

Rick Eggiman: Yes. But, you are required to hold onto the plant material that has been propagated until the end of the stock plant quarantine. As soon as your quarantined stock plants are released the vegetative propagation material will be released as well.

HortBase: A World-Wide Electronic Information System

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INTRODUCTION

HortBase is an innovative, peer-reviewed electronic information system for storage-distribution of horticultural information used in the classroom, in distance education, in life-long learning, and in commercial agricultural production. HortBase will retain the current roles and activities of: (1) Land Grant University agricultural production, communications, and library information science faculty who create and distribute information; (2) national professional societies, such as the American Society for Horticultural Science, who verify quality of information in their respective academic disciplines through peer review; and (3) national organizations such as the U.S.D.A. Cooperative State Research, Education, and Extension Service and National Agricultural Library who provide guidelines, standards, and support on a national level.

There are three innovative concepts in HortBase: (1) national peer review—HortBase includes national peer review of synthesized extension and educational information similar to current peer review applied primarily to reports of original research; (2) nationwide distribution of the workload and costs involved in creation, review/revision, and diffusion of the electronic information will result in the ability to do more than can be done independently by the individual faculty and individual states; and (3) HortBase calls for 3-dimensional team-creation of the electronic information files—a subject author, a communications specialist, and an information science faculty working together to outline and create the file. **The capabilities of the electronic information systems facilitate, indeed require, this new approach to information development and delivery.**

Responsibility for creating “chunks” or files of specific, concise information on agricultural subjects can be distributed nationwide among production teams comprised of agricultural subject, communication, and library faculty at land grant universities. By centering the author, review, and information distribution network at the national/international academic societies and their members rather than at the individual universities, university and geographical boundaries can be transcended in forming virtual production and review teams—“dream teams”. Production team members may be at diverse geographical locations, but work as a virtual team through electronic communication.

Nationwide distribution of the array of information topics to respective teams for their creation-maintenance for international access reduces the current redundancy of faculty in each county-state independently creating these extensive, wide-ranging information files for use solely within their respective states. National distribution of the workload could result in a 50 : 1 reduction in redundancy. The individual faculty will have more net time for assisting clientele in identifying the “questions” and retrieving information from the HortBase that is specific to their needs. Rather than spending all their time scurrying around finding and transferring information, faculty will have more time to interact with the information users (students, extension clientele, etc). Faculty can become coaches. *“Teachers are coming out from behind their lecture podiums to interact more with their students.....deploying new high-tech tools to reach their students, ranging from using computers to help them visualize the abstract laws of physics to performing chemistry experiments on their computer screens. But as much fun as these new tools are to use, **they’re no substitute for a faculty member’s presence**.....”* (Gibbons, 1994).

The lines among information used in life-long learning, extension education, extended or distance education, and on-campus education are rapidly blurring as we become information synthesizers. According to Cetron and Owens (1994), “... individuals will learn more on their own, the “places” of learning will be more dispersed, and the age at which things are learned will depend on individual ability, not tradition. Education is becoming more individualized as interactive computer / videodisc systems and other new media permit students to learn according to their needs and abilities. Corporations now invest some \$85 billion per year in employee education and retraining. That will double by 2001.” With “chunked and linked” electronic information in the HortBase, information retrieval and education is “inquiry-driven” by the interested learner.

Primary authors/reviewers of the publicly accessible HortBase files will be both extension and teaching faculty. Faculty will be both file creators and file users of nationally peer-reviewed, validated files, e.g., tissue-culture propagation of specific plants, etc. Information content will be current in the maintained files. Students and other users will access the electronic information system to explore special interests, to research assignments or for review. With quality horticultural instructional information readily available, the total quality of K-16, extended education, and life-long learning will be enhanced.

THE WORLD-WIDE HORTICULTURE INFORMATION SYSTEM

Creation, Revision, Update of Network Information Files.

Creation. Subject matter faculty are members of the file-creation team. Each individual subject matter faculty will assume primary responsibility to author and maintain a discrete, reasonable number of files on the national electronic information system. The author's national peers, say in New York and Georgia, would peer review the production information for completeness, accuracy, and geographical adaptations. However, because of the new and expanded characteristics of electronic information systems, the files will not be created by the subject matter faculty alone. The file-creation team will be a tri-member team: subject matter, communications, information management.

Communication faculty are co-creators. *"The hardest topics for me to get across are the things that I can see in my head that the students don't have a clue about,"* says chemist Nathan Lewis of the California Institute of Technology. *"We want to put those things on screen for them."* Lewis's efforts involve a team of communicators led by a Hollywood special effects producer. The 10-min videos show complex processes in 3-D; at the end of the \$2 million project, *"You'll be able to watch atomic orbitals dance with Jurassic Park-style"* (Culotta, 1994). Communication faculty members of the team will assist in communicating the information to the target audience by selecting appropriate media, information sequence, electronic document design, . . .

Library information science faculty specializing in electronic storage, search, retrieval, and distribution of electronic information are members of the file-creation teams. The files will be designed from the beginning to facilitate indexing, archiving,

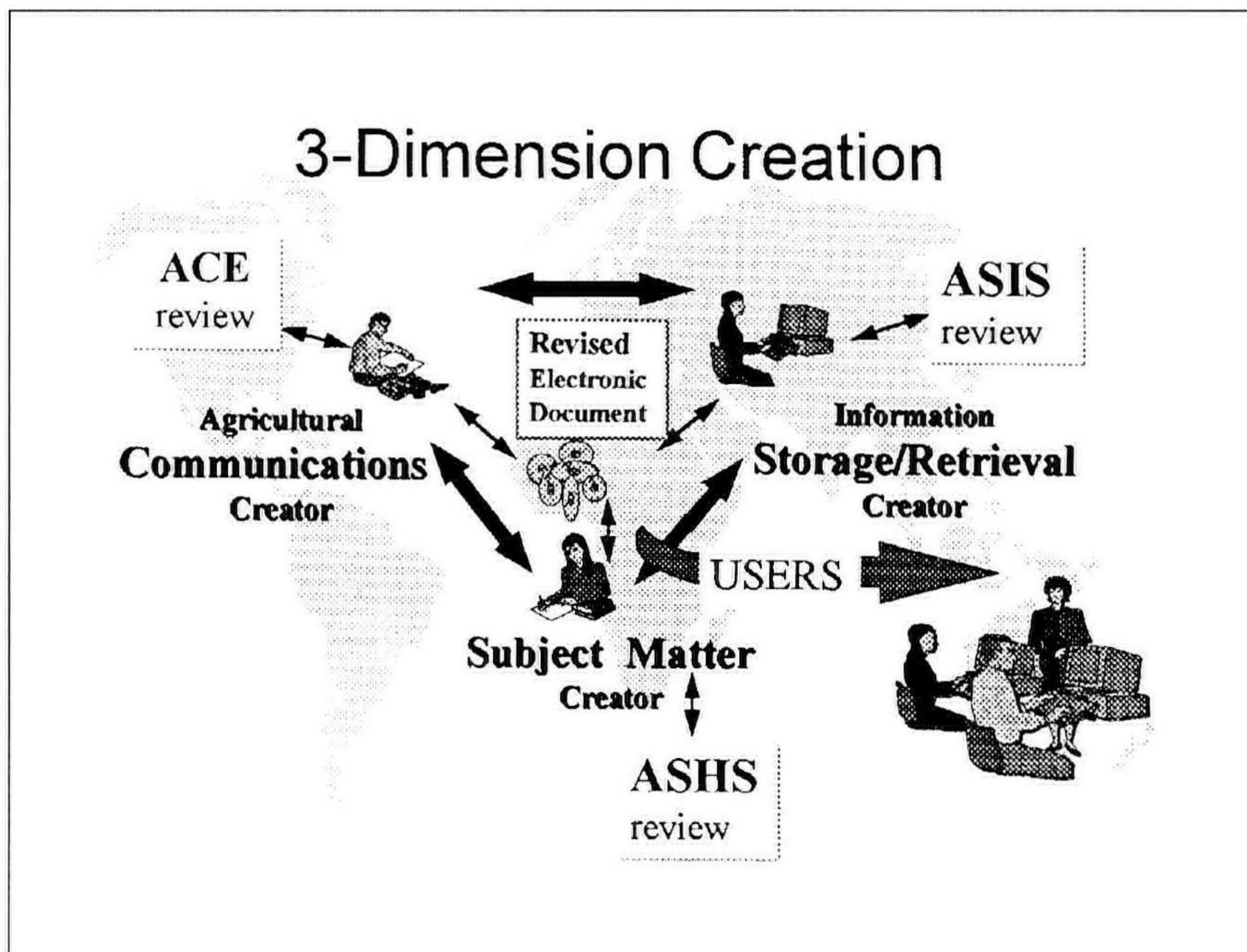


Figure 1. Creation, revision and update of network information files.

and distribution of the electronic information. Design is integrated from the beginning and throughout the information file creation as compared to cataloging, and possibly required redesign, of the completed subject document. Daniel E. Atkins, Dean of the School of Information and Library Studies at the University of Michigan, envisages "*the new librarian. . . will combine the skills of the computer scientist, the business graduate and even a little of the old-school librarian. . . to help make sense of the labyrinth of different information sources available on the Internet. You can waste 24 h a day browsing,*" (Stix, 1994). Rather than waiting until the labyrinth is out there, in HortBase the library faculty will be co-creating the files and making sense of the information files before they are on the World-Wide Web (WWW).

Concurrent, rather than sequential input into file development by the subject, library, and communication faculty will create a unified electronic publication. Subject authors will develop concise, easily indexed-retrieved "chunks" of specific information, rather than books, chapters, or paragraphs. Communication faculty will develop illustrations and document design to ensure information transfer. Library faculty will develop text-communication design to ensure rapid retrieval, searching, and distribution of the information file.

Because the information is in electronic form and readily transmitted on the WWW, national-international distribution and specialization can occur: The members of a file-creation team do not need to be at the same geographical location. "Virtual teams" can be formed with subject, communications, and information management team members at diverse geographical sites.

Review/Revision: "*.....educators and publishers have started to worry about a time when the Internet might become clogged with programs that are mediocre or even worse, filled with inaccuracies*" (Service, 1994). Stix (1994) states, "*Some academics fear that the sheer volume of literature and a growing inability to distinguish the good from the bad in what gets published (on the Internet) may lead to an overall decline in standards.*"

After team creation of the file by the subject matter, communication and library faculty, the file will be transmitted electronically to the team members' respective national societies for peer review of the subject matter (e.g., American Society for Horticultural Science), review of the communications aspects (e.g., Agricultural Communicators in Education), and for review of the information management facets (e.g., American Society for Information Sciences). National peer review will not only validate and maintain the credibility of the files, it will also serve as continued education, development, and peer recognition for the creators in their respective professional fields. To maintain creator, validator identification and support, specific information retrieved by client will include a 'TAGLINE':

Subj. Author _____, Comm. Author _____, Info. Syst. Author _____

Reviewed / Approved by (Academic Societies, e.g. ASHS, ACE, ASIS) on (date).

Revised files will be added to the HortBase network for public access.

Revision. Query-driven development of new files, continual revision-update of existing files and deletion of unused files will ensure a user-responsive system.

SUMMARY

HortBase will initially build and link "text" chunks of information for delivery via the Internet. The basic, essential information on a specific topic would be in the text chunks. The Internet is not yet the superhighway-size broad-band network needed to handle media-rich products, such as Microsoft's Encarta '95 (CD-ROM). But, we can start with the basic layer of "chunked text" information with the goal of later adding the media-rich layers of graphics, animation, sound.....to eventually achieve a full, multimedia information system as network technology evolves.

With the new technology, by forming alliances with the private sector and with the national societies and by nationwide distribution of the workload and costs of developing and maintaining a national electronic information service, we can do more with less!

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