Virtual Questions

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Perception is a package of three programs that allow a user to design, deliver, and evaluate tests or surveys over the Web. The suite of programs requires Windows 95, 98, or NT; 5 MB of disk space; and a Windows-based Web server that supports Active Server Pages to deliver and evaluate the test. The manual states that, "Unfortunately, Perception Server does not run on UNIX servers, nor on non-ISAPI compliant Web servers. If your network is UNIX based, you will need either to get an additional NT server...or else consider another product...."

Most users will want to install the software on two different computers, one for making the tests and the other for "serving" them. The CD-ROM installation was simple and included several server components from Microsoft that supplied all the software needed to create and deliver online tests. Parts of the documentation were cumbersome, but a little practical computer knowledge proved sufficient to solve most problems. Technical support is available from Question Mark, but it is expensive after the free support period has expired (30 days after purchase).

The three parts to the suite are (i) a program that is used to create a test bank of questions, (ii) software to assemble a test bank into a unified set of questions, and (iii) a server application that delivers the questions, grades and records the responses, and provides feedback to the student. One can restrict access to the test with usernames and passwords or make it available to anyone with a browser. A sample test was produced for this review (see www.chm.davidson.edu/perception.html).

The authoring software allows one to create five types of questions: multiple choice, multiple response, questions that are answered with a number, questions answered with a pull-down menu, or questions that require students to type in words to answer them. The Question Wizard guides students through the process of creating questions. It is user-friendly and makes writing

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Perception
Question Mark Corp.

Stamford, CT.
$495 (one user),
$9995 (unlimited users).
800-863-3950.
www.questionmark.com

basic questions very easy. After the question is written, a bank of answer choices is created and appropriate scores are given for each choice. Questioning can be performed in a specific order for each test, or randomly. Correct responses can be limited to one or any combination of possible choices (in multiple response questions). Scores for each answer can be positive or negative numbers. Finally, feedback for each choice can be provided so students can learn when they submit incorrect answers. The feedback can contain a wide range of multimedia graphics such as GIF animations, QuickTime movies, and Java applets. To add multimedia to questions and feedback, the author needs to use the Question Editor. The Editor works best if the author knows some of the basic HTML tags to insert the multimedia images. The software for creating the question, answers, and feedback was the easiest of the three programs to use.

The test bank of questions is converted into a functional test with the Session Editor. Each test session can be configured in several ways. Directions can be presented, followed by an unlimited number of blocks of questions. At the end of each block, students can receive feedback and their results can be used to influence subsequent blocks. For example, if a student scores

(Top) Session evaluation summary. **(Bottom)** Available testing report options.

70% or higher on one block, a more difficult block of questions can be delivered in the next one. With a score of 69% or lower, the test can be terminated and the student sent to a new Web page for further study. Each test session could be defined so that it is available during a limited time frame.

Unlike the authoring software, the Server program is run exclusively on the computer that acts as the Web server. Most test authors will not use this program directly. The Server program should be left to the webmasters in charge of the server, because the Server program was the most cumbersome of Perception's three programs. Even though both authors of this review are webmasters of their departmental servers, we found it difficult to use.

The Server program contains a security manager that defines who may take the tests. This requires a test designer to either enter a name and password for every student who will be taking the tests or import the information from a master file. The server defines the time window when the test will be available, and how many times a student may take the test.

Finally, the Reporter component compiles test results that can be viewed at several levels: overall test responses by everyone, individual student test scores, and total responses to any particular question within the test (see figure).

Overall, Perception provides an easy way to generate Web-based tests. There were several weaknesses, however. All test answers were submitted to one large database, which was selectively accessed by the Reporter. It was not possible to have different test answe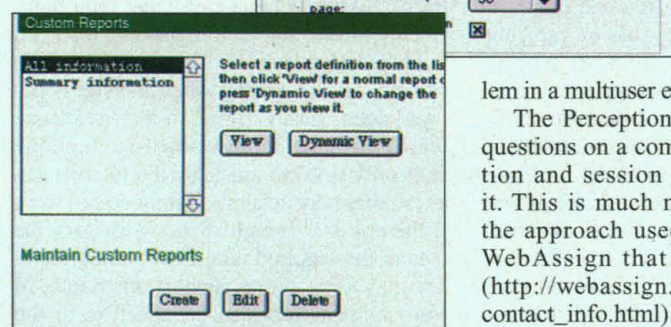rs sent to different databases, and the only way to remove old data was to delete the complete database. It was also difficult to modify some of the default options, such as the list of test sessions that could be seen by a Web user. The Reporter program was easy to modify, but this could be a problem in a multiuser environment.

The Perception test author must write questions on a computer that has the question and session programs installed on it. This is much more cumbersome than the approach used by a program called WebAssign that is low cost software (http://webassign.physics.ncsu.edu/info/contact_info.html) and runs on a Windows NT server. WebAssign allows any authorized user to create questions and test sessions via a Web browser on any computer (Mac or Windows).

In summary, Perception works best for individual instructors who wish to create and deliver their own personal database of questions. The writers of Perception have focused on the interface for the test takers and the test writers. They did not focus on software for maintaining multiple-user databases. Perception is thus probably not appropriate for institution- or department-wide use by different faculty members.