



CARNEGIE MELLON UNIVERSITY SCHOOL OF ARCHITECTURE SPRING 2007 SEMESTER

CONCRETE BLOCK COMPETITION

2nd YEAR STUDENT DESIGN STUDIO: 48-205

WI I



COMPETITION

SPONSORS :

National Concrete Masonry Association



13750 Sunrise Valley Drive Herndon, VA 20171-4662

Carnegie Mellon University School of Architecture 201 College of Fine Arts Pittsburgh, PA 15213

Made possible by a generous grant from the NCMA Education and Research Foundation.

JURORS :

Mr. Jon Jackson, AIA Jury Chair, Bohlin Cywinski Jackson Ms. Mary Lou Arscott (formally of Knox Bhaven Architects, London)

- Mr. Steve Lee, AIA, Professor, Carnegie Mellon University School of Architecture
- Mr. Ernie Sota, President of Sota Construction Services Pittsburgh, PA
- Mr. Joe Dufour, Rennekamp Masonry Supply Company, Pittsburgh, PA, NCMA Local Alliance Producer Member



FACULTY :

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Design Program Abstract GRAMAES RACT

PROJECT: A 'TEMPORARY' LIBRARY, Pittsburgh, PA

MINDSET: This is the beginning of a semester-long research and creative process to design a neighborhood library. Building on the investigation of composition, concept, and spatial experience from the fall design studio semester, we will undertake a more intensive exploration of the role that materials and assembly methods can play in creating a small piece of architecture. We will focus on the scale of the human body encountering the physical presence of building and books. We seek to explore how we can elevate ordinary construction to poetic expression, how real materials, structure, enclosure, joinery, craft, and building techniques can lead to the creation of significant architecture.

PROJECT: The Carnegie Library of Pittsburgh (CLP) has commissioned you to design a new library to serve Pittsburgh's Southside neighborhood. To inspire the research and exploration necessary to create any great piece of architecture, the CLP is first commissioning you to design a small, temporary library unit nearby, using a very limited palette of materials and simple assembly methods. The temporary library will allow the CLP to serve its clients until the larger, permanent library is finished. A significant challenge will be to decide in what way a building--often thought of as permanent--can be "temporary", perhaps in how it is made, in it's life-cycle, or in its subsequent reuse. This design should also allow you to do preliminary research into the urban context, the definition of a library, the place of books and information in our society, and how a careful choreography of materials and assembly methods can achieve these goals.







PROGRAM: Create a temporary library unit to display and circulate books and magazines. Although you should define your library's program, it must include computer terminals, space for reading, and a librarian's desk or workspace.

•Your library should include no more than 500 sq.ft. of floor area •Your library must sit on or above the ground (thus requiring minimal excavation or foundation work), and should be no more than 14 feet

- tall (one main floor, though not necessarily all at one grade).
- •The only site-service will be electricity. No water or bathrooms are required.
- •The main space of your library must be ADA accessible.

PROCESS: Work with your instructor and peers to plan a rigorous design process and schedule before you start the 5-week design. Create a process that will allow you to address in an integrated, iterative, and progressively more detailed manner, issues of identity and meaning, context and site, materiality and assembly, space and experience, openings and construction.

•In order to get quickly to the fundamental issues of how

materials influence design, choose either a very limited palette of materials (1-2 main materials), OR a simple, well-established assembly method (e.g. masonry, post-and-beam with infill or cladding, panel construction, stud-frame construction, or tensile systems).

•Be sure your choice of materials and assembly techniques are integrally related to the structure and spatial system for the main space in your library. Consider both the surface experience of the materials, and the structural principles implied, particularly in the spanning systems. •You should develop a common sense understanding of the

component parts, details, and assembly methods of your library. Consider purchasing or creating near full-scale models of your building materials to understand them.









INDIVIDUAL STUDIO STATEMENTS

CALISTICI STUDIO

Students are encouraged and expected to exploit the possibilities of expression through intuitive (inherent), rational (practical) and innovative (reinterpreted) integrations of this material. Moreover, the possible combinations of placing 'concrete block' adjacent to another material can make for an interesting challenge to find a meaningful and poetic solution. Students are asked to consider how can materials influence form, affect space, challenge perception and elicit experience. Our aim is to understand how materials support and contribute to an architectural idea.

This competition is intended to provide a greater appreciation of the capabilities of utilizing concrete masonry units (CMU's) as a primary building material. Moreover, it is intended to inspire students to imagine new and explore innovative possibilities in utilizing concrete masonry. In addition to concrete masonry being the primary building material, one additional opaque exterior material may be incorporated (if desired) along with translucent or transparent materials to permit light into the space. A critical undertaking of this project will be in composing multiple materials and textures within a small scale project and demonstrating how the interface or edge condition between differing materials can strengthen the architectural idea and enhance the overall spatial experience.















DAMIANI STUDIO

Students are asked to research CMU, precast concrete plank and a secondary infill material of your choice and present their properties, qualities, conventional uses, and possible advantages and limitations. Students are encouraged to look inside and outside the standard uses of these materials to find new forms of expression for these materials. The competition is intended to show the capabilities and aesthetic power of utilizing concrete masonry as a primary building material.

Basic Construction System: Concrete block bearing walls and prefabricated concrete plank floor system. Loadbearing Walls: 12" Thick Concrete Block w/ insulated foam filled cores and reinforcing. Non-load bearing walls: 8" thick concrete block. Maximum span between walls 12'-0." Maximum width of openings 8'-0." Minimum pier dimension 2'-0." Parapet on flat roof 1'-0" minimum.

Maximum height 21 courses, All party walls are to remain solid without any openings. All concrete block and openings are to be on a 8" module. All load bearing and non-load bearing walls are to remain parallel unless the designer presents a strong and clear architectural spatial strategy as an alternate method. Non-load bearing walls: 8" thick concrete block. All concrete block and openings are to be on a 8" module. All non-load bearing walls are to remain parallel unless the designer presents a strong and clear architectural spatial strategy as an alternate method. Non-load bearing walls: 8" thick concrete block. All concrete block and openings are to be on a 8" module. All non-load bearing walls are to remain parallel unless the designer presents a strong and clear architectural spatial strategy as an alternate method. Maximum height 21 courses. Floor/ roof system: Prefabricated concrete plank. Maximum span of concrete plank spanning from wall to wall is 12'-0", 8" nominal floor depth includes: 4" concrete plank, topping, finishing and or insulation as required. Secondary infill material of your choosing is for items such as doors, windows, skylights etc.: All opening are to be on an 8" module or work within the dimensional properties of the masonry material.

Program Considerations:

Outdoor Spaces: Special attention should be given to the design of outdoor spaces. No program is specified for outdoor spaces but one could imagine reading spaces, areas for small public readings, contemplation, etc.

Street Facades: Maintain a continuous wall along East Carson Street. Opening in the walls cannot exceed 30% of the wall area. Maximum height 21 courses.

Process Goals:

Research all intended materials and their properties. Look inside and outside the standard uses of these materials to find new forms of expression for these materials. Create drawings and models which celebrate the qualities of the materials and the spatial effects of their assembly.

SITE INFORMATION

The site of the temporary library is on a small empty lot at the Northeast corner of East Carson Street and 11th Street on Pittsburgh's notable Southside neighborhood. As noted in the project abstract, this library is a precursor to a future permanent library designed as a later project in the semester's curriculum. The future neighborhood library is to be built at the Southeast corner of East Carson Street and 12th Street. There is visual access between both sites.





JURY + AWARDS

THE JURY :

- Mr. Jon Jackson, AIA Jury Chair, Bohlin Cywinski Jackson Ms. Mary Lou Arscott (formally of Knox Bhaven Architects, London)
- Mr. Steve Lee, AIA, Professor, Carnegie Mellon University School of Architecture
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THE AWARDS :

The jury met on Friday, 23 March 2007 at Margaret Morrison Hall (the location of the Second Year studios) on the campus of Carnegie Mellon University. The jurors spent over 90 minutes reviewing the entries and discussing in detail a selection of potential winners. The discussion not only involved the project's solutions to the programmatic and site contexts, but how each project incorporated concrete masonry as a primary material and how it contributed to the overall idea for the project.

•After much deliberation, four projects were selected as winners with three additional projects noted for honorable mentions. However, all entries are included in this book. Cash prizes totalling \$1,925.00 were awarded to the winning students.

First Place Diego Taccioli (\$750.00) Second Place Greg Tanski (\$500.00) Third Place Rachelle Roll (\$250.00) Fourth Place Charles Helmstetter (\$125.00) Honorable Mentions: Paige Warman, Jonnathan Park, Ryan Bottini (\$100.00 each)





1st PLACE ST PLACE

Diego Taccioli

"This project has some amazing renderings, so life-like and convincing. It is a good approach to the corner, buildable, simple. It is a nice attempt to work with block, in planes and simple expressions."





2nd PLACE OND PLACE

Greg Tanski

"This project addresses the site issues well and is feasible as a masonry building. The pivoting wall that opens up to the public during the day is a nice, innovative feature."

















TEMPORARY LIBRARY, Pittsburgh, PA

The Pittsburgh South Side offers a variety of entertainment venues., including coffee shops, stores, restaurants, and many bars and clubs. It is also one of the most unique residential neighborhoods in the city. A library located in this neighborhood is an opportunityto provide more than just a shelter for books. By using parallel walls in a syncopated rhythm, this library draws people into the library and towards the back, which becomes a recluse for reading, relaxing, or studying. The walls on the western facade open during the summer months to allow in air and light, and to provide outdoor seating for visitors of the library. The fireplace is located in the middle of a bench structure that creates a seating area for the cold winter months.

Greg Tanski

3rd PLACE RD PLACE

Rachelle Roll

"With such a tight site with potential for uncomfortable spaces, this project had a large open interior space with easy visibility. It paid attention to the urban site issues. Since this is a masonry competition, this one is feasible as a masonry building and showed good research into the material."



4th PLACE RTH PLACE

Charles Helmstetter

"The drawings were well done and showed the sequence of construction and how it is assembled. It is a good simple project with good spaces. It does not create unnecessary complexities and is very buildable. The program is expressed clearly and cleanly."



HONORABLE MENTION

Ryan Bottini

"The design is very much under control. It is simple and handsome."















This project required a design for a temporary library on the Southside of Pittsburgh constructed primarily out of concrete masonary unit. I began eploring ways of making the CMU block seem temporary. Eventually I came to the conclusion that it is almost dishonest to try and make the block be something that it isn't. So, I let the CMU be what it is. I let it be permanent and have everthing else be, or seem, temporary. The floors, enclosure, foundation, and even function became the temporary elements of the design. Having the block be the only permanent element in the building causes it to become the "center" of the design. Everything else is built to enhance the sense of permanance and importance of the block. The CMU is the main structural support, it houses the "guts" of the library, i.e. books and computers. The block extends beyond the boundary of the library inviting the outside public inside. It is the first material visitors come in contact when entering the library. Glass floors allow reflected light off of the water to illuminate the block walls, causing them to be the center of attention in the library. Finally, after the library is done functioning, the enclosure system is removed and the block becomes the main spacial definer.

Ryan M. Bottini

HONORABLE MENTION

Jonnathan Park

"The attempt to design a new block that could be configured in several ways is very successful."

TEMPORARY LIBRARY



ΠE nn







This project began with the creation of a custom masonry block that allowed me to fulfill the temporary requirements of the program. The custom masonry blocks, shown to the left, were designed to be constructed using steel cables in tension to hold them together, allowing them to be disassembled when the library was no longer needed.

The custom masonry blocks allow for the shelving of books up to 8" tall, and create the circular, dome shaped reading room. The masonry blocks are held in place, squeezed between a concrete footer that is the anchor for the steel cables, and a steel collar that encircles the top of the dome.

The custom masonry blocks are also used to create a wall that defines the space of the librarian/study area and the outdoor courtyard space, yet is transparent enough due to its perforations to still allow for visual interactions between those inside the library and outside.

Jonnathan Park

HONORABLE MENTION

Paige Warman

"This design points to the future. It shows an adventurous spirit and is pushing beyond conventions. It shows that you can create space with blocks not set into the traditional methods of block walls."







The process of reading is one where a physical object can transport one to a mental, intangible realm. In my temporary library, I attempted to use that relationship as a spacial concept. I utilized the banal, massive concrete block and contrasted it with a light fabric, air-supported building contained within. The concrete block is supported by an interior steel structure, while users actually inhabit the structure of the fabric building. The air-supported building maintains constant pressure through air-lock double front doors. The concrete block and the adjacent seating are permanent, acting as a pavilion when the library is no longer in use. The air-supported fabric structure is temporary, and contains the modest library program. The fabric is transluscent, allowing for light in the interior while removing visitors to the library from the context. The interior and exterior relationship is established through the play of light and shadow the systems cast on each other.

Bottini, Ryan Folliard, Christina Grundy, Halley Helmstetter, Charles Kennedy, David Paceley, Jaclyn Patel, Puja Reeves, Donald Roll, Rachelle Taccioli, Diego Warman, Paige Williams, Jerome

DAMIANI STUDIO

Azoulai, Arthur Butchko, Andrew Cohn, Elizabeth Gregson, Spencer Kuhns, Alyssa Park, Jonnathan Perry, Rachael Rachavaks, Ubolsiri Silverstein, Michael Tanski, Gregory Topinka, Alyssa Varshavsky, Misha Yankowski, Erica













STUDENT ENTRIES

Arthur Azoulai Andrew Butchko Elizabeth Cohn Christina Folliard Spencer Gregson Halley Grundy David Kennedy Alyssa Kuhns Jaclyn Paceley Puja Patel **Rachael Perry** Ubolsiri Rachavaks **Donald Reeves** Michael Silverstein Alyssa Topinka Misha Varshavsky Jerome Williams Erica Yankowski

TEMPORARY LIBRARY

Pittsburgh, PA

Arthur Azoulai 48-205 Materials Studio / S07 Instructor: Gerard Damiani CMU School of Architecture







STATEMENT

This project was part of a Masonry competition were concrete blocks and concrete planks were the two main materials that we had to use.

First of all, as a third material I decided to use acrylic because of its ablility to bend, that I used to create the program of the library. For instance, the librarian's desk is made out of a piece of acrylic that bends down from the roof acrylic and bends in the building to create the desk. The same process was used for the public table, the study carrels, and the shelving.

Second of all, to address the issue of the library being used temporarly, I decided to create a structure that would make it possible to take the walls down once the library would stop being used. Once the walls down, only the structure and the roof would remain. Therefore, it would create and covered public space that could be used as a public marketplace or for any event organized by the Southside neighborhood.

Arthur Azoulai



for my scheme for the south side temporary library, concrete block and precast concrete plank were required as well as an additional material of my choice. the program called for reading and computing spaces, a check out space, and a fire place all within a mere 500 square feet.

the scheme exists as a set of two systems. the first, composed of concrete block and plank, sets up a series of volumes. the second system is a ribbon of 1" cor-ten steel that disrupts the first system both on the large and small scales. the ribbon disrupts the visual pattern of the block while at the same time causing a pushing and pulling of the 11th street facade. the ribbon also configures interior spaces by acting as a series of nearly scaleless thresholds as well as acting as wall, floor, and ceiling. the cor-ten ribbon also forms the central shelving unit, which house the majority of the books as well as fireplace. this shelving unit divdes the linear space into two corridors where the series of thresholds can be experience to the fullest. the ribbon terminates by creating an exterior space meant for reading, community events, presentations, and more at the rear of the building.

andrew n butchko







The intent behind my design was to bring people from the busy atmosphere of Carson Street, through the building and allow them to experience other sides of the site. A linear composition is created that enhances views along 11th street, a small residential street that runs the length of the site. The form is composed from a series of layers that make bands that wrap around. The building is split in half, into one deep space and a series of shallow spaces. In the shallow part of the building, there is an implication of depth, while containment is implied in the deep part. Programatically, the shallow spaces contain the checkout desk, the outdoor spaces, the fireplace and the computers. In the linear spaces, circulation occurs, as well as the main book storage. The shallow spaces are larger and allow more room for human interaction, whie the deep spaces provide support.

Elizabeth Cohn











The concept driving the scheme of my temporary library stems from the most defining aspects of what a library entails. The fact that a library extends beyond its physical boundaries into a community, through the lending of books and access to online media and databases, is an intriguing idea that begged to be explored.

Due to preconceived notions pertaining to its weight, the concrete masonry block is used to anchor the library to the site. Channel glass, which also encloses the stacks, breaks through the block allowing the knowledge contained within the library to reach out into the community.

Christina M B Folliard



The purpose of this temporary library is to link, both visually and physically, space through use of material. In this case, standard concrete block and wood planks are used. By changing from one material to the next, it gives a hint to spaces beyond. Although wood plank is an opaque material, through its spacing it becomes transparent. It also lets in light and air circulation, and connects interior spaces to exterior. The two entrances allow for two different arrival sequences which meet in front of the circulation desk and merge into the main space. By use of the main space, the ramp, and the private reading room one experiences glimpses of both external and internal space.

ALYSSA KUHNS

Located on East Carson Street in the busy South Side of Pittsburgh, the driving idea of the temporary library is how to use concrete block in an innovative manner. In order to utilize block as a floor, ceiling, and wall surface, a system of steel supports threaded into block was created. The steel inside of the blocks is supported by a formed steel frame held up by pairs of columns. The interior is block, while the exterior is covered with spray-on insulation and zinc sheathing. The block starts out as part of the sidewalk, and then pulls up and around forming the volume of the library. The orientation of the block points to the rear of the library where the main spatial experience is located. Here all aspects of the program are accessible, the ceiling is higher, and the curving block adds unique texture to the space. The building is located on the site in a way to retain the existing green space and add a covered area to the existing bus stop in front. The architecture addresses temporary in the sense that the block is not load bearing and is reliant on the steel structure to stand.

Jaclyn Paceley

This temporary library explores the relationship between two significantly different materials, split face concrete block and translucent rubber. These two materials work together, as they react to each other, the program, and the site, to create a space for a temporary library. The concrete block piers tower over the visitor in a rhythm of bays that create areas for the program to fit into such as the librarian's desk and stacks. They create a very sensual experience in the way they control you views, create private spaces, and are extremely textual in the way they are staggered as they are stacked to come overhead and their surface quality. The translucent rubber bands push in and out between the concrete block piers to create indoor and outdoor seating, control light and sizes of the spaces, and control views between the interior and exterior of the building, the bands, being smooth, flexible, and translucent, contrast the concrete blocks not only in it's physical at-tributes but also in it's spatial capabilities. The different ways a visitor could react and interact with these two materials between the spaces makes a it unique library experience.

Puja Patel

Statement:

This temporary library is organized programatically, in which the heights of three L-shaped walls are dictated by the importance of the space. The largest being the library and reading area followed by the entrance and checkout counter, and finally the office.

Light enters each space differently. The shelves are transparent, feeding light into the space from outside. The double T's that overhang the bus stop near the entrance have glass between them, letting in light. And the office is pushed back, providing privacy, with gaps in the roof for lighting.

The 3 levels of roofs are supported either by each other, the CMU walls, or columns. The lowest roof level (covering the office) actually cuts through the library and further distinguishes the reading area. The sloped floor also follows that interruption as well and levels out.

REARING

Libraries are hubs of information designed for easy, ready access to the public. Freedom is one's ability to determine one's actions. Access is the action that lets one interact with a desired object. Free Access to Information is the ability to determine what actions will allow one to gather information. In order to perform this idea of function, a library must present an easily interpreted path to information.

In order to achieve this goal, this library has walls that are tall and strong, creating spaces between them like a portal in an ancient city wall, defining the most instictual of openings for passers-bye. As well, the doors lift vertically, piercing above the highest wall in order to strengthen visual cues. The roof is sunken to enhance the walls, and it is shrunken to create a reveal of light that defines the books around the walls. A second shift and shrink in the roof adds a second definition of space through a line of light. Smaller openings in the walls allow visual access to the locations of the shelves and computers from a distance.

Temporary is in this case defined by its use and its degree of permanance. A building not addressing the context aside from sight line cues, it can be seen as a module or hub with maybe 16 units across the greater Pittsburgh area or various colleges across the country. -Donald A. Reeves

In the Southside, the upbeat Pittsburgh borough, a library should become a part of the community. It should be a place where people can gather, learn, and enjoy themself. The current site contained a park space maintained by the city. This park space is very important to the residence of the area. Rather than destroying that place, I allowed the library to celebrate that outdoor area. The library rests below grade with a green roof ontop to allow for residents to walk, sit, or lay on the library itself. By shifting the concrete roof planks up and down openings are created for light into the library, while the roof becomes seating for the park.

The sequence around the library becomes extremely important. A long ramp downward sends the visitor past the windows in the computer rooms, into the main library space where the books are shelved. The computer room following contains the large concrete block fireplace. Past the check-out desk, the stairs up lead the visitor to the far end of the outdoor park space, so that the books can be enjoyed outside.

The scored concrete blocks along with glass openings, create an elegant pattern of grided concrete with long windows for lighting. This patterned wall raises from below in the library to create benches above. -Michael Silverstein Materials Studio, S07

Fragmentation is the separation of a whole into its constituent parts. Most physical objects under go this process over the course of time - a body decomposing down to its skeleton, leaves falling off a tree, the collapse of a building into a ruin. The temporary library's programmatic elements - shelving storage and primarily reading cubbies - are separated from the glazed acrylic enclosure structure. Upon completion and opening of the neighborhood library, the cubbies will fragment from this site and travel there. The interior space of the library is split by a central fireplace into multiple areas for browsing and study. Experientially the rhythm of planks creates strips of light that accentuate the concrete forms.

Misha Varshavsky

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Project One was the exploration of materials and their effect of the human senses. One of the materials required by my studio was concrete block in order to make a temporary library. In thought of these requires, the idea of how concrete could become "temporary" was an interesting insight that I decided to pursue.

Within the project, I decided to make the concept based off of making this concrete structure temporary. I found offsetting the concrete block from the floor gave the project a unique quality in lighting. Instead of sunlight to enter through "windows" it came from un-der the block, making the block seem "weightless". This also gave the idea for the structure (steel) to open up pieces in the facades to be celebrated. Another aspect that made this a library was the books. Now that the concrete was free of being structure for the building it was able to become shelving and seating for visitors. The form and placement of the project was based on the analysis of the site and context. One improtant aspect of the site brought into the form was the disconnection between people and community. And example of that was rundown schools in the area. Seeing this, also created a disconnect between two important spaces (library main area and librarian's desk area).

Jerome A Williams

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