

Team Members

Faculty Advisor: Dr. Ahmed C. Megri

Students:

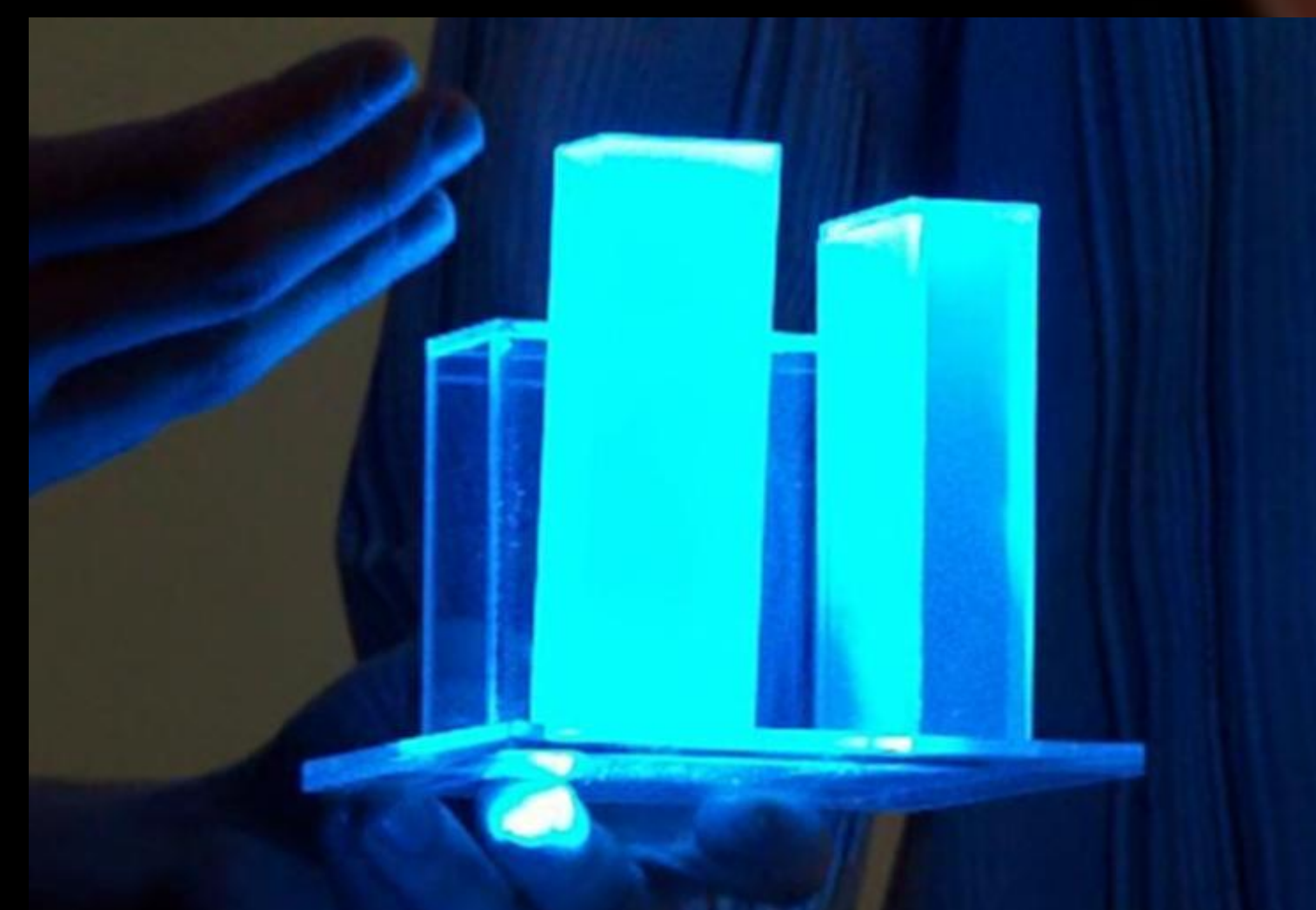
Matt Claxton	Oscar Martinez
Jessica Correa	Ruben Robledo
Emmanuel Flores	Bogdan Rus
Yvonne Hernandez	Diyana Russeva
Jichul Kim	Andrew Seo
Chance Lebron	Meng Sun
Erick Leong	



Project Objectives:

- Completion of the remaining acrylic building models from the Spring 2008 semester
- Fabrication of the remaining detailed models
- Experimentation on bonding methods for larger models
- Determine a method for creating models with greater detail
- Experimentation with a liquid acrylic—model cast method
- Create a model using the cast method
- Determine the degree of possible details
- Determine the effectiveness of this type of manufacturing process
- Integrate a computer interface into the acrylic model
- Obtain a high resolution graphic from the computer onto the model
- High illumination so that ambient light does not block information
- Ease of interface between the model and a computer
- Serviceability of the system due to roughness of use
- Maintain a low cost for reproducibility
- Initial Experimentation
- Data displays including LED illumination and projection surfaces
- Implementation and design process (after arrival of materials)

Model Testing:



Finalized acrylic models using sandblasted technique in order to trap light inside the building. LED lighting was implemented as well to create an even distribution of light. Together these two factors allowed for less light projection and a better visual model.

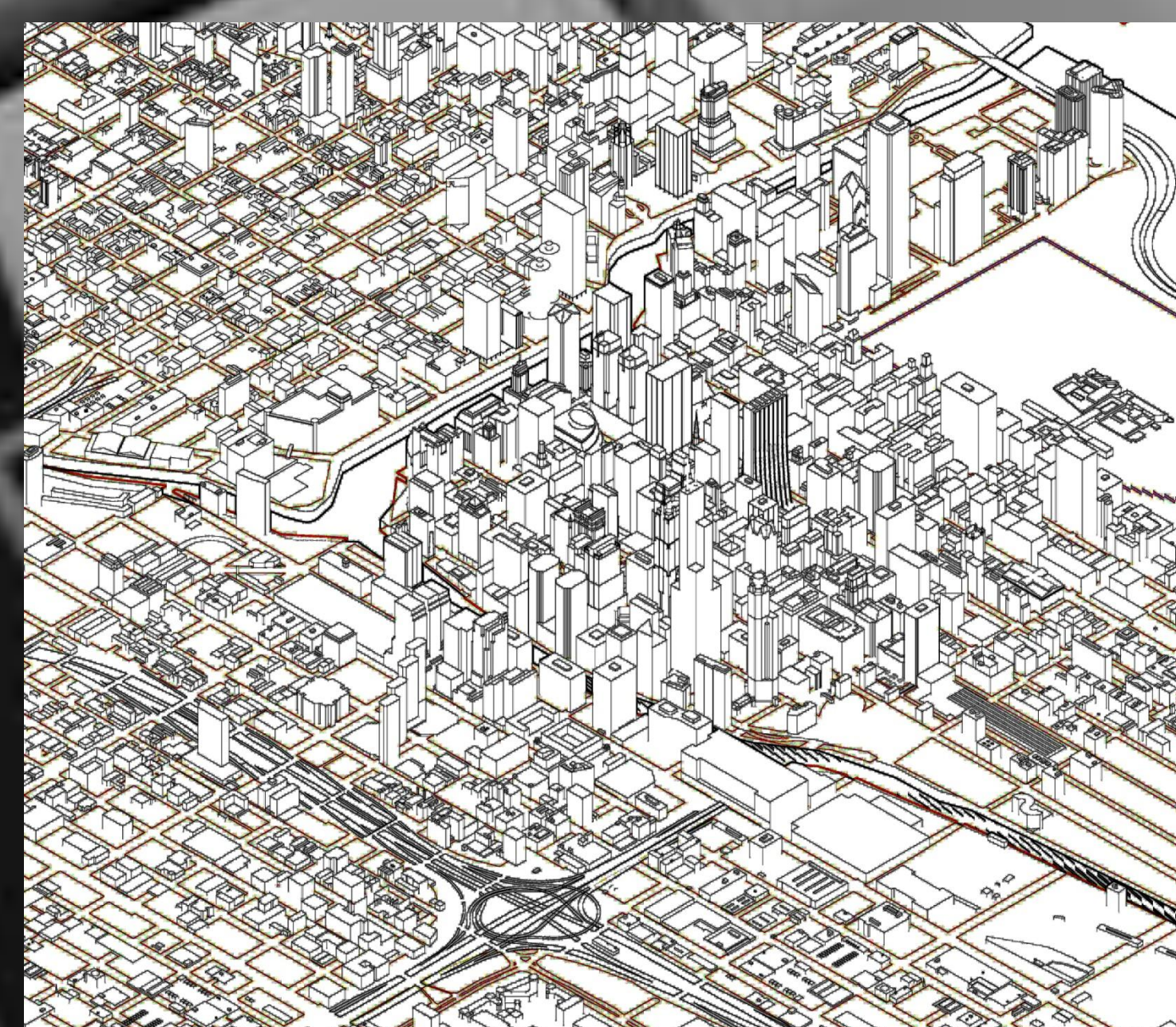
I PRO 317 Summer 2008

Design & Build Chicago Scale Model for Dynamic Disaster Simulation

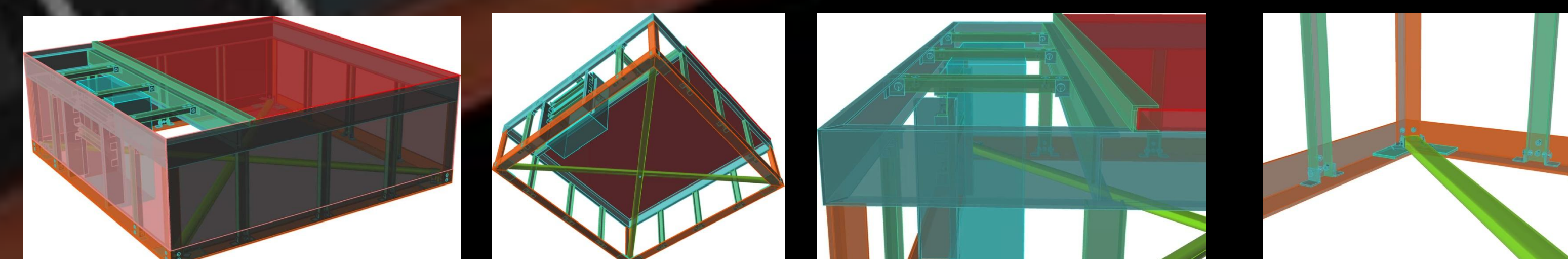
Accomplishments:

- Identification of the scale, materials, technologies, and strategies of construction
- Physical mapping and computer modeling of the downtown built environment
- Continued design of the physical model and computer/electronic components
- Researched and implemented acrylic bonding
- Researched and experimented with different acrylic molding
- Finalized acrylic texture (sandblasted model buildings)
- LED lighting was implemented into the model, as an aid to the projector
- Identifying Problematic Scenarios
- Illustrating a Vast Array of Potential Disasters
- Simulating Disaster Response in Real-Time

CAD Drawings:



[To the left] This is a screenshot from an AutoCAD file showing the entire downtown area. Using sophisticated computer modeling and dimensioning methods, the Information-Architecture team was able to accurately scale Chicago's intricate and unique buildings in order for a mathematically proportioned city scale model. This information was used and applied to the building of the model.



[Above] Here are some screenshots for the design of the base of the model. These designs were produced using Rhino, a powerful CAD tool used for 3-D modeling.



Basic Organization and Tasks:

The group of thirteen was split into three groups.

Milling Sub Team

Yvonne Hernandez
Chance Lebron
Oscar Martinez
Ruben Robledo
Diyanna Russeva

Molding Sub Team

Andrew Seo
Emmanuel Flores
Bogdan Rus

Projection Sub Team

Matt Claxton
Jessica Correa
Jichul Kim
Erick Leong
Meng Sun

LED Lighting:



Using the capabilities of computer modeling along with LED lighting, buildings will be illuminated in the city model.