CGEMS: Année01 - Practice and Experience with Refereed Educational Materials for Computer Graphics

Frederico Figueiredo1, Colleen Case2, Dena Eber3 and Joaquim Jorge1

1 Technical University of Lisbon, PORTUGAL
2 Schoolcraft College, MI, USA
3 Bowling Green State University, OH, USA

Abstract

The Computer Graphics Educational Materials Source (CGEMS) is an online system that provides curricular materials for computer graphics educators. CGEMS has now been in operation for the better part of a year. Our communication will highlight the practice and experience of making available quality resources to the computer graphics educators' community as a whole through digital publication. We will discuss issues in community support and lessons learned from the first months of getting a functional system.

1. Introduction

CGEMS is now present on the SIGGRAPH (Special Interest Group, Graphics of the Association for Computing Machinery) and the Eurographics (EG) home pages. It is distributed directly to a mailing list of 500+ functional email addresses. An editorial advisory board of 19 people oversees a reviewing body of 30+ renowned experts. We have received the initial batch of submissions, which are in the process of being reviewed with the first approval coming out of the pipeline at the time of this writing. Our communication will focus on the comparative effectiveness of CGEMS vs. different publication models and support mechanisms such as the forum, journal and conference to get adhesion to and support from the community.

Curricular development in a technically complex and rapidly changing landscape is not trivial. Rather, a successful curriculum is creative and innovative and deserves research recognition. CGEMS seeks to support these efforts by providing an opportunity to have curricular materials peer reviewed, thus making them worthy of recognition. In order to facilitate content availability and peer recognition, CGEMS implements policies for submission and the subsequent editorial review of materials.

2. Community Building

The CGEMS project aims to serve the computer graphics educational community on a number of levels. First, by making timely and quality materials available to educators, those teaching in the rapidly changing CG field will be able to tap into resources that will aid in their efforts to keep pace. Often it is not enough to know how the technology works, rather it is most important to understand its implications and how best to apply it. Only at this point can an educator design materials for students that fully reveal the potential of the technology. The collective contributions of the computer graphics community will add to a network of knowledge and understanding that educators may use to provide content-rich courses.
CGEMS welcomes original and creative contributions. It publishes high-quality educational materials. Authors are encouraged to provide in-depth conclusions of their materials and to comment on the weaknesses, strengths and lessons learned from them.

We encourage members of the computer graphics community to submit course innovations for consideration in CGEMS. In order to submit, authors must first register through the online server.

There are many quality-teaching materials that do not fall neatly into the module format, so the CGEMS server will also accept portions of modules, such as individual assignments or course notes.

3. Discussion

Since its first prototype, developed in August 2002, CGEMS has evolved into a full submission and peer reviewing mechanism. The server has been up and running since September 2003, hosted at the Portuguese National Foundation for Scientific Computation (FCCN). The editorial board is in place and the first submissions are being reviewed. CGEMS was visited 9952 times since then and the hit rate average is 58 times per day this year. You may access CGEMS at http://cgems.inesc.pt.

The CGEMS project is currently at version 0.6 Beta and it is nearing version 1.0. We have already issued the first call for reviewers followed by the first call for contributions. The editorial board includes 38 registered and accepted reviewers from all over the world, 25 volunteer applications waiting to be accepted or rejected, and 79 invited reviewers who have not yet decided to accept or reject our invitations. 34 authors have expressed interest in submitting modules or otherwise participating in the community. Several submissions are already in the pipeline in all stages of the reviewing process and the first ones are now coming out.

The design and implementation of the server were presented and discussed both at SIGGRAPH’03 [FEJ03] and Eurographics’03 [FEJ*03] Education Education programs. It was recently presented at CGE’04 [FEJ04] where various debates took place over how to make CGEMS become the premier resource for CG educational materials. Issues such as information metadata, multilanguage content, fair use policies and how to increase the number of submissions were also approached.

4. Conclusions and Future Work

We believe CGEMS, the online Computer Graphics Educational Materials Source, presents an excellent foundation for supporting the community of CG teachers, professionals and students as a whole. While CG has matured in several aspects, it is still experiencing rapid growth and phenomenal evolution in research and applications. This presents challenges to educators who need to stay current with the latest developments while creating high-quality teaching materials. With comprehensive support for online submissions and editorial workflow management, CGEMS provides a rigorously refereed system that ensures the availability of such premium quality materials and sustains recognition of those who publish on the server. Providing flexible and efficient ways to access information is an essential requirement. We have therefore implemented the CGEMS Crawler, which is a full text search service that allows users to query, view and access all the index information published on the server. We feel this service is an excellent add-on to CGEMS and to the community of CG educators and professionals. Future versions of CGEMS will add more extended community services such as user comments, ranking mechanism (submissions, authors and public reviews), discussion threads, users’ profiles and other service tools.

References


© The Eurographics Association and Blackwell Publishing 2004.