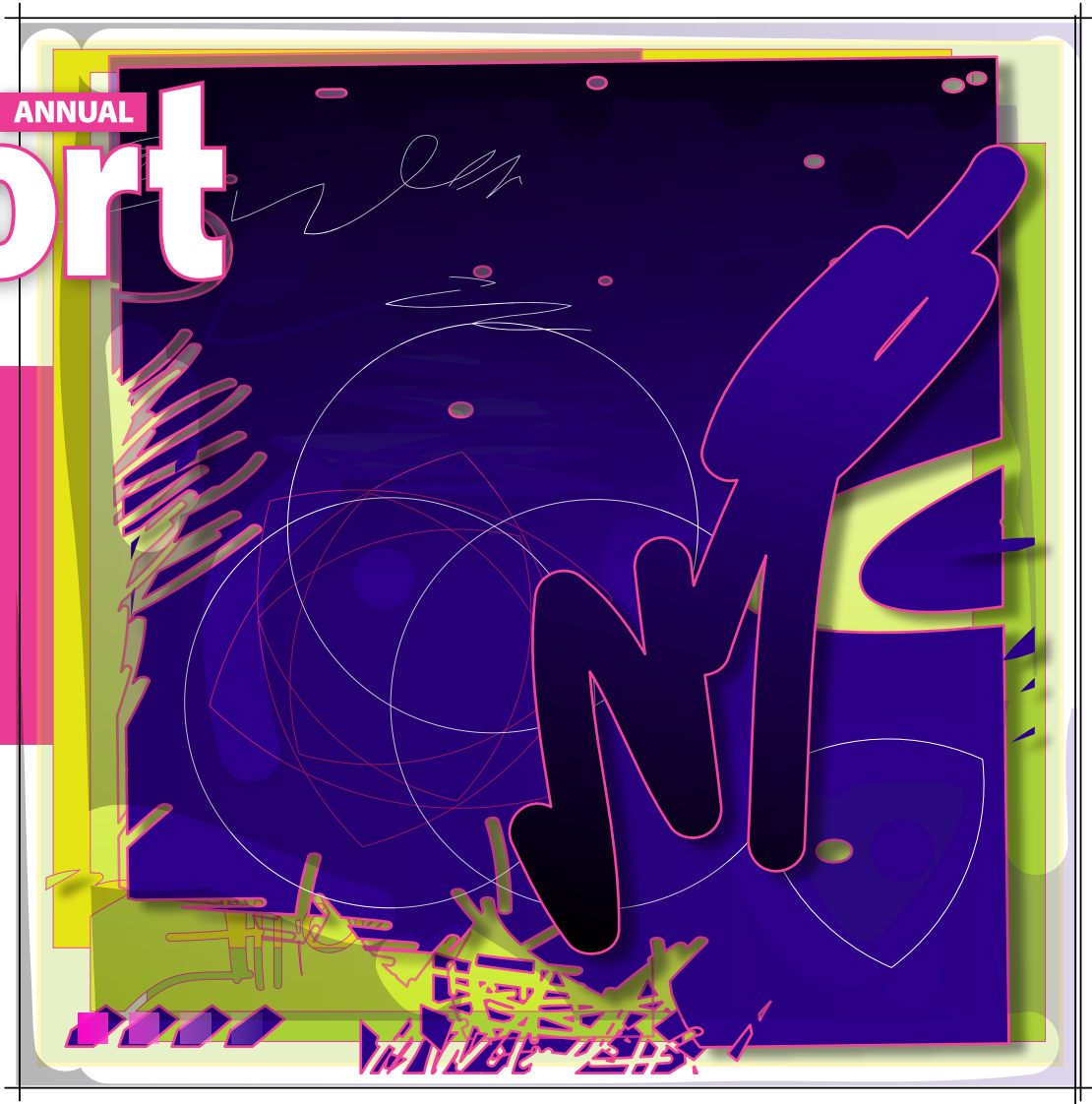SIGGRAPH
EDUCATION
COMMITTEE
Report
ANNUAL

Los Angeles
2010

SIGGRAPH Education Committee 2010 Annual Report
Presented: July 25–29, Los Angeles

Chair's Statement
Marc J. Barr

Through this annual report, the ACM SIGGRAPH Education Committee aims to help the SIGGRAPH community become more familiar with its year-round education and conference-based activities, and seeks to demonstrate ways in which passionate members of the community can participate.

I've been reviewing our various activities and projects in the context of changes in technologies and resources, changes in our audience and reductions in funding. Although we have faced significantly tightened budgets, I believe we have continued to make efficient use of our resources to provide useful long-term materials and experiences to educators and students. I was requested to submit viability reports to the SIGGRAPH Executive Committee and recently received their feedback. Additional discussions are scheduled to take place at the annual meeting in July.

The pages of this report contain descriptions of the various activities of our subcommittees and the work of students from around the globe who participate in our annual juried competitions. Individual reports with more detail regarding all of our projects and activities are included in this report.

The Subcommittees

Curricular and Instructional Resources (C+IR) is responsible for managing the Curriculum Knowledge Base (CKB), the Computer Graphics Educational Materials Source (CGEMS), the cgSource education resource collection, Visualization education, and the Digital Art Curriculum Framework project.

Community Building and Support administers the Education Committee Website, the Education Index, Games and Interactive Media, Primary / Secondary Education (P/SE), the Undergraduate Research Initiative, and all Global Outreach, and Conference Activities.

SpaceTime conducts the SpaceTime Student Competitions and Exhibitions.

New & Noteworthy

This year, educators have volunteered to provide conference mentorship for the first time to the recipient of the ACM Women in Computing Scholarship.

This year's winner is Ms. Nathalie Kaligirwa, a native of Rwanda who attends Oklahoma Christian University.

She will be mentored at this year's conference by long time SIGGRAPH participants Sue Gollifer of the University of Brighton and Gitta Domik of the University of Paderborn.

In addition to the mentoring of students at the college level, we have deepened our relationship with the SIGGRAPH Pioneer's mentoring program for high school students.

We are working with Autodesk to hold a reception for students participating in the mentoring program and
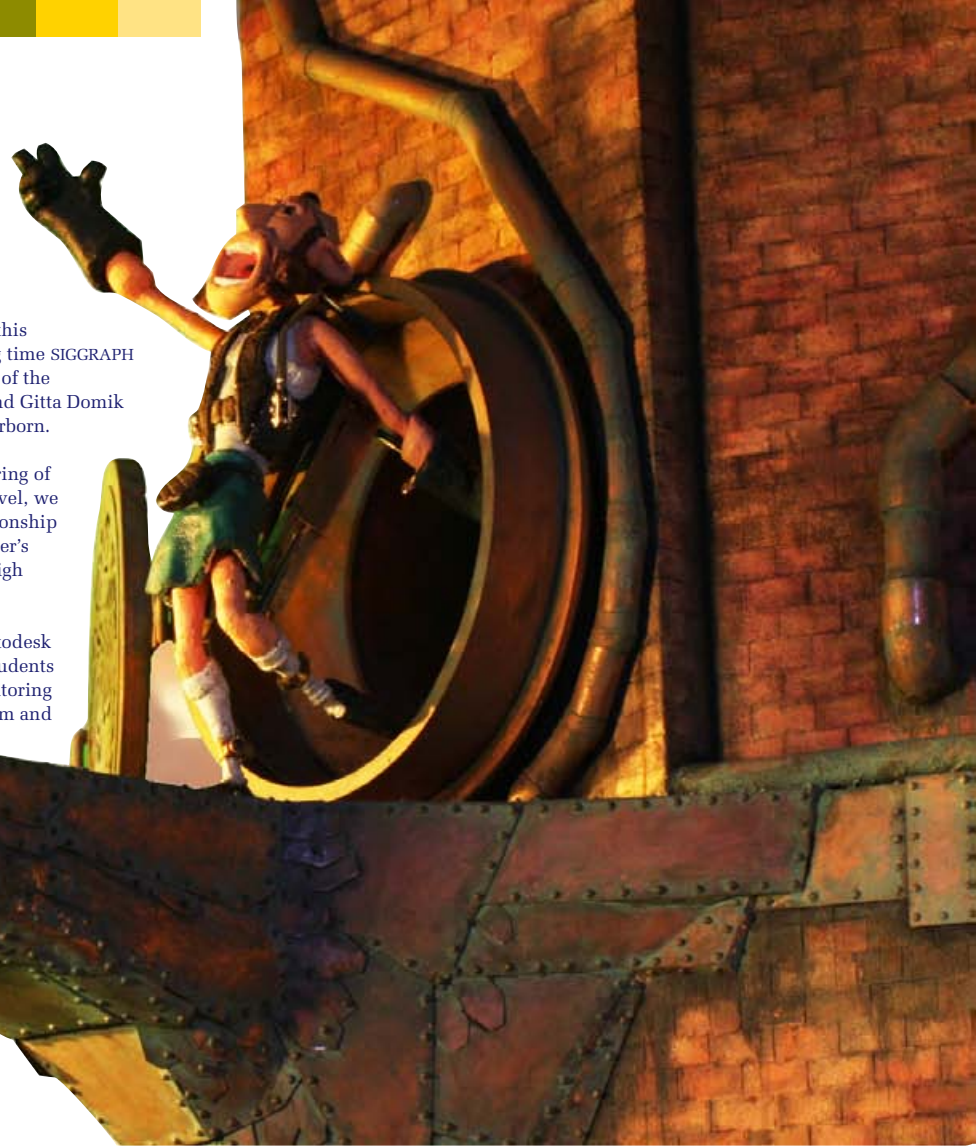
for the winners of our competitions at which they will be receiving a variety of software for their use.

I am serving as a juror for a new major Educational initiative for The Walt Disney Company, the SIGGRAPH 2010 Learning Challenge. The target audience for each project submitted to the competition is Elementary School aged children. The goal is to use award winning creative activities that children love, presented in an online format that is highly accessible and appealing. This initiative represents the importance and benefit of leveraging technology to allow for breakthroughs in learning and assessment at home. The final jury and awards will take place during the week of the SIGGRAPH Conference. These types of activities both reaffirm my commitment to increasing diversity and nurturing of the next generation.

We, finally, have in place a mechanism, fostered by my predecessor, Rick Barry, where materials submitted to the annual conference venues can become part of our CGEMS and cgSource online archives. This will result in a continual influx of new online materials available to educators.

At our annual meeting last year, there were educators concerned in regards to the phasing out of a formal Educator's Program at the conference and in

response to these, Mike Bailey served on juries for S2010 content.

At this year's conference, we are particularly proud of our ability to present two panels on the future of education, with a stellar group of panelists from academia, government agencies and industry. These panels are the result of a collaborative effort between our committee, represented by Rejane Spitz, Roger Malina from Leonardo/ISAST, and the 2010 Conference Committee, represented by James Mohler.

I was invited by committee member and festival organizer Weihua Gao to be a participant in the 4th China (Beijing) International Student Animation Festival, Aniwow!, during the last week of October 2009.

I have also been invited by the China National Center for Developing Animation, Cartoon and Game Industry (NCACG) Annual to participate in their annual Fair as a special guest to promote our collaborative activities. This is scheduled to take place in Shanghai in July.

Everyone is encouraged to submit feedback and suggestions regarding the various activities and projects of this committee and how best we can serve you both at the annual conference and year round. ∎

ACM SIGGRAPH Education Committee Report

Computer Graphics Materials Source (CGEMS)
Coordinators *Frank Hanisch, Joaquim Jorge*
Additional Contributors *Frederico Figueiredo, Colleen Case*

The Computer Graphics Materials Source (CGEMS) is a peer-reviewed online repository publishing curricula, course modules and syllabi, lab notes, problem sets, teaching gems, and student work. It is a continued, joint effort of the ACM SIGGRAPH Education Committee and Eurographics Education Board to offer peer recognition in computer graphics education and to make available excellent, ready-to-use teaching materials worldwide and for free, ensured by Creative Commons licensing. Each material is documented with educational goals, methodology, and assessment, and undergoes critique by long-term educators, professionals, and artists. More than 60 reviewers from 13 countries are involved.

After two fruitful years that provoked 15 (2007) and 11 (2008) submissions in all categories we have experienced a dropdown with the subsequent calls for materials to 5 (2009) and 3 (2010) submissions. As a consequence, we have rescheduled our competition to a bi-annual cycle, modeling after the SIGGRAPH awards, which allows for more quality submissions and a longer two years to showcase winners.

Call for Materials

We are collecting educational material showcasing best examples of teaching in Computer Graphics and Digital Arts. If you have developed valuable content in the field, publish it at CGEMS and shape your academic identity. The deadline is February 1, 2011.

Outstanding contributions will be honored at SIGGRAPH 2011. We consider material in the following categories:

Curriculum The body of knowledge of a specific curriculum with knowledge areas, units, and exemplary topics.

Course Syllabus A course description with a sequence of educational units, course requirements and student readings.

Complete Module A self-contained, single-topic teaching unit, e.g. a book or course slides.

Lab Notes An annotated laboratory session with a list for materials, equipment, and procedures required to conduct experiments.

Problem Set Student assignment with underlying rational and structure.

Teaching Gem An innovative bit of teaching material that highlights an approach to teaching a particular problem.

Authoring guidelines and templates are *here*.

Education Index

Tereza Flaxman

The Education Index is a comprehensive online database of educational programs in computer graphics and related fields. It has been serving the international academic community, students and the general public for four years. It currently lists 560 academic programs, with emphasis in animation, gaming and visual arts.

During these four years, hundreds of people from several continents have searched the database. The database size has grown over the last year. However, there are hundreds if not thousands of other programs that should be included. We invite members of the global education community to enter their programs. ∎

cgSource

Bridget Gaynor, Josephine Leong, Aliza Sorotzkin

The cgSource is a simple, barrier-free, and community-based repository for curricula and educational resources in Computer Graphics (CG), Digital Arts, and related fields. Before being published online, all submitted materials are checked for basic acceptability criteria, carried out by one or more cgSource coordinators, which includes scope, licensing, affiliation, completeness, usability with free/available software, and specified technical requirements. Unless otherwise noted, all materials available in cgSource are licensed under Creative Commons (Attribution-Noncommercial-Share Alike 3.0).

Currently, submissions are sent via an email message to the cgSource coordinators at cgsource@siggraph. org. Authors of accepted materials are asked to read and sign the cgSource License Agreement. Materials are then made available and put in the cgSource repository (i.e. contents are frozen and uploaded). Similar to CGEMS, materials are to be structured according to the current CG taxonomy defined by the Education Committee's Curriculum Knowledge Base (CKB). Based on each submission, keywords will be assigned to all content (existing and new). This work is expected to be complete by year's end.

Serving as a community-based repository, cgSource seeks to provide the CG community with a mechanism for commenting and rating published materials. Unlike CGEMS, which requires formal submission and peer review requirements, it is up to the online community to judge the quality of the materials published in cgSource. For this reason, in addition the work title, author(s) name/affiliation, license agreement, and all associated material, authors are encouraged to provide: short description; long description (a more detailed description of the content and the files included; plus the requirements for viewing); and keywords.

Since SIGGRAPH 2009, staffing has changed on the cgSource team. Coordinators Josephine Leong (Associate Dean, SCAD), and Bridget Gaynor (Professor, SCAD), have been joined by Aliza Sorotzkin (Global Training and Education, Side Effects Software). We thank Frederico Figuerido for his contributions to the team and wish him luck in all his future endeavors.

Also in the past year, the cgSource team has restructured some of what you see on the cgSource page. An archive has been created to save all materials that are no longer "current", but still relevant for historical interests. Currently, we now have access to a long list of submissions through the conference submission process. We are currently going through these submissions carefully to find possible additions that meet the acceptability criteria for cgSource. You can find these submissions at here.

During the next year, the cgSource team plans to solicit more materials through a marketing push. We hope to further develop synergies with the CGEMS community to increase visibility of the contents and get new submissions. Depending on the number of submissions to come, several new features are planned to further support the CG online community: online submission / review system, feature most popular material of the month, mechanism to invite / recommend submissions, and others. ■

Undergraduate Research Alliance

Director Dr. William J. Joel, West Connecticut State University

Established approximately three years ago, the Alliance membership has grown to include eleven faculty, worldwide, from all areas of computer graphics education. In addition, the Alliance has now fostered it's first inter-institutional research project, bringing together six different institutions. The Alliance will continue to sponsor Birds-of-a-Feather sessions at SIGGRAPH to provide an opportunity for undergraduate students and faculty to get together and discuss what projects they are currently engaged in as well as ideas for future work. And, with any luck, these BOFs will also generate new projects. ■

ACM SIGGRAPH Education Committee International Activities

Global Outreach Coordinator & South American Representative Rejane Spitz *(Brazil)*
Asian Representatives Zhigeng Pan and Weihua Gao *(China)*
European Representative Gitta Domik *(Germany)*

One of the major objectives of the ACM SIGGRAPH Education Committee is to help establish a worldwide network of computer graphics educators.

The Education Committee initiated international activities in 1991, by appointing an international representative in South America. Worldwide connections and events have substantially grown since then. Today, our Education Committee is truly multi-national and cross-cultural, with volunteer members from North and South America, Asia and Europe, thus creating a much wider educational network.

Our ACM SIGGRAPH Education Committee members have active roles in the planning and organization of education-related Computer Graphics events in several countries, which offers an excellent opportunity for us to exchange information and promote our ACM SIGGRAPH educational activities worldwide.

In this report we list several international educational activities, events and conferences in Computer Graphics and related areas in which our Committee members and International Representatives are involved, which took place in 2009-2010.

Report from Europe
European Representative Gitta Domik *(Germany)*

Several joint activities to serve educators were planned and executed jointly by members of the SIGGRAPH and the Eurographics committees. EUROGRAPHICS Education Papers took place May 5th and 6th, 2010, at Eurographics 2010 in Norrköping, Sweden. The co-chairs, Lars Kjelldahl and Gladimir Baronoski put together an excellent program from 17 submitted and 9 accepted papers. The sessions spanned topics from Enhancement of Education methods (at university as well as at K-12 schools), to Games and Learning, and to using Graphics and Visualization as a medium for teaching.

After SIGGRAPH 2010, the next Education Papers will be at Eurographics 2011 from April 12th to 15th, 2011, in Wales, UK, with co-chairs Steve Maddock and Joaquim Jorge. Much to the regret of Eurographics and SIGGRAPH members, Siggraph Asia has dropped its Education program from the 2010 conference (December 2010, Seoul, South Korea).

The SIGGRAPH Asia Education Program was held December 17th through 19th at SIGGRAPH Asia 2009 in Yokohama, Japan (chair Ayumi Miyai). In the paper sessions 21 papers were presented (4 of those in Japanese) on topics such as Animation, Games, Visualization and Virtual Reality, Design and Interactive Techniques. 10 workshops and training programs (five of those in Japanese, five in English) were offered. An additional 3 talks covered topics on education for all ages, e.g. Wii Programming.

CGEMS, the Computer Graphics Educational Materials Source, is an online system that provides curricular material for computer graphics educators. During its inception the project was supported by both the Eurographics and SIGGRAPH Education Committees. CGEMS is active with the editors in-chief Frank Hanisch and Joaquim Jorge.

Visualization Activities Successful interdisciplinary collaboration is a prerequisite for finding solutions to complex visualization problems. Therefore it seems that interdisciplinary collaboration in a visualization course is (theoretically) a very good idea, while the practical implementation of such a course is problematic: in a single semester course students need to find project partners out of a group of students they do not know at all, establish a "common ground" with their new partners and create an expressive and effective solution to a visualization problem. In a paper (G. Domik, *Who Is on My Team: Building Strong Teams in Interdisciplinary Visualization Courses*, Education Program, SIGGRAPH Asia 2009), I am reporting on a one semester course given to 48 interdisciplinary students (29 computer science, 14 business information systems, 5 non-technical), the strategies chosen to support interdisciplinary collaboration, and expectations and feedback on the collaboration as experienced by the students.

The paper can be picked up from my website, but I will describe here the voluntary survey of students participating in the interdisciplinary visualization course. The course called *Data and Information Visualization* consisted of 48 students, but only 30 students returned the survey: 18 computer science students (of a total of 29 computer science students); 9 business information systems students (of a total of 14 business information systems students); and 3 non-technical students (two media science students and one literature student). This seems like a representative return to my full course and I rather valued the voluntary act than a forced complete survey of all course members. The percentage is rounded off to integers, but when more precision was needed one digit after the decimal point was used.

The five questions and answers were:

1. Experience in interdisciplinary courses

Question: Have you participated in interdisciplinary courses at our university in the past?

Answers: 10 students (33%) had already participated in interdisciplinary courses, 20 students (67%) had not. Looking closer at who had experience with interdisciplinarity, we could see that only 4 (22% of) computer science students, but 5 (56% of) business information systems students had this experience. See Figure 1.
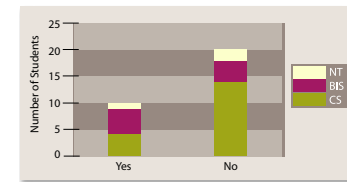

Figure 1: Answer to the question: Have you participated in interdisciplinary courses at our university in the past? [Number of students out of a total of 18 computer science (CS) students, 9 business information systems (BIS) students, and 3 non-technical (NT) students].

2. Desire to work on interdisciplinary teams

Question: *In your later job, would you rather work with interdisciplinary teams or with experts of your own discipline?*

Answers: *90% of all students later rather work on interdisciplinary teams. Of the 10% of students who marked the desire of working only within their own discipline, all of them belonged to computer science. Please note that this choice might not reflect the social competence of students so much as the typical job description of their discipline, as known to students. See Figure 2.*
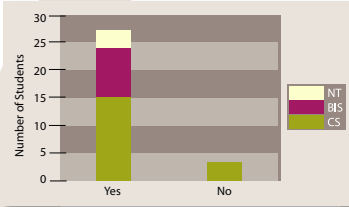

Figure 2: *Answer to the question: Would you rather work with interdisciplinary teams or with experts of your own discipline? [Number of students out of a total of 18 computer science (CS) students, 9 business information systems (BIS) students, and 3 non-technical (NT) students].*

It is interesting to note that 90% of these students preferred interdisciplinary work in their later jobs, though two

thirds of these students had as of yet no experience working on an interdisciplinary team. Students were at a Master level, therefore having spent a number of years already at the university.

3. Who do you want on your team?

Question: *For team work over the course of 8 weeks (as in our course project) what do you want to know about a person before asking them on your team? Please choose only one out of (a) private information about this person (b) the abilities this person brings to the project (c) strong interest on the team project (d) none of the above; describe attributes you think are important).*

Answers: *3 students (10%) named "private information", 16 students (53.3%) marked "abilities", 4 students (13.3%) marked "project interest", and 7 students (23.3%) their own attributes, usually a combination of above choices. See Figure 3.*
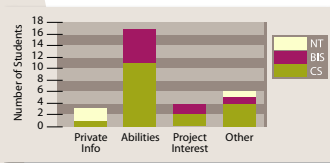

Figure 3: *Answer to the question: "What do you want to know about a person before asking them on your team?" [Number of students out of a total of 18 computer science (CS) students, 9 business information systems (BIS) students, and 3 non-technical (NT) students].*

4. How to you find a common ground with other team members?

Question: *The "Common Ground" marks the commonalities of an interdisciplinary group. How do you find a common ground with others of your group? (a) I find the common ground over the common language we learn in the lectures of the course. (b) I find the common ground over the data we want to visualize in the group. (c) I am looking for a private connection to other team members. (d) (none of the above; describe attributes you think are important)."*

Answers: *4 students (13.3%) chose the "common language", 7 students (23.3%) chose "data", 12 students (40%) chose "private connection" and 7 students (23.3%) chose their own attributes – usually a combination of choices above. See Figure 4.*
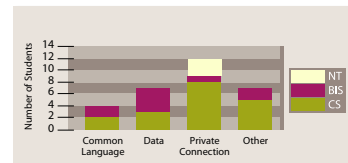

Figure 4: *Answer to the question: "How do you find a common ground with others of your group?" [Number of students out of a total of 18 computer science (CS) students, 9 business information systems (BIS) students, and 3 non-technical (NT) students].*

5. How and how often do you communicate?

Question: *How many face-to-face meetings per week are necessary to further team work in your project group" were answered to almost a hundred percent by "1-2 meetings per week".*

Answers to the

Question: *How do you communicate between meetings?*

and

Question: *What electronic communication linkage would be ideal for your group communication?*

were answered almost identically: Email, ICQ, mobile phones, Skype were used in many groups; Wikis and SVN (a version control system) was still desired by some, but also already implemented in several other groups. An electronics calendar was the only item that could only be found on one "ideal" list but had not been implemented yet. So it seems that used electronic linkage matches ideal conditions in most cases for our students.

For the full course description and interpretations of these results, check the publication. The challenge to have students of all technical levels present in this course, made me update Chapter 8 "Systems and Tools" of the *Tutorial on Visualization.*

The full tutorial can also be reached from the SIGGRAPH Visualization site.

"Systems and Tools" now contains links to all the new complex visualization tools both for experts in visualization and graphics (e.g. links to free game engines) as well as for novices (e.g. the web community tool of ManyEyes). Each link points both to the homepage of the tool and to a link of animation, pictures, or galleries to immediately show what this tool can offer to a user. The tutorial was very useful right at the beginning of the course, when the first assignment asked for a visualization of statistical data, and all students alike (computer science, business information systems, and non-technical) used ManyEyes to generate and furthermore interpret and discusss visualization techniques such as Bubble Chart or Treemaps.

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Report from Asia

Weihua Gao & Zhigeng Pan (China)

In 2009-2010 our Committee's Asian Representatives – Weihua Gao and Zhigeng Pan - have been involved in establishing links and promoting ACM SIGGRAPH educational initiatives at the following conferences, held (or to be held) in Asia:

[Aniwow!2009] International Student Animation Festival (Beijing, China; Oct 28- 31, 2009) is a yearly international grand event, which is organized by Communication University of China (CUC) and KAKU Cartoon Network TV, supported by the national ministries and associations. The event also supported by ACM Education Committee and ASHIFA China.

As one of the key activities of animation and digital arts in China, [Aniwow!] has gained an impressive reputation by establishing a bridge between the academy and the industry both domestically and worldwide. "Be Together" was the theme of [Aniwow!2009], driving at the raw desirability that friends throughout the whole world can enjoy a happy get-together in virtue of the festival in Beijing, and share the newest achievements and experiences in animation during the year.

The White Poplar Awards received 1623 entries from 245 universities around the world, under four categories with 16 subentries, such as Animation, VFX, Interactive Design, and Comic Art & Illustration from the world. Finally, 217 works were selected. The international juries granted the trophies to the winners in the Grand Award Ceremony.
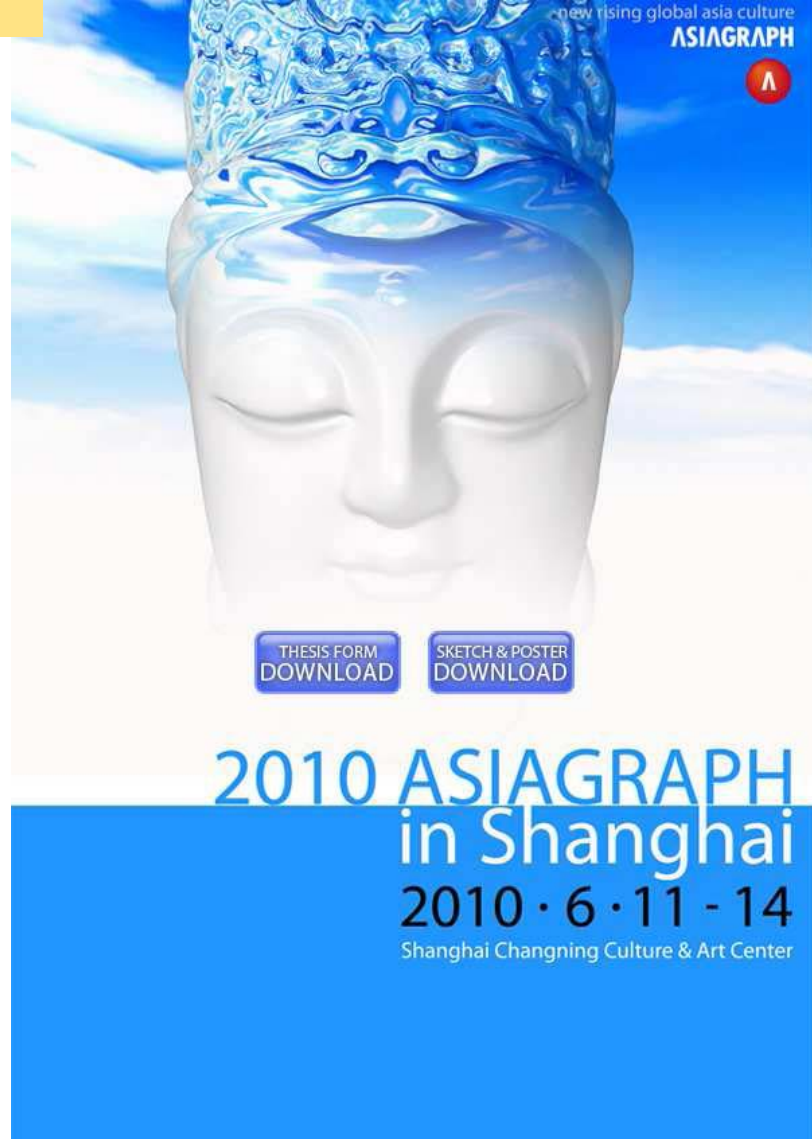
Prof. Marc J. Barr, the chair of the ACM SIGGRAPH Education Committee highlighted the ceremony by selecting and giving out the three "ACM SIGGRAPH Education Prize for Aniwow" to the students coming from Chinese universities.

During the festival, industrial experts and educators from the world renowned studios and universities presented 19 Master's Classes. Meanwhile, the "Education Forum on Animation and Digital Arts", the 4 splendid Screening Days which include "French Animation Day," British Animation Day," International Animation Festival Day" and "International College Day," attracted thousands of audience to experience the innovation, the culture diversity and possibilities of the Animation Arts. For more details please visit the official website.

[Aniwow!2010] now calls for entries and welcomes you and your students to join us Oct. 28-31,2010 in Beijing, China.

ACM SIGGRAPH VRCAI'2009 - The 8th ACM SIGGRAPH International Conference on Virtual-Reality Continuum and its Applications (Tokyo, Japan; December 14-15, 2009) is an international conference on Virtual Reality supported by ACM SIGGRAPH, and co-located with ACM SIGGRAPH ASIA 2009. VRCAI originated in Hangzhou, China, with a workshop on virtual reality and visualization in 1993. It has evolved into a strong conference on virtual reality applications. In 2009 it was held at the Tokyo Institute of Technology (Yokohama, Suzukakedai Campus), and had over 100 attendees.

Educational Games & Virtual Reality - EGVR-2010 (Beijing, China; July 21-22, 2010 is a national forum for scientists, engineers, and practitioners to present their latest research results, idea, developments and applications in all area of educational games and virtual reality. This conference provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find partners for future collaboration. All the accepted papers will be published by Posts & Telecom Press. The forum presents papers on the theory and technology of EGVR, highlight successful modern applications of EGVR, such as e-learning, digital effects, collaborative learning, remote instruction, virtual reality etc.EGVR-2010

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2010 ASIAGRAPH in Shanghai
2010 · 6 · 11 - 14
Shanghai Changning Culture & Art Center

attempts to meet the needs of a large and dihttp://asiagraph.org/event/event_2/back.jpgverse community.

ASIAGRAPH'2010 (Shanghai, China; June 11-14, 2010) is an event which includes a Conference, an Exhibition and a Concert (see image below). ASIAGRAPH is an organization that involves cooperation between people, government, corporations and universities in Asia, as well as an exhibition event for the purpose of reaching a more prosperous human life by elements from Asian culture together with IT technology. The "ASIAGRAPH.org" was established to stress the importance of public contents in knowledge-information age and to make contribution to various media (publication, moving images, animation, games and media arts)-related industries through scientific research, education and academic-industrial cooperation.

Tutorial on CG and Digital Game (Shanghai, China; July 4-11, 2010) is an event organized by the National Cartoon and Animation Base, the VR Committee of CSIG, and the ACM SIGGRAPH Education Committee. The invited speakers for this event are: Prof. Marc J. Barr, Middle Tennessee State University (US), Prof. Kawaguchi, University of Tokyo (Japan), and Prof. Zhigeng Pan, Zhejiang University (China).

Report from South America
Rejane Spitz (Brazil)

Computer Graphics conferences (as well as conferences and events on Electronic Art, Games, Entertainment and other CG related subjects) are excellent venues for connecting to educators and encouraging them to join and participate in ACM SIGGRAPH events and initiatives, thus expanding our educational network in South America.

In parallel with my SIGGRAPH activities, I have been conducting several other volunteer activities throughout this year, as a member of the Executive, Advisory, Scientific and/or Organizing Committees at several Conferences in South America. Those volunteer activities help me promote ACM SIGGRAPH educational activities and events through different communities, by building a major international network linking Art, Design, Architecture, Computer Graphics, and Science.

In 2009–2010, we have been involved in establishing links and promoting our ACM SIGGRAPH Education Committee initiatives at the following conferences, held (or to be held) in South America:

SBGames 2009 - Brazilian Symposium on Games and Digital Entertainment (October 8-10, 2009; Rio de Janeiro, Brazil) is the annual symposium of the Special Commission of Games and Digital Entertainment of the Computing Brazilian Society (Sociedade Brasiliera de Computação - SBC) dedicated to research, development, and innovation in computer games, real time simulation, and new forms of digital entertainment. In 2009, the 8th edition of SBGames was organized by the University where I teachthe Pontifical Catholic University of Rio de Janeiro (PUC-Rio) - and took place at our Campus. It was composed by 4 tracks (Computing; Arts & Design; Culture; Industry), 2 festivals (Art Exhibition; Indie Games Festival), and an Industry Exhibition. I was involved in the organization of the Symposium as a member of the Art & Design Scientific Committee, and had the opportunity to attend several technical sessions, exhibition and other events. Details of the Conference, Awards Ceremony and Game Art Exhibition (PUC-Rio, 2009) SBGames 2009 occured jointly with SIBGRAPI 2009 (Oct 11-14, 2009), both at the PUC-Rio Campus. Since its first edition in 1988, SIBGRAPI has been recognized as the main academic meeting on Computer Graphics, Image Processing, and Computer Vision. The activities at the SIBGRAPI 2009 are complementary to most of the topics presented in SBGames 2009.

Anima Mundi International Animation Festival 2009 (July 2009; Rio de Janeiro & Sao Paulo, Brazil) is the major Animation Festival in South America, ANIMA MUNDI is an event held annually in Rio de Janeiro and Sao Paulo, Brazil. A special session given by professionals from Walt Disney Animation Studios was held in 2009, thanks to the efforts of Patricia Beckman (Educators Session Chair at SIGGRAPH 2005 and FJORG!2008 Chair).

SBDI Conference 2009 (September 9-12, 2009; Rio de Janeiro, Brazil) is organized by the Sociedade Brasileira de Design de Informação (Information Design Brazilian Society), and is a biennial international conference, which congregates designers from different parts of the world, mostly from South American countries. In 2009 the conference was hosted by the institution where I teach - the Pontifical Catholic University of Rio de Janeiro (PUC-Rio), Brazil - and I was a member of its Advisory Committee.

ACM SIGGRAPH and LEONARDO/ISAST (The Journal of the International Society for the Arts, Science and Technology) As a continuation of the partnership established between ACM SIGGRAPH and the international association LEONARDO/ISAST (The Journal of the International Society for the Arts, Science and Technology), two Panel Sessions on the future of Education will be held at SIGGRAPH 2010, in Los Angeles, as a result of a joint effort between these organizations. The Panel Sessions "20XX. EDU: Grand challenges in Education" (part 1 & 2) will bring together a diverse group of outstanding researchers and artists, professionals in the academy and industry, educators and government agencies to discuss the future of Education in its broadest sense, encompassing both formal and informal learning.

ACM SIGGRAPH Education Director, Prof. Marc J. Barr, LEONARDO/ISAST Executive Director, Dr.Roger Malina, and the ACM SIGGRAPH Education Committee's Global Outreach Coordinator, Prof. Rejane Spitz - with the support of Terence Masson (SIGGRAPH 2010 Chair) and James Mohler (SIGGRAPH 2010 Education Chair) - have worked together to organize those Panel Sessions. ∎

Digital Media in Architecture and Interior Design: Curriculum Framework

Glenn Goldman and Andrzej Zarzycki, New Jersey Institute of Technology

Both Architecture and Interior Design are licensed and/or certified professions in the United States requiring degrees accredited by profession-specific bodies, national examinations, and supervised internships—all of which are regulated by individual states charged with protection of the health, welfare, and safety of their citizens and general public.

The licensing of architects is close to uniform throughout the 50 states, requiring degrees from programs accredited by the National Architectural Accrediting Board (NAAB) and national examination administered by the National Council of Architectural Registration Boards (NCARB). National certification of individuals and state-by-state reciprocity is generally administered by NCARB. NAAB was founded in 1940 to "produce and maintain current a list of accredited schools of architecture in the United States and its possessions…" and since 1975 modified its role to the accreditation of professional degree programs rather than schools or universities. The licensing and registration of interior

designers is a comparatively newer phenomenon and varies from state to state, some of which accepted licensed architects as interior designers when certification became prevalent in the 1990s. In general, the right to use the title of Certified Interior Designer requires a degree in Interior Design accredited by the Council for Interior Design Accreditation (CIDA) and passage of the NCIDQ (National Council for Interior Design Qualification) examination. CIDA requirements include non-professional courses defined as liberal arts and sciences but "programs located in an institution accredited by a regional accrediting body recognized by the U.S. Department of Education do not need to provide additional proof that they meet CIDA's liberal arts and sciences requirement." [p. II-4, CIDA Accreditation Manual].

Each profession has associated organizations in the United States: the American Institute of Architects (AIA) for architects, and the American Society of Interior Designers (ASID) and the International Interior Design Association (IIDA) for interior designers. The appellations "AIA" or "FAIA", "ASID" or "FASID", and "IIDA" or "FIIDA" may be used by professional members of their respective associations. While professional membership in the AIA and ASID are restricted to their respective disciplines, the IIDA accepts professional

members who are either NCIDQ (interior design) or NCARB (architecture) certified.

Although the National Association of Schools of Art and Design (NASAD) includes interior design as a discipline within its purview, neither NAAB nor CIDA require accreditation by NASAD. However, schools must be accredited by an accrediting body recognized by the U.S. Department of Education and Council for Higher Education Accreditation (e.g. Middle States Association of Colleges and Schools/ Middles States Commission on Higher Education, New England Association of Schools and Colleges Commission on Institutions of Higher Education, Northwest Commission on Colleges and

Universities, Southern Association of Colleges and Schools Commission on Colleges, etc.).

Performance criteria and standards evaluated by both inputs and outputs are focused on those items deemed critical for designers of our built environment. In addition to design, specific expertise is required in a variety of technical subjects that include mechanical and environmental systems for both architects and interior designers, detailed (architects) or general (interior designers) knowledge of, and the ability to incorporate, structural systems into a design, and so on. Consequently, the use of information technology and computer graphics have subsidiary roles in service of design, design development, and production of contract documents. In particular, graphics are used to communicate—to ourselves as designers, to clients, to peers and in an academic context critics, to regulatory agencies having jurisdiction and approval rights for projects, to consultants (e.g. mechanical and structural engineers), and to the contractors who will bid on, and ultimately create, the physical manifestation of the design.

Read the full report ➤
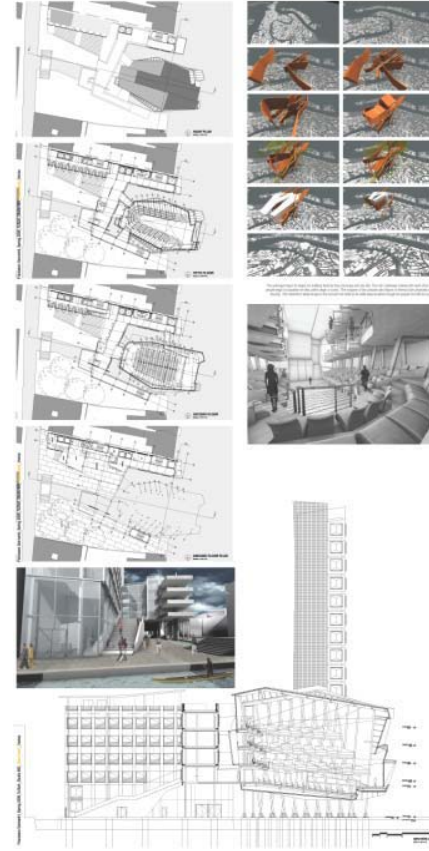
Credits

Where Credit is Due

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