FROM THE PRESIDENT
Welcome 2000!

[This letter was originally aimed at Vol 19, No 1, but I missed my deadline! I've edited it a little to remove the dated references. —brj.]

As we start this new year, let me give you an update on where ACADIA is right now.

Elections 2000
On March 31, 2000, Doug Noble, chair of the Election Committee, forwarded to me the results of this year's elections. Mark Clayton will be taking over as President in October, and we welcome new and returning Steering Committee members Peter Anders, Nancy Cheng, Loukas Kalisperis, Volker Mueller, and John Tector, as well as alternates Kirk Martini and Shailesh Jain.

It is important that we thank all the people who threw their hats in the ring, both those who were elected and those who were not. The slate of candidates which the Elections Committee was able to assemble was rich, with both stalwarts and newbies in evidence. This is good, because we get an infusion of new ideas and energy while preserving stability through some corporate memory.

Conference 2000: Oct 19-22, 2000, Washington, D.C.
Of course, the ACADIA 2000 conference plans are moving forward. The Technical Chairs, Mark Clayton and Guillermo P. Vasquez de Velasco, and Site Coordinator, Lamar Henderson have been working hard. The most obvious evidence of this is that the Call for Participation, has been posted on the web at www.acadia.org/conference.

I hope you submitted a paper for this conference. While it may seem to some that ACADIA conferences are aimed at the "technical elite" we have long had a tradition of broad-based concern for "digital architecture," including papers on design, designers, and design education. One of the main reasons many of us attend is the blend or mix of presentations.

You should also take note of the new opportunity at this year's conference: the Digital media exhibit, which Darlene Brady is coordinating. This promises to be an exciting addition to the conference activities, and a great opportunity for faculty and students to have their work displayed. This may become a regular event at ACADIA conferences, complete with it's own designated organizer, analogous to the Site and Technical positions.

Competition 2000: Watch for it!
Competition plans continue to move forward. We expect to place information in your mailboxes later this spring or summer describing a competition that will start in the Fall. More information will be available as the program and schedule are developed, at www.acadia.org/competition. We think the new "participants choice" judging model that the Organizing Committee is developing will both return to the egalitarian roots of the Internet and establish a new paradigm for online competitions. Thanks to Peter Anders and his committee for all their good work!

Conference 2001: maybe at your place?
We are still seeking proposals for the 2001 Conference site and technical chair positions (either individually or as a package). If you would like to be part of the action at this level, contact me (brj@u.washington.edu) or any member of the Steering Committee.

Whether you are new to ACADIA or have been with us for a thousand years or so, I hope you'll be in touch. You can reach me via email at brj@u.washington.edu.

Brian

INTEGRATING BASIC TECHNOLOGY: 3-D MODELING AND THE INTERNET IN THE STUDIO
Jonathan Spodek

Introduction
One of the great challenges of architectural education is to teach students how to communicate with other project participants. Communication is critical not only within the design team, but also with outside participants. This year, 4th year architectural students at Ball State University engaged in a unique 12-week design problem on the remote island of Utila, Honduras.[1] This project used basic computer technology to create a dynamic communication forum between the U.S. and Honduras. It also afforded an opportunity for students to use both computer generated and traditional architectural models to gain a deeper level of understanding of the relationship between design and construction.

Design Problem Statement
The project was to design a teachers' residence for the Utila Methodist Community College (UMCC) in Utila, Honduras. The project had a simple program, provide two one-bedroom apartments, a studio apartment, common utility spaces, and a water collection/cistern system. The complexity of the project came with some unique project criteria.

- The project will be constructed by American volunteer labor having little to no construction experience led by a team leader with construction experience.
- The project will be built in 12 one-week phases over a two-year period. The time between phases may be as little as one week or as much as several months.
- Each one-week phase will employ one team of U.S. volunteers. Each work team will consist of 12-14 people.
- Utila is a remote island. Therefore, available construction materials are very basic.
- One of the student projects will be selected for construction to begin in June 2000.

These criteria, unique for a student project, required the class to develop creative ways to communicate with the project participants outside of the college, both in the U.S.

and Utila. It also meant the students would need to have a thorough understanding of the constructibility of the project and to be able to communicate these ideas to the UMCC's Board of Directors in Utila and volunteer laborers in the U.S.

Communication

Communication with Utila and people familiar with the Island became a critical aspect of this project. After exploring several different methods of communication, the Internet proved to be the best venue to facilitate information exchange and dialogue. Designing a teachers' residence in a Latin-American country they had never seen and with little available information necessitated developing creative ways to understand the island, the site and communicate with our "clients." We were fortunate that an American working with UMCC had a computer on the island with Internet access through a U.S. based service provider. Several web sites were prepared for the project. The Internet provided equal access to all the project information for everyone involved in the project, both in Honduras and the U.S. Quickly the limits of Internet based communication were discovered, even given the resources available through our University. Telephone lines and electrical service on the island are unreliable and in short supply. Extended telephone call from the Island are expensive and therefore not practical. These factors required the students to ensure the information posted on the Internet was concise and images were developed for very low resolution to minimize download time.

Our first website contained digital images of the island, the architecture found on the island, and several on-going construction projects. Our contact person in Utila periodically provided new images as we needed. We threaded together images of the site producing a QuickTime VR 360 degree view of the proposed building site. This low-tech method of viewing the site provided valuable insight to students and other people involved in the project who had not visited the site.

A second website contained the student research. Each of the 24 students researched a different subject and developed a "poster" using Adobe PageMaker. The "posters" were then saved as .pdf files and made available through this website. Anyone interested could download a research topic then view or print out the information at their convenience.

Finally, to help facilitate dialogue between the class and our "client", we established an Internet based threaded discussion board. Within this discussion board, we set up four different forums to help direct users and focus questions: Social/Cultural Issues, Construction Means Materials Methods, Project Program, and The Site. Through the discussion groups, students could ask questions about Utila. UMCC's Board of Directors could pose questions and respond to the students. Americans who had been to the island on past volunteer work teams could also provide insight. Of all the Internet tools we used, this discussion proved the most valuable communication tool because it free exchange and documented all the dialogue for future reference. It also provided me, as the instructor, more insight into the information being exchanged and issues being raised.

Using Modeling to Investigate Constructibility and Tectonics.

A key aspect of this project was the necessity for the student designers to have a thorough understanding of the constructibility of the project and to be able to communicate that understanding to the construction volunteers. Traditionally, architects have communicated construction of their designs through 2-D plan and section drawings with the occasional axonometric drawing. It takes a trained professional at both ends of this communication trail to understand these types of drawings. Even then, questions and need for clarification always arise. A reality of this project is that one of the student projects would be selected for construction and construction will be completed by primarily untrained labor. Additionally, the designers would most likely be unavailable to answer questions during the construction. We did not expect to eliminate questions arising during the construction. We did hope to minimize these questions through a clear understanding of the construction concepts and the ability to communicate these concepts to the construction crews.

To more fully understand the constructibility of their designs, students were asked to create construction models of their projects using both traditional physical and computer generated models. Traditional 3-D architectural study models were built using cardboard, balsa wood, and clay and the like. These models were constructed not only to study the spatial qualities, but also to understand the constructibility of the designs. (Fig. 1)[2] Study models were built in stages, illustrating the phasing of the projects. 3-D computer generated architectural study models were also built using AutoCAD 14 software. A careful and exhaustive layer system was developed to thoroughly explore the materials and components of construction. Walls were not simply drawn in plan then extruded. Instead, students developed a kit of materials from wood framing members, sheet goods (such as plywood sheathing and corrugated metal roof panels), joist hangers, hurricane clips, stock windows and doors, etc. With this kit of parts, the student developed detailed schematic and design development study models. (Fig. 2)

The computer models became a much more comprehensive study tool than the physical models in developing an under-

Figure 1. Traditional architectural study model indicating construction/ design

standing the building components and how the work together. Traditional physical study models can easily illustrate basic building systems and spatial qualities. However, they are limited in the level of detail they can explore simply by the scale at which the models are built. Since computer modeling is developed at full scale, components of a building can be studied at many levels of detail, everything from specific connections to overall construction concepts. It becomes quickly apparent that details usually explored in 2-D, such as roof/wall connections, are part of a larger building systems with many interwoven components.
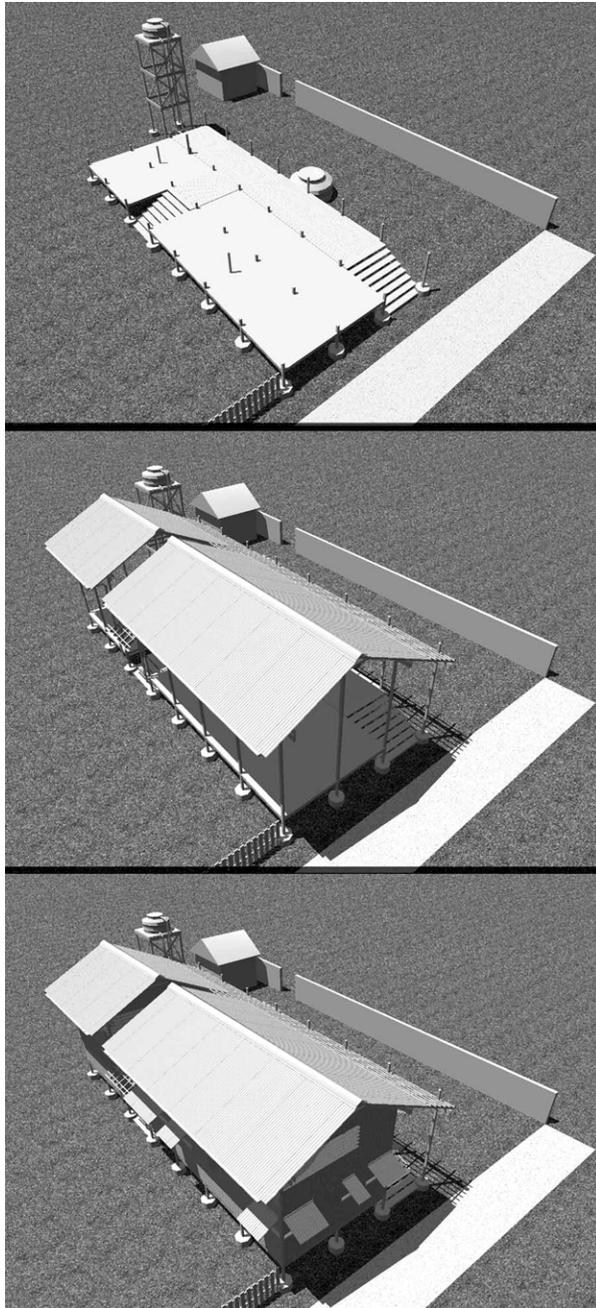

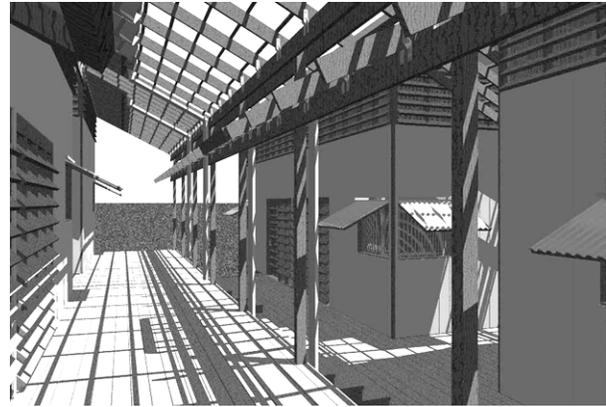Figure 2. Computer generated partial construction phasing study models

Figure 3. Light/shading study model

Computer models also provided a tool to explore varying effects on the quality of space that are impractical with physical models. For example, by specifying project location, season and time of day, the computer models are used to study the effects of daylighting, natural lighting and shading on the projects. (Fig 3)

Finally, the computer generated design models were used to develop a comprehensive set of construction instructions. The instruction packet produced by each student team included traditional 2-D architectural drawings such as plans and sections. But it also included phase-by-phase and step-by-step 3-D assembly instructions similar to the unassembled furniture kit purchased at a discount store. Of course not every step could be included, but enough information was provided allowing the students to demonstrate their understanding of the building construction and communicating that understanding to the work teams. Communicating this level of detail was essential given that unskilled volunteers would actually build the project.

Conclusions

This project offered an opportunity to explore methods of communication and understanding of construction that can be employed directly into an architectural practice with basic computer applications. The unique combination of people involved in the project, the realism of the project criteria, and hi-tech/low-tech communication between Utila and the U.S. necessitated the use of basic technology. The Internet provided a forum to effectively communicate and exchange information between students and outside participants. The increased availability, ability to archive and review information, to build on other students ideas all created a dynamic digital environment. It also developed a deeper level of dialogue amongst the students themselves. The directed discussion groups aided me, as the instructor, to be involved in class discussion both inside and outside the studio.

Through the modeling exercises, the use of both physical and computer-generated models offered the student an opportunity to develop a thorough and comprehensive understanding of their projects. The use of computer modeling integrated the areas of construction illustration and design that are usually taught separately. 3-D computer study models using basic CAD technology is an easy and effective

method to explore the tectonics of architecture and the direct effect it has on architectural design. But it is should not be used alone. The use of physical models still has an inherent learning value. The experience of the student picking up the pieces, putting them together, viewing models to quickly from any vantage point, tearing pieces apart and trying something new still holds tremendous value in the architectural education forum.

1 Jonathan Spodek was the lead instructor on this project. Assisting in the project was Fredrick Norman and Mike Mezo of Ball State University's Department of Architecture, James Needham of Ball State University's Department of Telecommunications, and Jeff Bennett of UMCC, Utila Honduras.

2 All models by Ball State University architecture student team Chris Hanson, Kyle Kerstiens, Tim Terman and Nate Withers.

***Jonathan C. Spodek, AIA** is an Assistant Professor at the Department of Architecture, Ball State University.*

ISLAND OF ZLARIN STUDIO

George Proctor

The fourth year design studio at California State Polytechnic University Pomona is currently working on an island project in the Adriatic. Maglite founder and President Anthony Maglica enlisted the help of the faculty and design studio at Cal Poly to provide a vision for Zlarin, Croatia the place of his youth. The island of Zlarin is located on the Dalmatian coast an hour north of Split. It is one of four inhabited islands belonging to the town of Sibenik, the gateway to the national parks in the Krka river gorge and the Kornati Islands. Zlarin is within swimming distance of the mainland, just a 30 minute boat ride from the Sibenik ferry terminal. Zlarin's beautiful coast and clear waters are a haven for yachters travelling the Dalmatian coast, its picturesque small village dating to the 1400's is a photographers dream and its pristine coves a paradise for swimmers and summer sunbathers. Until the 1960's islands off the coast from Sibenik were heavily cultivated, primarily for subsistence farming. At one time, Zlarin even produced exportable wine and olive oil. Today agricultural production has dwindled to garden plots and a few cared-for olive and grape orchards. At present, only 5% of the island's 8.14 square kilometers are used for agricultural production. Much of the former orchards and vineyards are covered with Mediterranean pine.

A recent visit to the island left Mr. Maglica discouraged about the island and its people's future. Wanting to bring jobs and the substance of a complete life to the people of Zlarin, he asked for the assistance of the Cal Poly design studios to prepare a master plan and urban design solutions for the village and hinterlands of his Adriatic childhood. Cal Poly's College of Environmental design has a reputation for taking on real world projects and brings a diverse range of expertise to bear on an island like Zlarin. The college's rich history began with its founding Dean Richard Neutra and his principles of "survival through design", which are manifest in

the Architecture, Art, Landscape Architecture, and Urban & Regional Planning Departments and, Cal Poly's highly regarded Center for Regenerative studies. The College's Center for Regenerative Studies is known internationally as a living lab for sustainability, and its know-how is a keen match with an island project. In April 2000, a team from Cal Poly visited Zlarin and the town of Sibenik, Croatia to collect data, meet with local leaders and conduct a town meeting. The vision the team presented found consensus with the local people and planted the seeds of the present design studio.

The studio has taken the position that Zlarin be developed as an authentic yet contemporary place in Croatia. Working with the attributes of Zlarin, the fourth year architectural design studio is developing a vision for the island that expands the idea of tourism to include the island's agricultural history, its quaint village and clear coastal waters. The plan calls for the creation of new places for employment, contemporary housing with modern amenities, facilities for cultural and social functions and even the use of renewable energy sources, including the use of wind power, and recycling of water and waste. This proposal for Zlarin develops along a new infrastructure spine fed by a windmill farm and desalinization plant and serviced by a waste treatment system. The spatial resolution of this spine is being organized and structured to reinforce the existing urban system found within the old town of Zlarin and will locate new public amenities, jobs and major island functions. This spine and main road is complemented with a parallel garden community street where contemporary garden housing will be built. These two major avenues will be linked with streets of alternating function. Within this system, auxiliary dwelling units will function as tourist accommodations and communication infrastructure will make possible internet based cottage industries. The two roads will spread apart and parallel the most tillable soil at the island's center. This will be reserved for agricultural production, and the location of a series of light manufacturing facilities, island wineries and other island agricultural crafts and processes- amenities for island agri-tourism. At the southern end of the island a site was selected for a new town with an emphasis on recreation and leisure. Here a new summer concert amphitheater, marketplace, marina and five star hotel are planned. It is believed this mix is a formula to balance the economic vitality of the island and ensure a complete life to the island residents.

To analyze the island and test scenarios for master plan schemes, the design studio has relied on several forms of analysis and media. Mr. Maglica retained the services of the Split, Croatia firm GeoData to generate a GIS file of the island and to make possible the students' use of Cal Poly's extensive ESRI sponsored GIS labs. An ongoing staple of the design program at Cal Poly, formZ modeling, is also being utilized to study architectural solutions, as are conventional design methods and media.

To follow progress on the project visit: www.csupomona.edu/~env/zlarin/

***George Proctor, AIA** is a Professor at the Department of Architecture, California State Polytechnic University, Pomona.*