit well into the designated space for the booth. Additionally, the lip on the sound booth entrance was six inches high from floor level, which meant we needed a custom-built ramp to accommodate wheelchairs. At that point, we shifted our thinking toward soundproofing the room itself and contacted an acoustical engineer to help us specify what products we would need to keep the room quiet enough for the teenagers' activities. While this is not a completely sound-proof option, it was the best solution according to the constraints. Also, as mentioned previously, the teens will have access to another sound room in a different part of the library.

4. Pearson

On this project, the textbook company Pearson (www.pearson.com) generously donated the technology needed for the space. This meant that we would not have to factor in technology purchasing costs into our budget. We found that our pie-in-the-sky wishlist was over $100,000, so if another library wanted to buy technology without donations, they should be prepared to make an allowance for it in their budget.

G. Technical Constraints

1. Americans with Disabilities Act

Any additions to the existing structure of the room (for example, a built-up stage for presentation purposes) were subject to the guidelines set forth by the Americans with Disabilities Act. Additionally, changing the structure of the room would affect the "grandfathered-in" aspect of the rest of the space in regards to ADA requirements. In other words, any significant structural changes would make the whole space subject to qualifications set forth even after the date of the building's construction.

2. Building Code

Similarly, if we wanted to knock down any walls that were not load bearing, we would run in to building code restrictions from which the library would otherwise be exempt due to its size and age. Load bearing structures such as the columns in the room could not be modified. Additionally, we had to heed fire code and evacuation policies in the design, which affected the placement of furniture and access points into and out of the space.

3. Electrical

We worked with the library's information technology specialist to define an electrical plan for the room. The resulting plan changed our suggestions for the placement of furniture and electronics, since we needed to increase the amount of power and data available within a certain amount specified by the budget, which in turn restricted the number and locations of installation points.

4. Acoustics

The room is very large, so we were concerned about sound traveling throughout the space. We contacted the same engineer who helped us with the sound room and he recommended hanging sound-absorbing baffle panels from the ceiling, which was the solution we ended up going with.

H. Maintenance and Staffing

The YouMedia location will have two full-time librarians (employed by the Chicago Public Library) available to check out books and equipment to the teens, and a group of volunteer mentors (from the Digital Youth Network) to help run workshops and to provide general media and artistic assistance. The mentors will be instrumental in greeting teenagers and making them feel welcome. They will also help to draw the teens into the YouMedia program by

detailing what the curriculum has to offer for pursuing existing creative interests as well as developing new ones.

The Chicago space is quite large, but the librarians and mentors need to be able to see into the space from almost every angle. The reason for this is simply to help keep an eye on the teenagers. This requirement helped us decide against putting up walls or barriers to delineate areas, relying instead on color choices and patterns in the walls and floor. The open eye-lines will also allow for teens in one part of the space to see what is happening in another, with the increased visibility also, hopefully, translating to increased curiosity and involvement.

To ensure security and prevent theft, the library will have a security guard posted in the room. They will also install 3M-brand book detectors of a variety widely seen in other parts of the library. Though the space will be open to all teenagers, only those with a library card will be able to check out books and equipment.

I. Client Feedback

Sharing our working process with the clients and partners honestly and often was a huge part of any success we had as a collaborative project. We stayed flexible in our designs so that we would be able to accommodate new ideas, and our weekly phone calls with the clients were extremely helpful in continually modifying the design. We would take the suggestions and requirements each week into account and work them into a new iteration for the following week. However, this also caused some changes late in the process when it was less convenient to do so due to the layers of work that had been completed since the beginning of the project. We had originally set a design deadline of April 1st, and this deadline was consequently pushed back due to these changes. For the benefit of future planning, here are some of the items that caused us to significantly reconsider the overall design, and that we recommend be incorporated into an earlier planning stage:

1. Budget Shifts - Continual shifting and cutting of the budget drove many design decisions.

2. Young Adult Collection - Determining exactly how many books must be housed in the space, and how much linear feet that translates to, is key.

3. Storage - Determine whether the teenagers will need lockers or other storage arrangements, and their quantity. Assume that most teenagers will be coming from school during the week and have backpacks and other personal items with them. Not accounting for storage of

such items can lead to clutter and aesthetic confusion, as well as increasing the risk of theft.

4. Building Codes - For evacuation purposes, we had to make sure the aisles between doors were kept clear of furniture, even if those doors were   not meant to be used and were sealed.

J. ETC Element

The LCD tree was an additional, ETC-designed element for the Chicago YouMedia teen space that promotes interactive collaboration and social activity. Teens will be able to upload photos, videos and music; write and erase directly on the surface; and post physical items such as notes and pictures. Librarians and mentors will be able to perform overall maintenance and approve any content posted.

Chicago Scenic Studios will specify materials and fabricate the tree, as well as install it in the library. The will also provide a wiring solution to provide power to each LCD screen and to provide access to the SD card readers present on the tree.

The ETC will provide the equipment and documentation necessary to maintain and operate the tree. (Please see additional documentation for images and details of the LCD tree)

Part V: Post-Production

A. Installation

The target date for implementation of our design is July 1st, 2009. On July 10th and 11th, 2009, the space will have a public opening in conjunction with the American Library Association conference.

B. ETC Responsibilities

ETC project teams generally disband after one semester and move on to summer internships in a variety of locations. As the design will not be fully implemented by the time this happens, the ETC needs to continue to act as a point of contact for fielding questions and concerns, as well as making sure the installation process goes smoothly. While the team's advisors - Jesse Schell and Drew Davidson - have agreed to be the primary contacts for the continuation of the project, the team members themselves will be available throughout the summer to field questions and respond to concerns from afar.

C. Transition Plan

As a way to ease the transition process from the ETC design team to the clients, we will provide a set of documents that detail our process and design plans. This will include:

1. Recommended furniture layout

2. Wall paint color layout

3. Flooring color and pattern layout

4. LCD Tree specifications and manual

5. Detailed Post-Mortem

These documents will be provided to all clients and partners who are interested in having a copy of them, so that everyone can be on the same page with the work that the ETC team has completed.

Part VI: Future Recommendations Listing

In this section, we are excited to share some recommendations for future installations. These are things we really like that came out of our research and brainstorming sessions that were never implemented for a variety of reasons, but could be implemented at a later date.

1. Tensile Fabrics - Companies such as Pink, Inc. and Moss, Inc. specialize in stretched fabric shapes. These shapes can provide unique lighting setups and interesting structural elements for a space. At one point, our team discussed combining a tensile fabric cylinder with a custom bookshelf for the columns existing in the space. This is just one example of how tensile fabrics could be used to change the feel and function of the room.

2. Lighting System (and lights or lamps in general) - The lighting in the space is provided by many banks of fluorescent bulbs. While we were initially hoping to provide alternative lighting to delineate areas and provide different atmospheres, we found that the library was comfortable with the fluorescent lights and were concerned about having to maintain a variety of specific bulbs as opposed to just one type. Although other design concerns became paramount after this information was shared, we would still recommend that fresh lighting be given some thought in the future as it can really give a space - especially a large one - more contrast and dynamism. Additionally, we talked about using a controlled lighting system to notify students of the day's schedule: for instance, the lights might flash five minutes before a workshop and then dim when it begins. Desk lamps also provide a more personal feel for homework areas.

3. Creative bookcasing and seating - We felt that traditional bookcases gave the room a somewhat antiquated and institutional look. Curved bookcases, bookcases with seating built into them, and contemporary artistic designs for bookcases were more cool and funky, but were certainly more expensive. However, we recommend a mix of these bookcases with traditional ones - that way, the library can guarantee enough space and easy organization for their youth collection, while still having some interesting novelty bookcases in various locations.

4. More opportunities for interaction - Although the scope of our project could not include software development for interactive applications (for example, custom software for touch screens and the like), we recommend it for the future. Games and interactive kiosks could provide information about the library and Chicago history, or increase awareness about the environment. Additionally, we researched the idea of building custom furniture pieces for the space that would have interactive elements built into them, such as buttons and LED lights.

Part VII: Lessons Learned - So You Want to Build a Teen Space

We would like to summarize and highlight some of the issues we ran into. We learned a lot from these challenges and want this summary to act as a touchstone of information in the early stages for any future projects.

A. Installation

It can be really easy to forget about difficulties involving installation because the installation date may be much farther down the road. For instance, our electrical installation took three times longer than we had planned (six weeks instead of two weeks). This information came up only after we had submitted our design for the electrical plan, which was a bit late in the process, requiring us to shift things around on the schedule and delay the projected opening date. As a general rule of thumb, we recommend that anything requiring installation - electrical, flooring, paint, lights, etc - be planned with a wide margin to accommodate the length of installation and the schedules of the workers doing the installation.

B. Being Green

Early in the project, define just how "green" the space is going to be. Determine if every product need concern itself with being ecologically friendly. There are many green alternatives

to things, including flooring and carpet, but "being green" often requires an added expense, and should be stated as a project goal so that nobody loses sight of it while selecting products.

C. Stay Flexible

There were several requirements introduced late in the design process that significantly impacted our designs. We feel that the following items can, to some extent, be defined before the project begins and be offered as part of the research and pre-production efforts of the design team.

1. Budget Shifts - Continual shifting and cutting of the budget drove many design decisions.

2. Young Adult Collection - Determine exactly how many books must be housed in the space.

3. Storage - Determine whether the teenagers will need lockers or other storage arrangements, and their quantity.

4. Building Codes - Establish entrances and evacuation aisles early, so as not to have to readjust significant design elements later.

D. Cross-Communication

Maintaining open lines of communication is very important for a design project with multiple stakeholders. It is very important that everybody is kept on the same page and all ideas are clearly expresses and affirmed. Using tools such as Google Docs and Basecamp can be very helpful for the distribution of information. If communication is kept closed and localized between only small parts of the team, then information can easily slip through the cracks and lead to extra unnecessary work.

E. Furniture Durability

Early on, we had fun researching cool and funky furniture, but making sure those products are durable and will last for more than five years is more difficult. We found ourselves turning to suppliers who are known for working with libraries and offices, working our stylistic sensibility into their product line in an effort to buy high quality products that would last.

F. Clear Responsibilities

Making sure everyone is on the same page and knows what each unit is expected to do saves valuable time and resources. See Cross-Communication.

G. Use General Contractors if Possible

As students, we had a hard time getting vendors to believe we were actually going to place large orders (furniture and flooring for example), and weren't just wasting their time by trying to collect quote and bid information. To some extent, we worked with Chicago Scenic to help remedy this since their standing as a company and a contractor gave their requests more weight.

H. Story As Presentation Tool

We found the use of story-telling to be highly productive as a presentation tool. It allowed our clients to visualize how the space might be used, and also enabled us to incorporate our design documents and art into our presentations without getting too bogged down in technicalities.

I. Have Fun

This is perhaps the most important lesson that we learned throughout the course of this project. We had a great time with our teammates, our clients, and our partners, and we feel that this will fully translate into the realization of an amazing and unique space for the teens of "YouMedia" at the Chicago Public Library.