Joint Study Awards '05-06

One of the traditions the **form•Z** Joint Study Program and its report have established is the annual awards presented to deserving students for their exceptional work. This year eight awards of distinction and eight honorable mentions have been granted.

The nominations

To qualify for an award, a student should be nominated by the Principal Investigator (PI) of the JS school where he/she is enrolled. In addition to the images, the PI submits a summary description of the nominated project and states the reasons for which he/she thinks the nominated student deserves an award. This year, there were 105 nominees from 58 different schools.

The Categories

The nominated projects were divided in six categories: Architectural Design, Interior Design, Product and Industrial Design, Visualization and Illustration, Fabrication, and High Schools. One Award of Distinction and one Honorable Mention were granted in each category.

The Jury

The selection of the awards was made by five jurors outside of AutoDesSys, all experts or theorists of computer aided design. They are listed below, in alphabetical order.

- **Dennis Andes**, Designer and owner, Dennis Andes Inc., New Jersey
- **Peter van Colen**, Designer, Design East Corporation, Illinois
- **Wassim Jabi**, PhD, Assistant Professor of Architecture, New Jersey Institute of Technology
- **Victor Martinez**, Conceptual Designer, Film Industry, Los Angeles, California
- **Bart Overly**, Partner, Blostein/Overly Architects, Columbus, Ohio

The Process

The projects of all the nominees were sent to the jurors as Acrobat documents on CD-ROMs that also included animations that accompanied some of the submissions. Names and school affiliations were not included. The jurors returned their selections for the awards and grades (0 to 10) for each of the other projects. Selection of a project for an award was considered equivalent to a grade of 15. The grades were averaged and the one project from each category receiving the highest grade was selected for the award. Projects receiving the second highest grade were selected for the honorable mentions. The jury was also asked to comment on why they selected these particular projects. Their comments are included with the displays of the award of distinction and honorable mention winning projects.

Joint Study Award winners that attended the ACADIA 2006 conference

From left to right are:
Jae Oh - *Honorable Mention, Interior Design*
University of Bridgeport, Bridgeport, Connecticut, USA
Lorraine Ong - *Award of Distinction, Fabrication*
Georgia Institute of Technology, Atlanta, Georgia, USA
Luke Johnson - *Award of Distinction, Product and Industrial Design*, University of Bridgeport, Bridgeport, Connecticut, USA
Aric Grauke - *Honorable Mention, Visualization and Illustration*
University of New Mexico, Albuquerque, New Mexico, USA
Mike Frederick - *Award of Distinction, Interior Design*
Miami University, Oxford, Ohio, USA
Justin Kyle, Matt Haynes, John Houser - *Award of Distinction, Visualization and Illustration*, Texas Tech University, Lubbock, Texas, USA

The Prizes

All Awards of Distinction are receiving a **form•Z RadioZity** license with one year technical support and updates. They are also invited, expenses paid, to attend ACADIA 2006, where the awards are officially announced. In addition, AutoDesSys, Inc. will wave the processing costs of a 10-seat JS license for the school they attend, for next academic year. Honorable Mentions receive one year licenses and diplomas acknowledging the award.

ARCHITECTURAL DESIGN

Advisor/Principle Investigator: George Katodrytis

Architecture, Fifth year : **Amr Abdel Fattah**

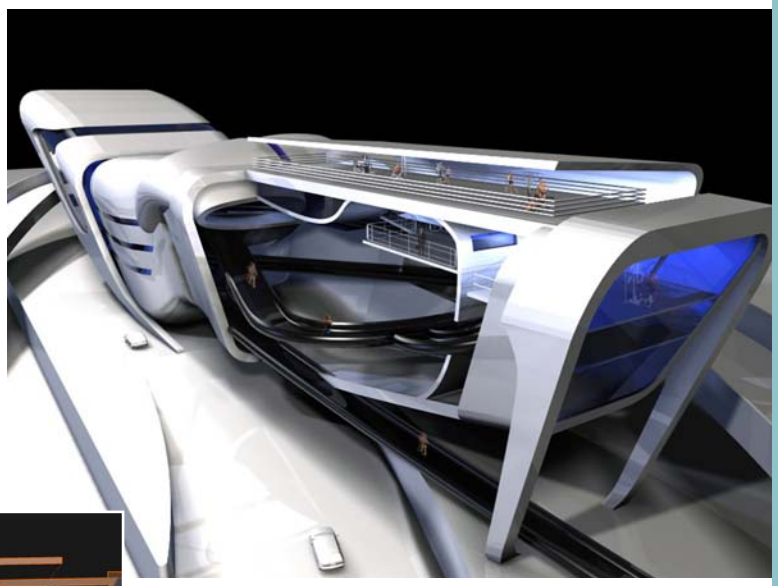
Urban Orthopedics Laboratory

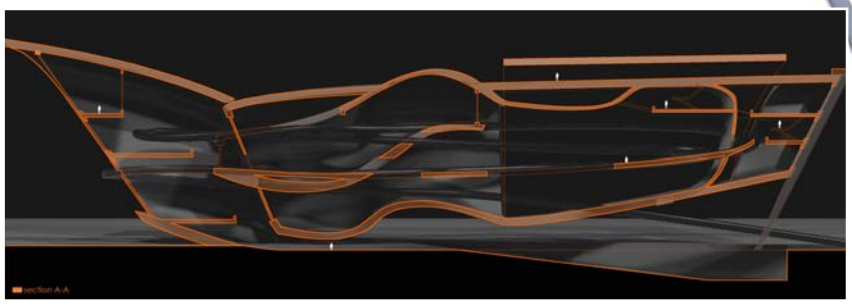
Architecture Department
American University of Sharjah, Sharjah, United Arab Emirates

Summary Description of Project:

The project started by casting Plaster of Paris. The outcome resembled body joints and bones. These objects were also carved out. The project developed into an exploration of organically evolved forms and anatomical interior landscapes. The castings and their evolutionary forms were translated into 3D spaces, modeled and deformed using **form•Z**.

Digital modeling, only, was used to develop the final proposal. The project was developed as an Orthopedics Lab and running track with gymnasium. The representation included sectional perspectives and exterior as well as interior renderings, showing in detail materials, lighting, tectonic composition and human participation.





Reasons for the Nomination:

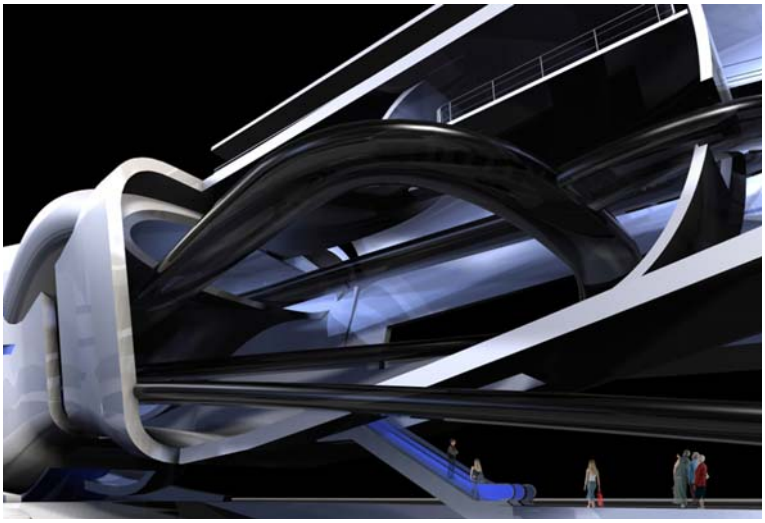
This student's studio project exemplified the processes and methods of abstraction as generators of form that were required in this studio. This project reflects a fluid transition from early concept to architectural development. The design elements interact with the historic Fort Adams site, which remains independent, but feels as if it is in a call and response dialogue with the new complex.

JURY COMMENTS:

I was delighted that the architect moved away from the box with an exterior curvilinear form that became a 3 dimensional icon for this unique Urban Orthopedics Lab. The interior spiraling running track and usage of clipped views, human figures/cars in motion, gym equipment for scale and the exploration of dynamic interior views nailed this presentation. Overall the student demonstrated a control of the **form•Z** and digital medium. Sign me up for a membership to the gym today... an excellent presentation. – **Dennis Andes**

The author of this project masterfully controlled his formal investigation. The project illustrates excellent understanding of fluidity, shell-like structures, and sectional interaction. The renderings are well considered and illustrate how digital tools can convey space and form like no other tools.
– **Wassim Jabi**

An impressive project showcasing both the visualization capabilities of 3D modeling and **form•Z** specifically. Missing are the tell tale clues of foam core model construction and a reliance on rectilinear planes. What is present is an exploration of organic space achievable with the use of computer modeling. The **form•Z** renderings do a wonderful job of allowing the viewer to become immersed in the concept of this architectural space. – **Peter van Colen**



form•Z Joint Study Program 2006 HONORABLE MENTION

Advisor/Principle Investigator: Howard Davis/ Lars Uwe Bleher

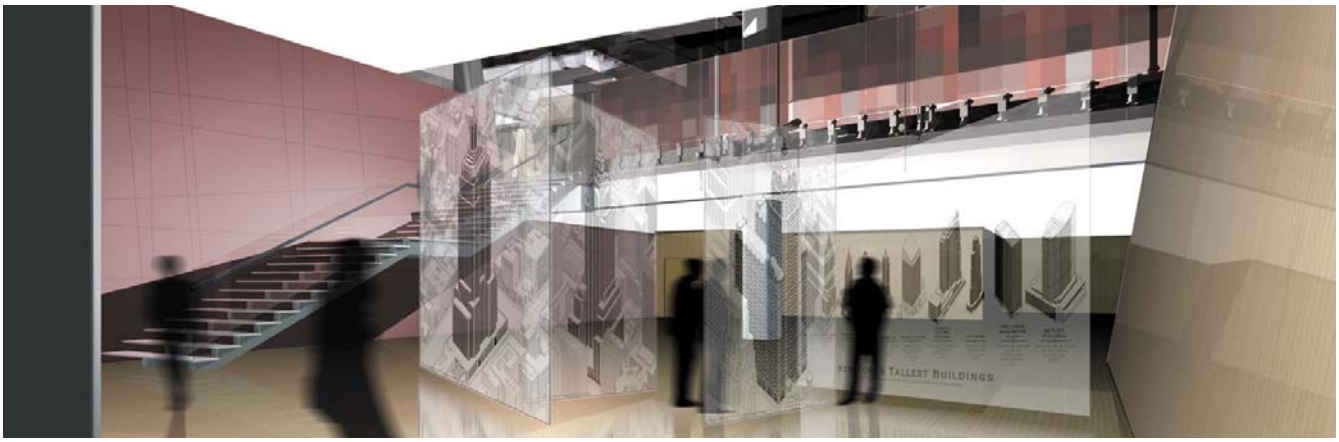
Bart Chui : Graduate, Studio Project

Museum of the Building, New York City

Department of Architecture and Allied Arts
University of Oregon, Eugene, Oregon

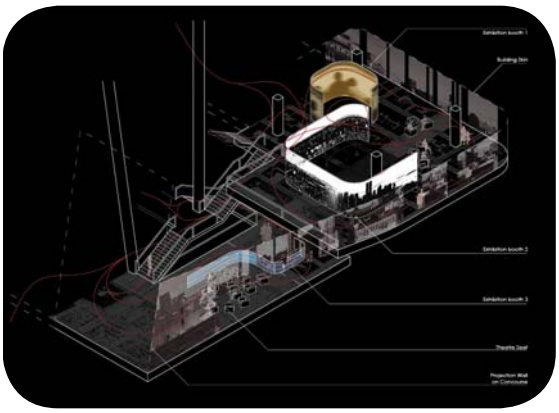
Summary Description of Project:

Program: The problem of Museum of the Building arises in the inherent contradiction of the program. Logically, the city itself is the Museum of the Building, a collection of buildings. A museum building containing buildings is inherently redundant. To rationalize the dilemma, a Museum of the Building therefore should imply a well-defined and confined volume that contains a dramatically different aura from the surrounding. Therefore the strategy of building consists of two parts: the skin, which wraps around and brings a smooth transition from everyday to the controlled: and the volume, which is further divided into a series of rooms.



Reasons for the Nomination:

Nominee was able to engage in a very creative project investigating space on multiple scale levels (urban, building, interior, exhibition). His design process was very rigorous and employed the full media spectrum in a seamless way: Physical models, sketching, digital modeling and drawing, physical and digital collaging. Nominee was a great team player, inspiration for his colleagues and a benchmark in the studio.



Jury Comments:

This student displayed a very cohesive and consistent presentation aesthetic that not only utilized a variety of rendering techniques from wire frames to cutaways to fully rendered perspectives, but did so in an elegant and meaningful manner. Thus, each mode of representation not only conveyed the information effectively, but also was essential to the development of the project. The project was not simply about creating a cool model, or a successful rendering, but really about exploring a design polemic and using digital media to not only represent those arguments but also defend them through a skillful exercise and well executed presentation imagery that transcends the media. - **Victor Martinez**

INTERIOR DESIGN

Advisor/Instructor: Murali Paranandi/ Raffi Tomassian
Principle Investigator: Murali Paranandi

Senior : **James Diewald | Michael Frederick**

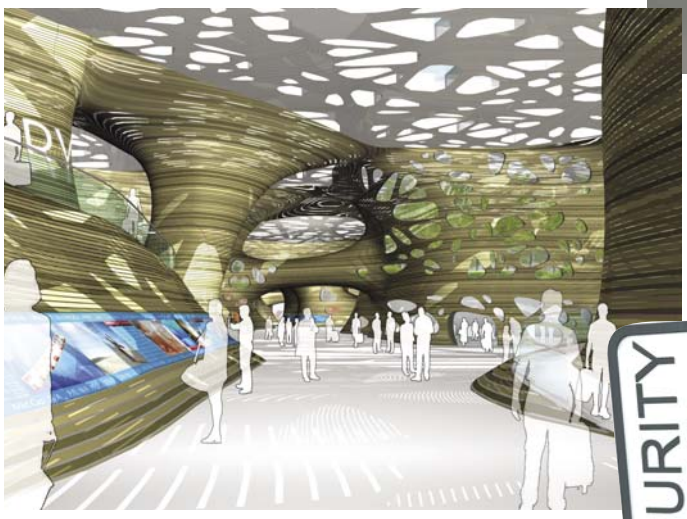
38 N 82 W Regional Airport

School of Architecture
Miami University, Oxford, Ohio

Summary Description of Project:

Post 9-11 security concerns, among other issues, have produced an atmosphere for air travel that is neither enjoyable, nor adequately secure. '38N 82W Regional Airport' identifies critical problems associated with conventional airports and attempts to resolve them through the introduction of a number of emergent technologies as well as innovative planning themes centered on the experience of travel.

Ecologically speaking, airports present major problems in terms of their impacts on surrounding areas. Out of a concern for local populations, runways and landscaping attempt to minimize the negative audio-visual presence of the new airport. Furthermore, interior gardens, green roofs, biotope waste processing, intelligent landscaping, and passive solar HVAC initiatives reduce the environmental loads of the complex.



Convenience and accessibility are addressed through several features. '38N 82W Regional Airport' utilizes a fully automated parking system in which parking spots literally become the front door of the airport, drastically reducing walking and transport times. By replacing paper tickets with RFID tags that interface with other systems, information can be custom tailored to each passenger. For example, a passenger with children could be directed to the children's play areas in the concourse and later notified of impending boarding times, eliminating the necessity of waiting in designated areas. Lastly, the layout of the airport allows for simple and efficient navigation through each of the program spaces and reduces the average walking distance from the curbside to the aircraft to less than 800 feet.

Reasons for the Nomination:

The digital tools here are used as a means of defining the morphology of his project. Tools are used as an abstract means of development and representation, working with flows and particles to define movement and stationary elements within the project. By working with contours, displacements, and folded sheets, new geometries are created, allowing a smoother interaction between landscape and programme.

Jury Comments:

Great use of the digital tools to both communicate through diagram and rendering as well as produce intricate form with a sensitivity to understanding form's material character. - **Bart Overly**

This project is impressive in its scale and the ability of the author(s) to convey design intention. The systematic investigation of security and flow through an airport is rigorous. The forest-like bamboo-clad interior effectively softens what would otherwise be a large sterile non-space. – **Wassim Jabi**

This project displayed a high degree of development and execution that culminated in a well-organized and cohesive presentation. This student used different modes of drawing, modeling and rendering to effectively convey the ideas of the project. Thus, the student displays a command of the media that allows them to formulate and defend their ideas both through execution and presentation. – **Victor Martinez**

DESIGN INTERIOR

Advisor/Principle Investigator: John Kandalaft, Robert Brainard

Jae Ryong Oh : Senior, Interior Design Studio VI

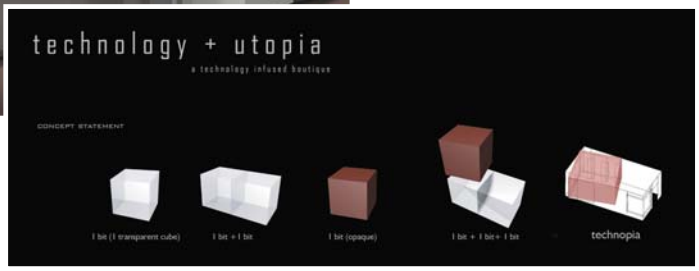
Technopia Boutique

Design Department
University of Bridgeport, Bridgeport, Connecticut

Reasons for the Nomination:

Technopia is a fictional electronics company retail store that was designed as part of the senior level interior design studio.

form•Z was used along with sketch development early in the design process to explore the possible design configurations. Floor plans and construction documentation were developed jointly with AutoCAD. It naturally followed to continue using **form•Z** for finalizing the concept and rendering images for the final presentation.



Reasons for the Nomination:

This student continues to show their understanding of 3D modeling, and their command of **form•Z**. In spite of a number of other software programs at her disposal at the University of Bridgeport, she continues to come back to **form•Z** for her conceptual and communication needs. Specifically she demonstrates an excellent level of development in **form•Z**, excellent presentation with **form•Z**, and an excellent all around integration of **form•Z** with the design process.

Jury Comments:

This interior project was convincing for this electronic retail store. The integration of seating cubicles into the walls, translucent exterior panels and good choice of views received my vote.

Some constructive criticism: Turn the track lights on and use a constant surface map on the laptop monitors, and rear illuminated dura-trans in the base pedestals would have perked up this presentation.

Sure beats the airbrush renditions when I was in design school.
– **Dennis Andes**

PRODUCT AND INDUSTRIAL DESIGN

Advisor/Principle Investigator: John Houlihan, Robert Brainard

Industrial Design Studio V, Senior : **Luke Johnson**

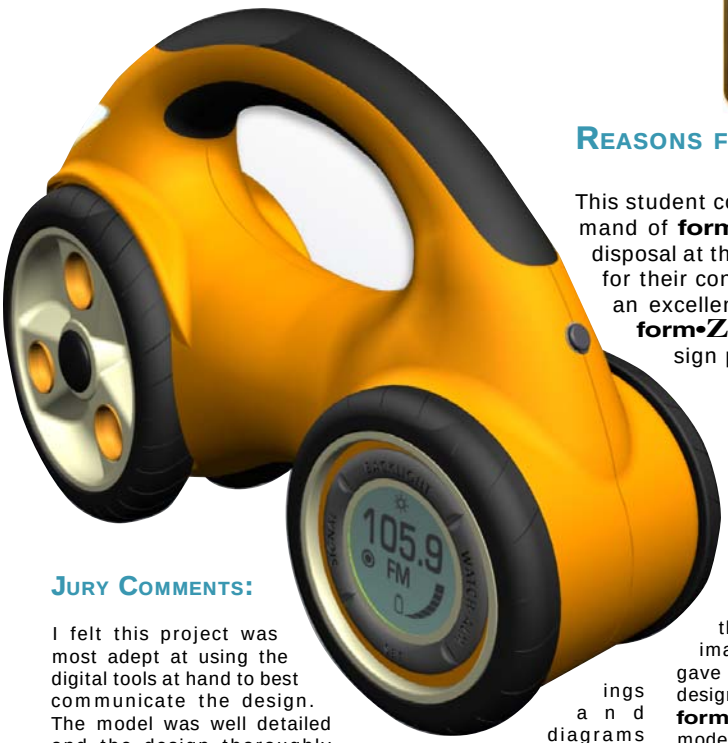
Flare Storm

Design Department
University of Bridgeport, Bridgeport, Connecticut

Summary Description of Project:

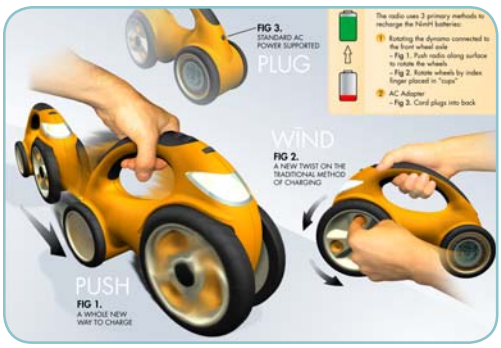
The Flare Storm is an emergency light and radio for disaster situations. Designed as part of the senior level industrial design studio, the intent is to combine three element s -- a flashlight, an emergency radio, and a hand powered generator. **form•Z** was used along with sketch development early in the design process to explore the possible product configurations.

It naturally followed to continue using **form•Z** for finalizing the concept and rendering images for the final presentation.



Reasons for the Nomination:

This student continues to show his understanding of 3D modeling, and his command of **form•Z**. In spite of a number of other software programs at their disposal at the University of Bridgeport, they continue to come back to **form•Z** for their conceptual and communication needs. Specifically he demonstrates an excellent level of development in **form•Z**, excellent presentation with **form•Z**, and an excellent all around integration of **form•Z** with the design process.



Jury Comments:

I felt this project was most adept at using the digital tools at hand to best communicate the design. The model was well detailed and the design thoroughly thought through. The student was able to use a combination of tools together seamlessly.
- Bart Overly

This student displayed a command of the digital media that allowed him to explore both formal concerns as well as effective functionality as expressed both in the model and presentation layout. Well done renderings and diagrams as well as written text all work in unison to effectively describe this project. I would have enjoyed seeing this project fabricated, or perhaps, use layered rendering techniques to create an x-ray/cutaway type rendering to reveal the insides or materiality of this product and add a bit of variety to the imagery.
- Victor Martinez

Upon viewing the first image I wondered where the driver sat... the hand image charging this product gave me the answer. This designer utilized the power of **form•Z** not only to beautifully model and virtually render Flare Storm to clearly communicate all its functionality features and show how the product works. The graphic plate layout was also nicely executed; I preferred the single plate with Flare STORM logo braking the top bar rule (be consistent). A well designed and strongly presented digital project.
– Dennis Andes

Advisor/Principle Investigator: Gadi Freedman

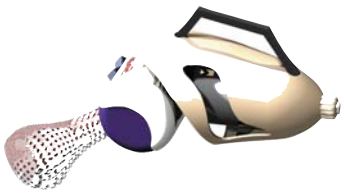
Lior Ori : Second year, Design School

Hand Held Power Tool

Industrial Design Department
Holon Institute of Technology, Holon, Israel

Summary Description of Project:

An original design for a hand-held power tool. Design, rendering and presentation are all done with great care. The project is also presented in a realistic environment that compliments the product. Form and color tests help us to understand more about the product.



Jury Comments:

After reviewing all the entries a number of times, I felt this was one of the finest virtual renditions of all the submissions because of the surface styles, point of view and lighting. Very impressive especially for a student at this level!

The designer used many features **form•Z** has to offer to create this virtual photograph. A tip: To eliminate the halo for the "Snap on Charger" copy, use just a transparency map with a plain color red color rather than a color map with an alpha channel. Also, graphically offset Snap-on copy to miss the beveled edge. It all adds up to image perfection. Black & Decker sign the designer up today!
- Dennis Andes

This hand-held power tool project presentation shows how quickly both form and material can be explored and visualized using **form•Z** 3D modeling and rendering. The final design rendering does a great job of bringing the idea from concept to potential reality.
– Peter van Colen

The design process is clearly illustrated with multiple variations. The rendering is very realistic and well-lit with soft shadows. The rendered object is placed in a natural environment that helps the suspension of disbelief. I appreciated how this power tool sits on its charging base in a very natural position (on its side). **– Wassim Jabi**

VISUALIZATION AND ILLUSTRATION

Advisor/Principle Investigator: Bennett Neiman

John Houser | Mathew Haynes | Justin Kyle

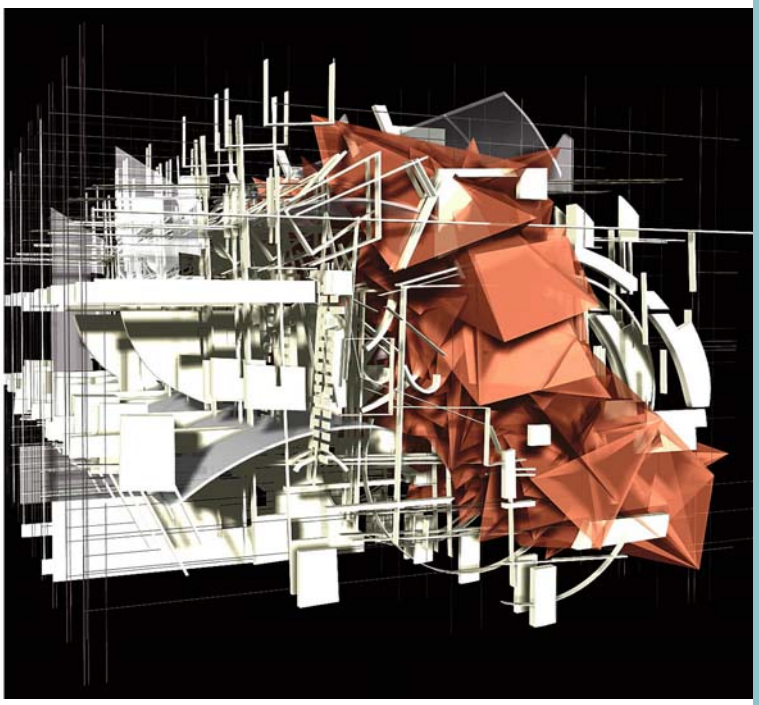
: Forth year, Architectural Studies Seminar

Analog-Digital Light Box: Blender Box

Architecture Department
Texas Tech University, Lubbock, Texas

Summary Description of Project:

Blender box -00h:01m:00s appliance, catalyst, unconventional, apparatus, vehicle, instrument, enclosed, sinister, disturbing, ominous, worrying, threatening, transparent, dormancy, peace -00h:00m:10s suspense, anticipation, tension, isolated, trepidation, concern, remote 00h:00m:01s explosion, ignition, blast, bang, discharge, transformation, alteration, illumination, kinetic, transitory, climax, disorganized, momentary, hectic, frenzied, erratic, enclosed, active, lively, energy, irregular, variable, liberated, ephemeral, organic, unrefined, crude, temporary, contained 00h:00m:05s abeyance, interruption, reflection, interpretation 00h:00m:08s continuation, resume, reckless, broken, busted, wrecked, shattered, disharmony, inconsistent, chaotic, disordered, 00h:00m:20s aftermath, repercussion, outcome, traumatized, crushed, fragmented, shattered, disarrangement, result, disarray, disorder, jumbled, consequences, scrambled, blight, disfigure, marred, devastated.



The concept of the blender box develops an environment that maximizes the amount of possible variables in a contained space. The concept is only the beginning of a greater experience and does not dictate the path of the exploration through the development of this project. Although some design methods follow a strict analytical path that fetishizes on an original concept, this group chose a liberated exploration of the endless possibilities of event.

Jury Comments:

This is an incredible experimental academic investigation. It was inspiring to see the use of many tools (**form•Z**, sketching, compositing, physical modeling and digital fabrication) working so well together in the production of a clear hypothesis of "production for the pure effect of production."
Bart Overly

This is a very ambitious and thoughtful exploration of analog and digital approaches to instigating a certain mood in the viewer. The digital work almost matches the intensity of the analog work. The animations are particularly unsettling and draw you in to attempt to understand them.
Wassim Jabi

I felt that this project was not only the strongest project in this category, but also perhaps, the most interesting project of all the categories. What an interesting project – so twisted, dark and raw, but at the same time, beautiful to look at. The renderings are perhaps some of the best, not because they are the best lit, the best shaded, etc., but rather because they display a level of abstraction that, when inserted into the whole of the project, they reinforce the mood and aesthetic of the work. Thus, the combination of different media (drawings, models, photos, video) all work in unison to create a cohesive expression that evokes both beautiful and uncomfortable moments that makes for a very interesting project. – **Victor Martinez**

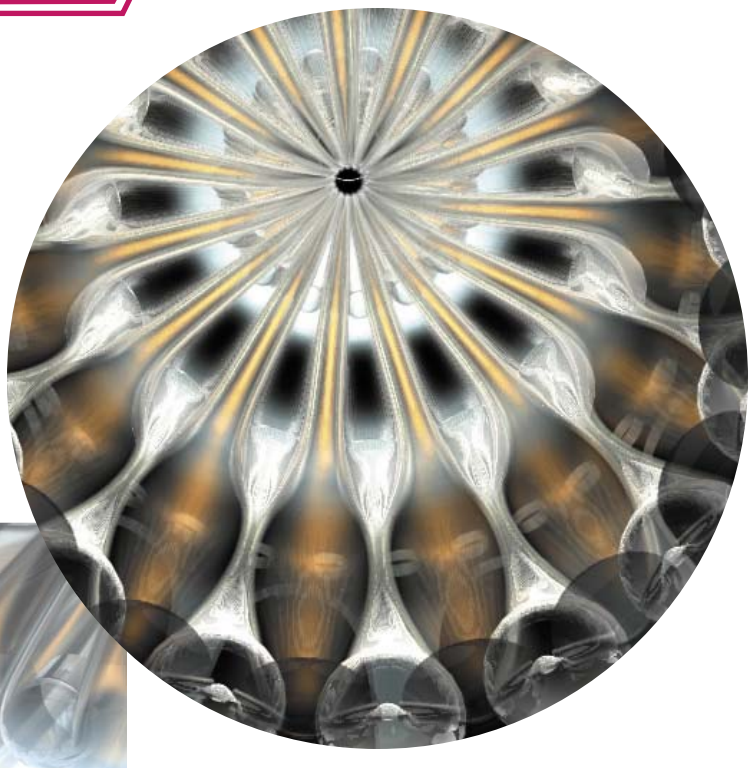
VISUALIZATION AND ILLUSTRATION

Advisor/Principle Investigator: Tim Castillo

Aric Grauke : Undergraduate, Architecture 412

Love Letter

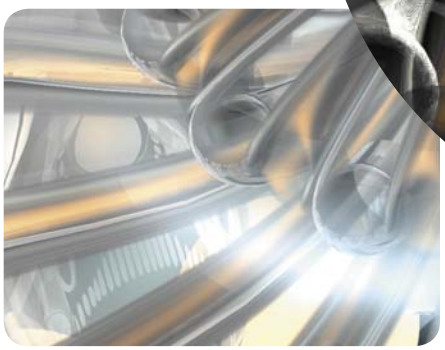
Architecture Department
University of New Mexico, Albuquerque, New Mexico



Summary Description of Project:

Love letter is an animation that investigates the spiritual properties of a conceived virtual space through interactions between the mechanical and natural forms. The animation/visualization explores the depth of networks and tells a story of mysterious and unknown worlds.

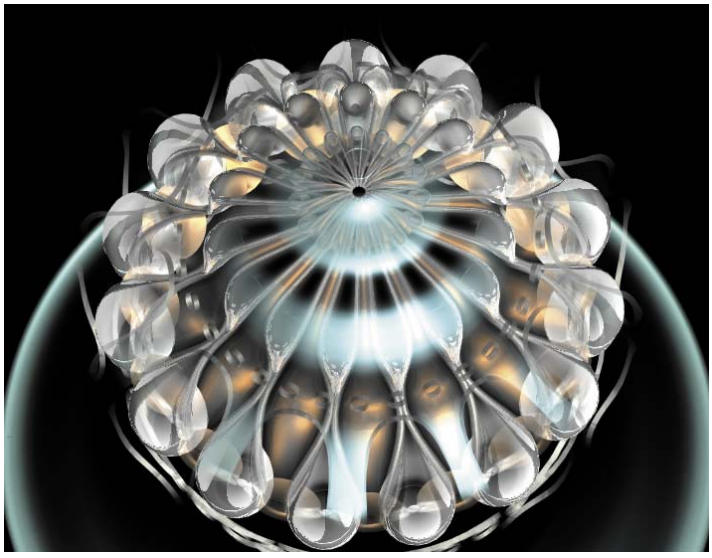
The exercise was created to investigate virtual environments using **form•Z** and other animation programs (Maya, 3-D Viz). The intent was to have students generate an environment that explored light, texture, time and velocity.



Reasons for the Nomination:

We believe that this student has created an animation that is unlike anything ever produced here at the University. His ability to convey a story through the use of form, light and texture creates a sophisticated environment that draws the viewer into his world.

Student has taken animation to a new level here at our institution. We are very excited to take this animation into a new dome immersive environment facility and to explore the potential of this technology to generate new poetic content.



Jury Comments:

This project clearly demonstrates an understanding of all the facets required for 3D visualization. The project communicates a well planned, story boarded, modeled, and rendered effort. This project also showcases **form•Z**'s ability to migrate 3D-modeled geometry to other modeling / rendering / animation platforms. – **Peter van Colen**

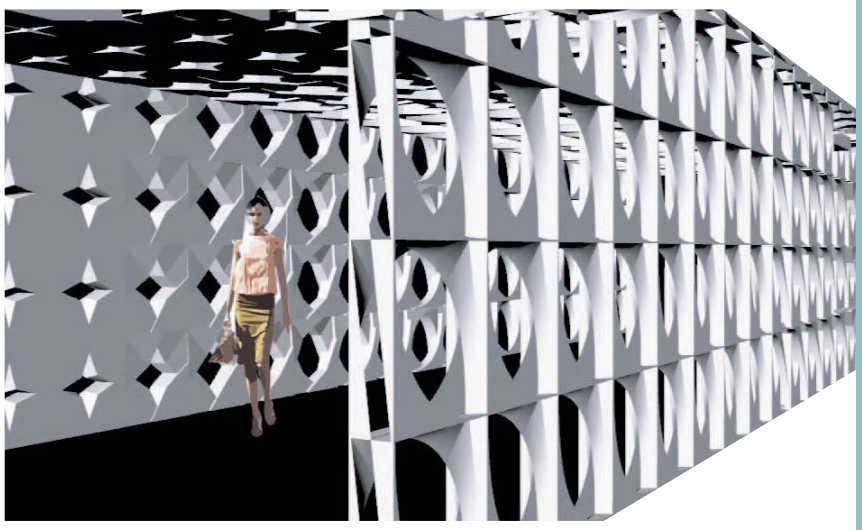
FABRICATION

Advisor/Principle Investigator: Athanassios Economou

Advanced Architectural Design, Second year, Graduate : **Lorraine Ong**

Scripting Concrete

Architecture Department
Georgia Institute of Technology, Atlanta, Georgia

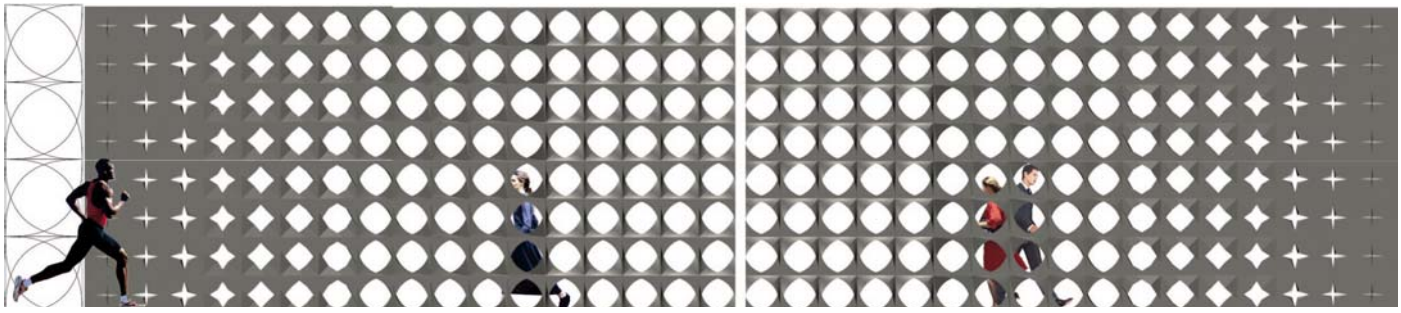


Summary Description of Project:

A study on the geometric evolution of a concrete wall into a panel with one opening. The study shows a particular strategy: an opening starting from the center of a rectangular module to gradually become a space between four curved corner pieces. The process starts out by creating a script in **form•Z** to map the gradual procession from void to solid and the other way around. The script is then reinterpreted in a 3D environment to generate variations on the z-axis. The end form is a gradual decomposition of the solid wall in all three axes. The set of instructions are finally used to generate a two-dimensional negative imprint-a modular formwork-that is used to cast the panels out of concrete.

Reasons for the Nomination:

The major reason is that the student masterfully and exemplary engaged computation at all levels in the creative design process; the design produced is entirely based on scripting conditions and is generated automatically by **form•Z**; the design could not have been visualized or represented in terms of traditional means of representation, digital or analog. It was the algorithmic encoding of form that permitted the gradual unfolding of the pattern and the precision of the representation. Two additional interesting aspects of the project were: a) the script was used to generate the formwork rather than the form and in doing so investigated one more condition in the loop between composition and construction, and b) the script was used at various scales to investigate aspects of the scalar properties of the design.



Jury Comments:

An algorithmic approach was the right choice in this project. It clearly indicates how a masterful manipulation of a few parameters can create a poetic cellular form. This project reminded me of the Arab Institute by Jean Nouvel. – **Wassim Jabi**

I simply just loved the visual created with this concrete wall form. This morphing of solid shapes through the use of a **form•Z** script or any other modeling means to establish the overall fabrication is very impressive. The architect used supplemental views to communicate and explore the created 3D patterns clearly. **– Dennis Andes**

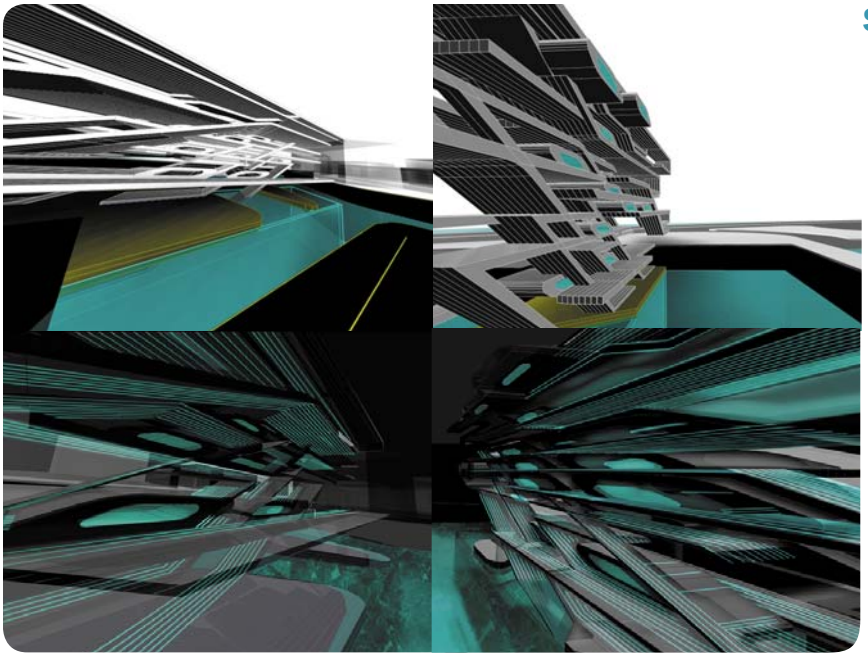
FABRICATION

Advisor/Principle investigator: George Katodrytis

Maisa Jarjous : Fifth year, Architecture

Nomadic Corporation: Hotel & Business Hub

Architecture Department
American University of Sharjah, Sharjah, United Arab Emirates



Summary Description of Project:

A series of sections was generated from a kinetic device tracing Bezier curves of moving particles. These slices were then stacked and interlocked to create a hovering billboard-type thin space of merging parts. Physical models were constructed and then digital models were derived. The unpredictable engagement with these interlocking solids and voids was developed into a business hub and hotel placed by the Creek waterfront, a very lively trading part of Dubai.

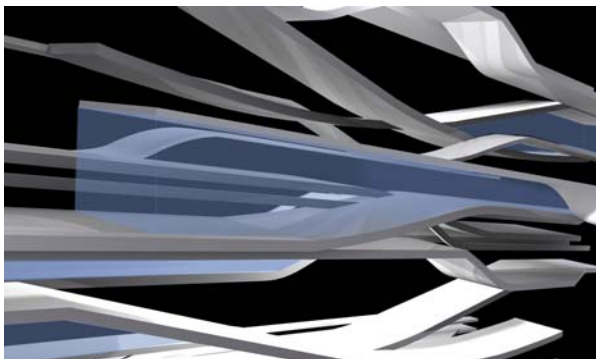
form•Z was used in the initial mapping of movement, sectioning the resulting form, modeling the early diagram of the space, rendering, as well as for the digital fabrication and laser cut of the final model.

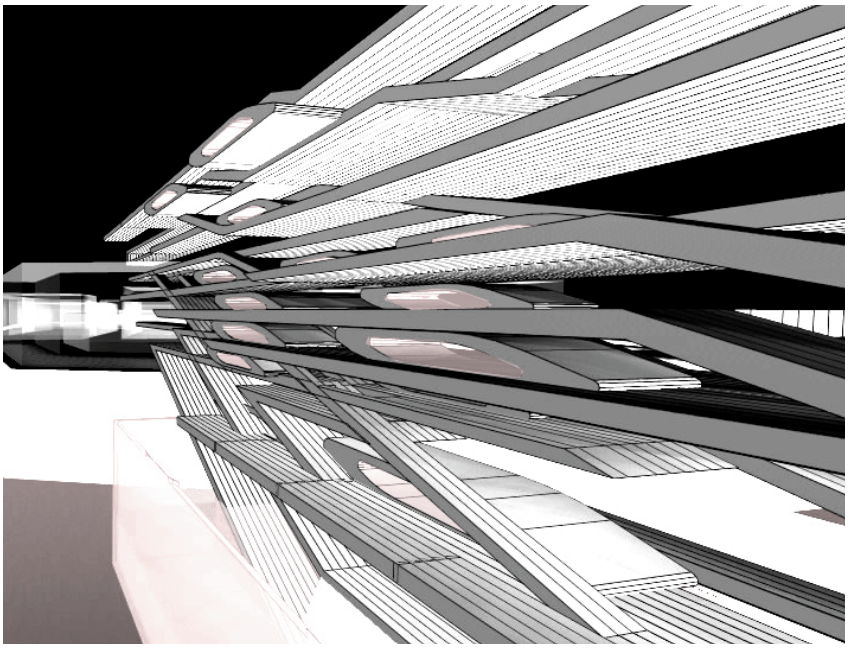
Reasons for the Nomination:

The use of modeling techniques, both physical and digital, to generate sections and eventually complex interlocking forms and fabrication.

Jury Comments:

One of the more visually strong entries of all the categories, this student explored an idea that was conveyed in a stunningly elegant form in which different modes of fabrication were not only aids in developing the form but absolutely crucial in exploring the integrity of the project as a whole. The use of modeling and fabrication techniques were done so with a discipline and rigor that was conveyed in both the execution of their ideas as well as formal aesthetic. The result is a visual poetry, whose form, through the incorporation of several fabrication techniques expresses not only their ideas, but also the process by which they arrived at their formal solutions. Really, a very beautiful project, and one that deserves recognition. **– Victor Martinez**





HIGH SCHOOLS

Advisor/Princi Advisor/Principle Investigator: Larry Maddams

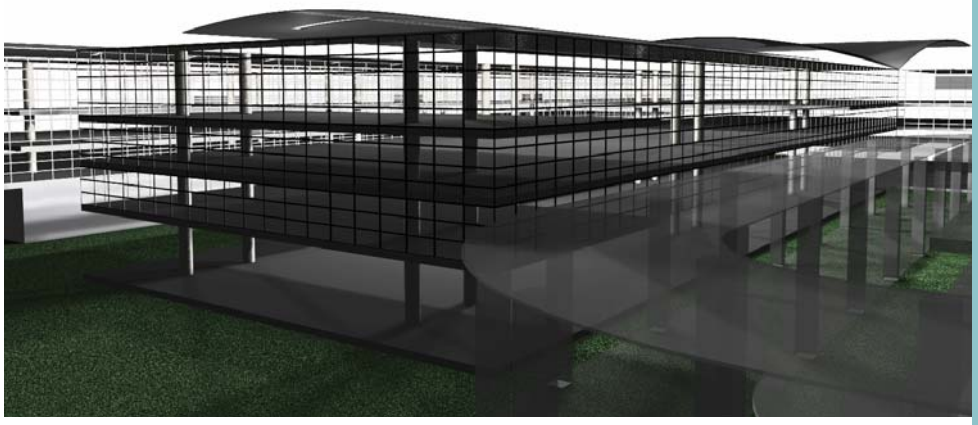
Interior Design, 9th-12th Grade : **Thitikorn Sopchokchai**

Airport Design

Information Technology Department
International School Bangkok, Nontaburi, Thailand

Summary Description of Project:

The project design began as an open ended suggestion to design a building where people can arrive, interact and depart. Most students chose a restaurant or shopping mall, however, this student chose to do an airport (perhaps because there is a new airport under construction in Bangkok).



Reasons for the Nomination:

As the project idea developed, nominee began his research by discussing his ideas with his family, purchasing books on airports, researching the current Suvarnabhumi International Airport and doing preliminary drawings.

As the project developed nominee defined the areas he/she wanted to model and possible views within the terminal. I have included a PowerPoint he did for his final presentation to the class which shows his dedication and skill to this project. I understand that PowerPoint file types are not accepted. I included it only to show evidence of his work and not to be included in the Joint Study Report.

Jury Comments:

A very competent project that communicates choice of materials, graphics, lighting and general atmosphere. I was particularly impressed by the texture maps that include signage, logos and imagery, in addition to simple materials. **– Wassim Jabi**

The student used various rendering techniques that explored lighting, shadows, materials and textures in order to convey ideas and, considering this is a high school project, I think it shows an excellent degree of execution. **– Victor Martinez**

It's a challenge for a high school student to tackle an airport and explore both exterior and interior views. The results are excellent for a student at this early level. Would love to see what you will create in 5 years... **– Dennis Andes**

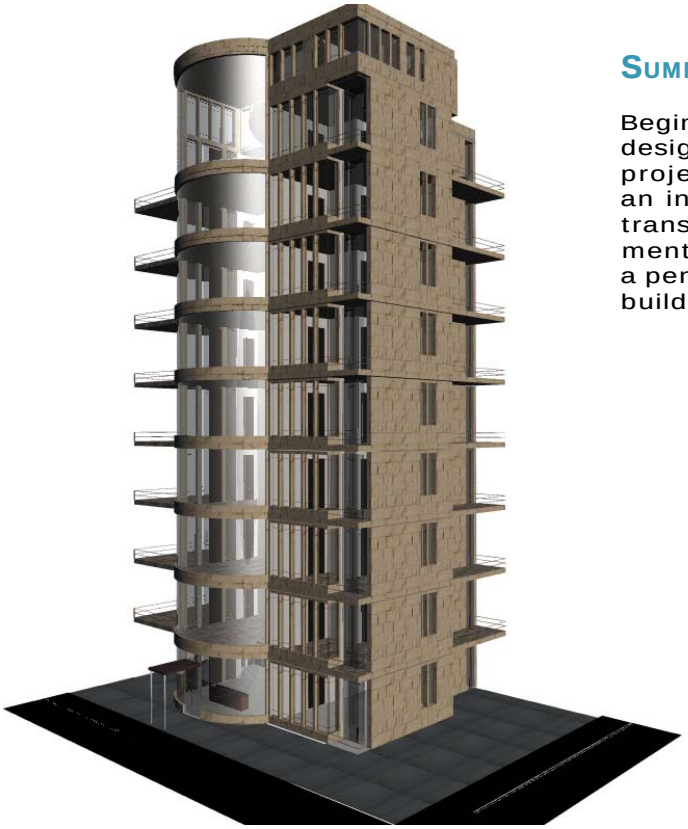
This airport project is an impressive undertaking for a student at the high school level. It demonstrates an understanding of **form•Z** modeling usually seen by more senior users. The renderings allow the viewer to not only get an understanding of the mass proportions of the project, but also immerse the viewer into the model to appreciate the internal volume and light characteristics of the space. **– Peter van Colen**

Advisor/Principle Investigator: Robert Meredith

Dana Sherman : 9th-12th Grade, Beginning Architecture

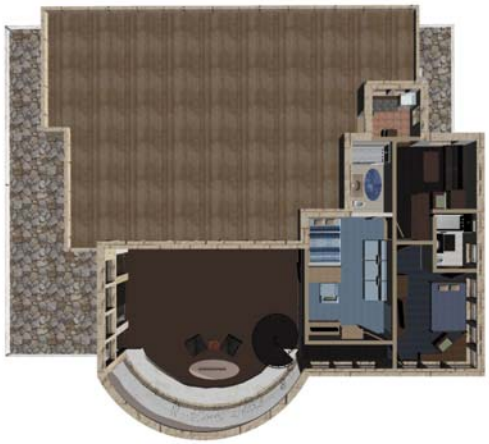
2500 Square Foot House Design

Art Department
Dalton School, New York, New York



Summary Description of Project:

Beginning Architecture students are asked to design a 2500 square foot house as a final project. In most cases students produce an individual home. This particular student transformed the house idea into an apartment building with his/her individual "house" a penthouse apartment atop the multi-story building.



Reasons for the Nomination:

Student successfully integrated vertical, horizontal, interior and exterior spaces of the apartments. A prominent feature of the building is sweeping curved glass facade creating a vertical spine along the front facade. In student's apartment, this glass curve defines a double height living room, while on the first floor the curve provides a dramatic entrance to the building's lobby. What is unusual in this beginning student's project is his/her attention to detail where he/she carefully refined window fenestration and furniture. Student's good design sense and dedication to the project produced one of the finest examples from my two beginning classes.

Jury Comments:

A very skilled modeling exercise for a student just becoming acclimated to digital modeling. The project shows the use of modeling tools as design evaluation tools rather than merely as rendering tools. Developing the skill to use modeling to understand many complexities of a project, both diagrammatically and visually, is an important step. **- Bart Overly**