

**Education Board Minutes
Conference Call
June 9, 2005**

Attendees:

Eric Roberts, Co-Chair
Andrew McGettrick, Co-Chair

Bob Aiken
Bob Campbell
Bob Cannon
Corky Cartwright
Gordon Davies
Peter Denning
John Gorgone
John Impagliazzo
Lillian Israel
Bruce Klein
Terry Linkletter
Joyce Currie Little
Russell Shackelford
Larry Snyder
Paul Vandeyar
John White

Conference Call Agenda

The agenda for this call was as follows:

- Brief update on:
 - The Overview volume, CC2005, (Russ)
 - The Java Task Force (Eric)
 - Responses to the NCAA Letter (John White)
- Update on the copyright issues with IEEE-CS (Andrew)
- Status report on updating the CS Volume (Russ)
- The ABET funding model (John White)
- Education Board issues to raise at ACM EC & Council? (Eric)

Minutes of Last Meeting

The minutes of the recent Education Board meeting held in Boston on May 14th, were accepted subject to correcting a few typographical errors. Eric agreed to make the necessary changes.

Brief Updates:

The Overview Volume (Russ Shackelford)

The Draft of CC2005 is available online at:

http://www.acm.org/education/Draft_5-23-051.pdf

To view or submit postings, please go to:

http://campus.acm.org/public/comments/comments_2005.cfm?object_id=2.

Russ reported that around 50 comments had been received during the ongoing review of the Overview volume. He indicated that these comments seemed to be “all over the place,” lots of kudos and some small substantive issues. The review period has been extended until the end of June. A meeting will be convened around the end of July to address any substantive issues arising from the feedback. Responses will be sent to those individuals who have submitted critiques. A final version of the Overview should be available in the early fall.

There was discussion on whether to bring the Overview volume to the attention of the ACM Council. It was suggested that this volume should be brought before the October 2005 meeting of Council.

The Java Task Force (Eric Roberts)

Eric gave a brief status report on the design decisions made at the Java Task Force meeting last weekend (June 4th, 5th) in Chicago. See Appendix A for the text of the report. The Task Force was excited about where they ended up after the meeting.

In addition to the technical changes that were suggested, there was also discussion of release strategies. Eric indicated that the group would be advertising for beta testers in the fall. To recruit testers, Eric mentioned that the following lists would be used - SIGCSE, CS Advanced Placement (AP), and CSTA. Board members suggested that the “Call for Beta Testers” should also be sent to the appropriate IT and IS lists.

Eric also needs to look into the kind of software copyright that the Task Force should consider for the Java libraries; while the Task Force is interested in widespread use of these libraries, it is also important to preserve/foster the ACM imprimatur.

Responses to the NCAA Letter (John White)

John reported that the letter to NCAA had been well received; the NCAA appreciated the fact that ACM understood its problem of recognizing true CS courses as opposed to computing applications-type courses. NCAA explained that they would be reviewing their literature that talks about the elimination of CS; The NCAA is up against determining how to get the word out about acceptable CS courses to 26,000 participating high schools. Rather than initially considering all AP CS courses as true CS courses, NCAA put the onus on individual high schools to prove the acceptability of their CS courses. This approach is unlikely to improve the situation, primarily because there is no motivation for high schools to take action.

NCAA mentioned that an appropriate committee within their organization was discussing this issue; this issue had, apparently, caused a series of meetings within the NCAA hierarchy.

John mentioned that he was looking forward to NCAA taking the following steps:

1. Determining that AP CS courses should be considered eligible if they are part of the school's math and science offerings.
2. A meeting should be set up with John and representatives from the Education Board, SIGCSE, and CSTA, to see what process could be employed to help

define and identify “true” CS courses, as well as identify best way(s) to get the word out to high schools about the changes in NCAA policy towards CS.

More details will be known in about three weeks after receiving a call and letter from them.

The ABET Funding Model (John White)

There has been a lot of correspondence back and forth between John White and Moshe Kam, IEEE’s VP of Education, regarding the ABET Funding Model document that John prepared for societies that are part of ABET. These societies have not yet seen this document. John Gorgone and Bob Cannon have seen it. Moshe said that he could help bring in support from other engineering societies – ASME, AiChE, ASCE - to back the newly suggested funding model. John’s document has been very helpful in recruiting these other societies.

IEEE is very interested in lowering ABET costs! And, it is helpful that Bob Cannon is on board as a representative to ABET through October. A meeting will be held sometime in August between the interested societies to consider new ways of funding accreditation activities. From the perspective of the professional bodies, ABET’s current society assessments are spiralling out of control. According to John White, it appears that the ABET societies are paying for special projects as well as for accreditation activities that are happening outside of the U.S. Funding for these should not be part of the societies’ assessment model. Meanwhile, ABET is looking at its current financial model.

John’s document is attached as Appendix B to these minutes. It was requested that this be kept confidential since it has not yet been seen by any of the other professional bodies.

Update on the copyright issues with IEEE-CS (Andrew)

There still is no agreement between ACM and IEEE on the matter of copyright and publications rights regarding the CC2001 effort. Every attempt has been made to define the terms of a fair and balanced agreement between ACM and IEEE. There was agreement on the treatment of both the CE and SE volumes but not regarding the CS volume. John White met with interested parties from IEEE-CS around a week ago and was unable to achieve a resolution.

A meeting of the IEEE-CS Educational Activities Board (EAB) recently took place in Long Beach. This matter was supposed to be discussed there and perhaps informally at the forthcoming ACM Awards event in San Francisco. It was hoped that this matter would be resolved soon as possible.

Status of the CS volume (Russ)

Russ indicated that Murali Varanasi of IEEE-CS indicated that he wished to embark on an assessment of the impact of the various curricular volumes in order to inform and guide the next review of the CS volume. There appeared to be little insight as to how he would envision getting this done. Apparently Murali has indicated that he is looking to create one project that would evaluate all curricular volumes at once. It is the Board’s belief that an evaluation should go on at the time each curricular volume is being updated. It was agreed that Andrew would “pick up the baton on this” at the

appropriate time. However, Andrew's immediate priority will remain the sorting out of the copyright and publication rights agreement for the CC2001 volumes.

Mark Guzdial has been approached and is developing a strategy for the revision to the CS volume. It was agreed that all information related to this effort would be passed to Andrew who would make changes as necessary and bring forward plans as to how to proceed. It's possible that Mark may be able to appoint an additional person to help him with this effort. He's already come up with an initial schedule to meet in August. Mark is hoping to circulate a report in the fall outlining what his committee has learned and matters requiring attention in the future. Education Board members should send suggestions to Mark regarding other individuals for his evaluation committee. UofT at Austin did an excellent job on CS Education Assessment and it may be a good resource for other folks.

Russ indicated that the CS volume should be the model for how updates are undertaken. Andrew will review Russ's suggestions regarding the CS volume as an update model prior to dealing with Murali.

These are the items that are up for discussion:

- Mutually agreed upon copyright agreement
- The front matter would need to be approved by John White
- There would need to be a sharing of information between ACM and IEEE-CS regarding distribution plans
- Rights to republish volumes as desired

Despite the fact that neither volume has yet been published, IEEE-CS has put personnel in place to monitor and deal with revised versions of both the SE and CE volumes.

Bob Aiken indicated that ACM might need a contingency plan, as IEEE-CS wants to assume the copyright for the CS as well as CE and SE volumes. IEEE-CS did hold copyright to the first CS volume, but even though they held the copyright Russ indicated they did not distribute it properly.

Ann Sobel is supposed to come up with a plan [for IEEE-CS] for the distribution of the SE volume. The Board agreed that the societies should share their distribution lists. ACM should be able to print and distribute specific volumes based on our own distribution plan. It was suggested that Ann needs information for Murali that will, hopefully, break up this logjam.

Education Board issues to raise at ACM EC/Council (Eric)

ACM EC meets in San Francisco on Friday, June 10th. In his report, Eric Roberts will present the following items:

- a) The desire by the Board to provide a presentation on the curriculum developments activities, specifically on CC2005, at the Council Meeting being held in October.
- b) A request for approval that both Terry Linkletter and Russ Shackelford serve as liaisons to the Professions Board should the new Board need input from the Education Board.

Appendix A

Report from The Java Task Force

Eric gave a brief status report on the design decisions made at the Java Task Force meeting last weekend in Chicago. There was an excellent turnout, with only Robb Cutler unable to attend.

Based on the feedback on the comments board in the last several months, it was decided to make several, mostly minor changes to the design of the acm.* packages, as follows, in decreasing order of significance:

1. By far the biggest change that we made was a decision to change the minimum baseline for the implementation from JDK 1.1 to 1.3. The negative impact of this change is that it will no longer be possible to use our standard libraries to write code that runs in the lowest-common-denominator browser, although we plan to maintain a 1.1 compatible implementation to support our own web-based tools. We made this decision for the following reasons:
 - It proved to be nearly impossible to explain to many people why implementing the library in a 1.1-compatible mode did not mean that they were somehow restricted to using older coding styles in their own code. The implementations were all modern-Java-aware, in the sense that they used the latest version of the JDK if it were available on the browser, but would do a reasonable job of simulating the effect if run on an older browser. Despite the fact that our original strategy is what industry typically does and achieves the maximum flexibility, we were getting too many complaints about our package being hopelessly out of date. Since that characterization could easily dissuade potential adopters before we could really explain what was really going on, we decided that we would lose more than we gained by maintaining our position.
 - Moving to a 1.3 base allows us to simplify the coding of several packages enormously, since it is no longer necessary to maintain both modern and legacy code in the same package.
 - Using a 1.3 base means that our source code can serve as a models for students who are implementing their own packages.
2. One of the longest-standing design questions for our committee was whether we needed to include a GUIProgram class that would support simple creation of GUI examples. In the draft Rationale document, we noted that we had been unable to find a satisfactory solution to the problem of simplifying GUI construction that was likely to meet with widespread appeal:

Given the overall design of the acm.program package, it seems clear that one likely approach would have been to define a GUIProgram subclass that fit into the Program hierarchy. That program subclass would offer users a simple set of tools for creating graphical user interfaces from a subset of the available Swing components. The overall effect would be to provide a platform from which to

jump-start the creation of such interfaces, which otherwise seem too complex to introduce early.

[The several models that exist] provide users with access to a highly restricted subset of Swing tools that enable the creation of certain user-interface designs, but only if those designs conform to a particular style of interaction. For instructors and students who happen to like that style, those packages are ideal. If an instructor or student favors a different interaction style, these tools provide little help.

Unfortunately, the Task Force had not been able to come up with a satisfactory design. What's more, some members of the Task Force have become convinced that it is not possible to create a design that a significant fraction of the potential audience would accept as a standard. That conclusion may be incorrect. There may be a design out there around which a consensus might emerge. As of this release, however, the Task Force has not been able to find it.

It seems that a brainstorming session on Saturday found a likely candidate. The key to the design is developing a new layout manager that provides a great deal of flexibility while remaining largely invisible to the student. Experimenting is happening with this design and there will be a draft implementation out by mid-June.

3. It was decided to redo the handling of menu bars. The fundamental problem was that the handling of menu bars is different on the Mac (which has a single menu bar at the top, which changes as the focus window changes) and Windows (in which each frame has a menu bar). The strategy adopted fits well into the Mac model but proved confusing to Windows-based users. It was decided to create a new design that should be more familiar to both camps.
4. It was decided to add optional range specifications to the `readInt` and `readDouble` methods in the various I/O classes. In the draft rationale, there was an argument against this position on the grounds that range checking was not the only type of validity testing one needs to perform on input values and that providing that style alone might encourage students to skip other relevant testing. The preponderance of opinion in Chicago was to reverse this decision for the following reasons:
 - Several of our respondents wanted range checking
 - Range checking is available in most of the other packages
 - Including any sort of checking makes students sensitive to the issue
5. It was decided to move the degree-based trig functions out of the several classes in which they formerly appeared and include them instead as static methods in a new `GMath` class. This decision means a little more typing for students, who must now include the class name in calls like `GMath.sinDegrees(angle)`. The advantages, however, are as follows:
 - The syntax is parallel with `Math`, which students don't seem to mind
 - The methods are no longer replicated (`GObject`, `GCanvas`, and `Program`)
 - The new strategy is easier to integrate into `BlueJ`.
 - This problem will go away eventually with Java 5.0's `import static`.

Appendix B

Changing the ABET Financial Model for Recovering the Cost of Accreditation

Context

The societies represented below are increasingly concerned with the escalating cost of accreditation. The societies accept both the significant, lead role and responsibility they have in the accreditation process and the significant financial commitment associated with that role. That said, it is the case that as the number of accredited programs increases, the cost to the societies increases unfairly. The societies believe that this fundamental aspect of the ABET cost recovery model must be changed.

The Issue

Societies make a significant financial investment in accreditation. CSAB's investment will be \$300,000 in the coming year. The IEEE investment is on the order of \$800,000 per year. [Insert other society data as it become available].

Each society's investment covers the cost of developing accreditation guidelines and training program evaluators; supporting the accreditation effort within the society; ABET dues; participation on the ABET Board; and the ABET "curricular fee" for each accredited program. Most of these costs are stable, increasing marginally and in a way that is manageable by the societies. The one exception is the ABET curricular fee assessed societies for each accredited program.

The assessment of a curricular fee per accredited program means that success in growing the number of accredited program places an unbounded financial commitment on the societies. Moreover, it is a cost over which the societies have no control – outside of limiting the number of programs that receive accreditation. The societies feel this aspect of funding ABET operations should be fully distributed among the institutions with accredited programs.

In addition, while the societies accept the responsibility of funding ABET operations, this financial support should be directed at supporting core accreditation activities. ABET projects outside of its core mission of accrediting program in the United States should be funded separately or with separate assessment to the societies.

A Proposal

To resolve these issues and place the accreditation process in a more sustainable perspective, the societies recommend changes in the ABET financial model. Specifically: ABET's assessment of a curricular fee to the societies for each accredited program should be eliminated. Cost recovery tied to the number of accredited programs should be the responsibility of the related institutions.

ABET dues assessed member societies should be set to cover the cost of ABET's main purpose -- accreditation -- and should not be used to fund special projects or other activities not directly related to accrediting programs in the United States.

The overall cost of running ABET should be reviewed and an assessment made as to whether this cost can be reduced

The Societies

CSAB	- IEEE
ACM	- ASCE
IEEE Computer Society	- ASME
Association for Information Systems	- AIChE