To our knowledge, there is no vendor of computer technology in accounting that offers full CMS courseware for a series of accounting courses. There is such a vendor (CALI) in legal studies. We conducted an interview with the CALI Executive Director, David Stretch, who answered our inquiries as shown below in question and answer format. We are extremely grateful for the cooperation of David Stretch.

(1) What is the history of CALI? When was it formed and what are its goals and objectives?

The Center for Computer-Assisted Legal Instruction (CALI) was established in June 1982 by the University of Minnesota Law School and Harvard Law School to continue and expand upon a collaboration which began in 1971. The focus of the early activity was the development of computer-based exercises for use in law school curriculum and in the development of a computer network for sharing these exercises.

OBJECTIVES:

1. Coordinate distribution and use of computerized instructional materials
2. Support authors in the development of new instructional programs
3. Sponsor research for advancing quality and effectiveness of exercises
4. Establish standards for hardware, software and courseware
5. Support and coordinate the sharing of information relating to computer applications in legal education and law

(2) What are your course offerings? Are the electronic modules restricted to professors or can they be purchased by students?

The 1993-1994 CALI Library includes 74 exercises (plus 17 student-written exercises) in 19 substantive legal areas, such as Civil Procedure, Contracts, Evidence, Criminal Law, Labor Law, and others. CALI exercises are used in 135 law schools in the United States, and total
exercise utilization during 1992-1993 was over 109,000 student uses. CALI exercises are typically used by law school students on stand-alone or networked personal computers, either IBM PC compatibles or Macintoshs. The exercises typically require one to three hours to complete, and some are designed to be used by teams or groups of students. All CALI exercises can be freely copied from the law school computer to floppy diskettes for student use at home or other locations.

CALI exercises are available to CALI member law school students whenever access to the law school computers is permissible. CALI exercises can be used in the first weeks of the semester to introduce legal concepts and terminology in a law school course, they can be used as assigned materials during the course, and some are designed to be used for review and examination preparation at the end of a course. With minor modifications, CALI exercises are now being marketed directly to practicing attorneys for mandatory continuing legal education use.

(3) What are the fee structures? Can network licenses be purchased for campus-wide use by students?

During 1993-1994 the fee for law school CALI membership is $3,000. This fee grants the member law school an unrestricted site license for use of the exercises by all law students and faculty for one year. As mentioned above, law students and faculty are free to copy any and all CALI exercises to floppy diskette for use away from the law school computers. CALI membership also includes reduced tuition for participation in the annual CALI Conference for Law School Computing Professionals, subscription to the CALI Report and the CALI Monitor newsletters, free technical support on the CALI HelpLine, a copy of CALI's authorware, LessonBuilder, and use of communication tools provided and maintained by CALI on the Internet.

(4) What are the computer and other hardware requirements?

The CALI Library is available for both IBM PC compatibles and Macintosh computers. The CALI Library is distributed annually to CALI member law schools on a set of diskettes for the appropriate computer type, including an extensive user manual for installation and maintenance. Some CALI member law schools request both IBM PC and Macintosh sets of diskettes. The CALI Library is also distributed on a CD-ROM disk that includes both the IBM PC and Macintosh libraries on one CD-ROM disk. The entire lesson set requires about 16 mg of computer hard disk space for installation.

The CALI Library does not require any special computer hardware and will run on older IBM XT computers as well as the newer 286, 386, 486 and Pentium-based computers or their equivalents. The CALI exercises are designed to take advantage of color monitors, but may be run on a monochrome monitor. The CALI Library is designed to run on networks, particularly Novell networks.

(5) What software was used to generate CALI courses? Can professors customize and add their own lectures? Is this software going to change? In light of newer hypermedia software such as Multimedia ToolBook, Authorware, and other
hypermedia software courseware authoring alternatives what plans do you have for future authoring of computer learning materials?

The CALI Library was developed using a customized programming language similar to Turbo Pascal. Exercise authors wrote the text of the exercises, and the programming was done by CALI staff at the University of Minnesota. Annual revisions of the text and improvements of the logic and branching of the programming were made. Each CALI author could freely modify the exercises to include any materials they wished, but the materials were originally limited to text materials.

CALI has made a policy decision to encourage authors of new exercises to program their own materials using student or staff computer technical assistance available in their own law schools. CALI developed its own version of authorware, LessonBuilder, that is made available at no charge to CALI member schools for faculty development of new exercises. LessonBuilder is based on a hypertext application development program, HyperPAD, now available from IQ Technologies in Houston, Texas. Use of LessonBuilder will permit an author to develop his or her own CALI exercise by following the menu selections in LessonBuilder. It is expected that CALI exercises developed using LessonBuilder will be maintained and modified by the author or by the author's local computer assistants. LessonBuilder produces a DOS text-based CALI exercise that will run on low-end IBM PC compatibles.

A new version of CALI's authorware is LessonBuilder for Windows. This software is a literal clone of the HyperPAD-based LessonBuilder, but is based on Asymetrix Corporation's Tool Book Windows application development software. CALI exercises developed by use of LessonBuilder for Windows will require a Windows capable IBM PC with a recommended 4 mg of memory and a 386 or better microprocessor. Again it is expected that CALI authors will modify and maintain their own exercises using LessonBuilder for Windows and their local computer assistants.

An additional new version of LessonBuilder for Windows is planned for release in April 1994 that will permit full utilization of the multimedia enhancements permitted by the Asymetrix Tool Book software. This Multimedia LessonBuilder for Windows will permit the use of animation, full motion video, sound links, and complex graphics in new CALI exercises.

(6) What are your plans for the future regarding networking, CD-ROM courses, CD-I (or related interactive television courses, electronic publishing, databases, etc)?

The CALI Library is designed to run on most networks, as is mentioned above, and is available on a CD-ROM for the convenience of distribution and installation. The exercises in the CALI Library are presently text-based, and therefore do not require the data storage density provided by CD-ROM disks—the CALI Library only uses about 16 megabytes of the space available on the CD-ROM disks. Future CALI exercises will require the use of CD-ROM disks for new Windows-based exercises and new multimedia enhanced exercises. The extremely large files required for audio, video and animation sequences will result in new CALI exercises that may require an entire CD-ROM disk for a single exercise. New CALI exercises are currently under development that will take advantage of the pedagogical improvements made possible by multimedia techniques, and will be available in August or September, 1994.