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REVIEW OF LAB MANAGEMENT SOFTWARE FOR THE MAC

Product name	Product type & cost	System requirements	Features	Technical support
MacLogin	Shareware utility $10 per work station	Minimum System 7 or newer, 500k free RAM	Log-in, messaging and server control	Not available
Simplewave	Shareware utility $150	Minimum System 7 or newer, 100k free RAM	Maintains integrity of client machines	Not available
RevRdist	Freeware utility	Minimum System 6 or newer, 1MB free RAM	Maintains integrity of client machines	Not available
MacAdministrator	Commercial administrative environment, for pricing information contact supplier	Administrator machine: System 7.5 or newer, 5 MB free RAM. Client machines: System 7 or newer 2MB free RAM	User level access restrictions, machine replication, protect of file and folder structures	Available
AtOnce	Commercial management utility $600	Minimum System 6 or newer, AppleTalk 1MB free RAM	Protection of hard disc, recording of user activity, provides networking without the need for a server	Available
Apple Network Assistant	Commercial administrative environment, for pricing	Administrator machine: System 7.6.1or newer 8 MB free RAM. Client machines: System 7.1 or	Multi-level administrator access, network performance	Available

	information contact supplier	newer 4 MB free RAM	testing, support for AppleTalk networks	
KeyServer	Commercial software license-monitoring tool, $40 for 10 machines (academic rate)	All versions of the Mac operating system, 1MB free RAM	Limits the number of users who can launch a software application	Available
FolderBolt Pro	Commercial security utility, for pricing information contact supplier	Minimum System 7 or newer, 16MB free RAM	Protection of all folders in a networked lab	Available

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The growth of interest in computer-assisted language learning (CALL) and the greater availability of language learning software have been accompanied by a proliferation of CALL centers, computer-based facilities designed to provide learners with access to this software. In recent years, the emergence of computer-mediated communications (CMC) technologies and their ever-increasing use in language teaching and learning (Paramskas, 1999; Peterson, 1997), together with an increasing number of users, has placed new demands on CALL labs and lab managers. A common response to these circumstances has been the implementation of lab management software tools. These tools provide management features such as remote control, network security, data collection, and troubleshooting. This review will provide an overview of some of the major software management applications compatible with the Mac OS operating system; lab management software available for the PC will not be discussed. The software discussed here is not unique to CALL labs. Nonetheless, it is hoped that the discussion of this software will prove valuable for CALL lab managers and administrators.

LAB MANAGEMENT SOFTWARE: FACTORS TO CONSIDER

Although the institutional environment faced by the individual lab administrator varies, a number of factors should be borne in mind by practitioners considering the implementation of lab management software applications. Institutional requirements and resources will be a primary concern of lab managers. Thus, the individual lab manager must consider whether the purchase of software management tools is justified, given the size of the lab and usage requirements. Because funding is often an issue for language programs, the cost of software management applications may also be a decisive factor in the selection of tools: Using

commercial software in large labs often requires expensive site license agreements, the cost of which may be prohibitive for some institutions. This problem may be overcome to some degree by the use of shareware or freeware programs.

The level of computer knowledge required to install and operate a management system may also be a major concern for administrators as well as potential managers. Many of the advanced features included in some lab software require extensive knowledge of computer systems and networks. As a result, the implementation and operation of advanced management tools often requires the presence of trained support staff (Smith, 1993). Thus, the decision to implement such tools may have long-term budgetary implications. Regardless of the software chosen, the need for trained personnel also highlights the importance of planning and maintaining good relationships between managers, faculty and administrators (McVicker, 1997). In the author's experience (Peterson, 1999), relations between network managers, administrators, and academic faculty should be fostered in order for a CALL center to operate efficiently.

In addition, managers should consider the functionality and mix of software applications required by their environment. Small labs with limited usage may require relatively few management tools while large open-access labs may require more powerful tools with extensive features such as remote control and monitoring. However, it is important to remember that simplicity is an important goal, as simple systems are often more robust. Thus, programs with numerous advanced features are not always preferable to simple applications. Software compatibility is also a major issue to consider. For example, practitioners should be aware that some of the newer software management packages are not compatible with older versions of the Mac OS. This is frequently the case with older shareware applications, many of which have not been updated to take account for upgrades of the Mac OS.

Security considerations are another crucial factor in the choice of management tools (Stevens, 1996). Large open-access labs often require software tools that can provide for restrictions on user access. Restrictions required may include prevention of unauthorized access and copyright violation.

Now that I have reviewed some of the major issues to take into consideration in the choice of lab management software, I will describe the features of some of the most commonly used Mac lab management packages and tools.

FREEWARE AND SHAREWARE LAB MANAGEMENT TOOLS

The following software applications are available either as freeware or as low-cost shareware. Most of these applications offer more limited features than the commercially produced management environments. However, these tools are usually reliable, easy to

install and operate. In addition, they have relatively small memory requirements. These factors, combined with their low cost, make freeware and shareware applications attractive choices for CALL lab managers seeking management systems.

MacLogin, a low cost shareware utility available in four versions, is designed to restrict access to the network environment by enabling CALL center managers to control log-in, messaging, and server mounting functions. An online manual for *MacLogin* is available at their Web site.

Simplewave is a shareware system extension for the maintenance of lab computers. This application provides basic maintenance of named client folders by synchronizing a local start-up disk with a remote master folder. Potential users should note that this product is not compatible with *AppleShare Chooser* (versions 3.8 or later) and that no upgrades are planned.

RevRdist, a freeware utility produced at Purdue University, enables an administrator to replicate and maintain the hard disks of client machines from a server mounted master folder in order to prevent users from permanently changing the configuration of a networked Mac. Unlike security packages, *RevRdist* does not prevent local users from reconfiguring the hard disk. Instead it makes it easy to restore the configuration of networked Macs in lab at prescheduled times, or as deemed necessary by the administrator. This product comes with a *HyperCard* stack designed to facilitate installation of the software (see Figure 1). The *RevRdist* Web site also includes access to a listserv-based mailing list.

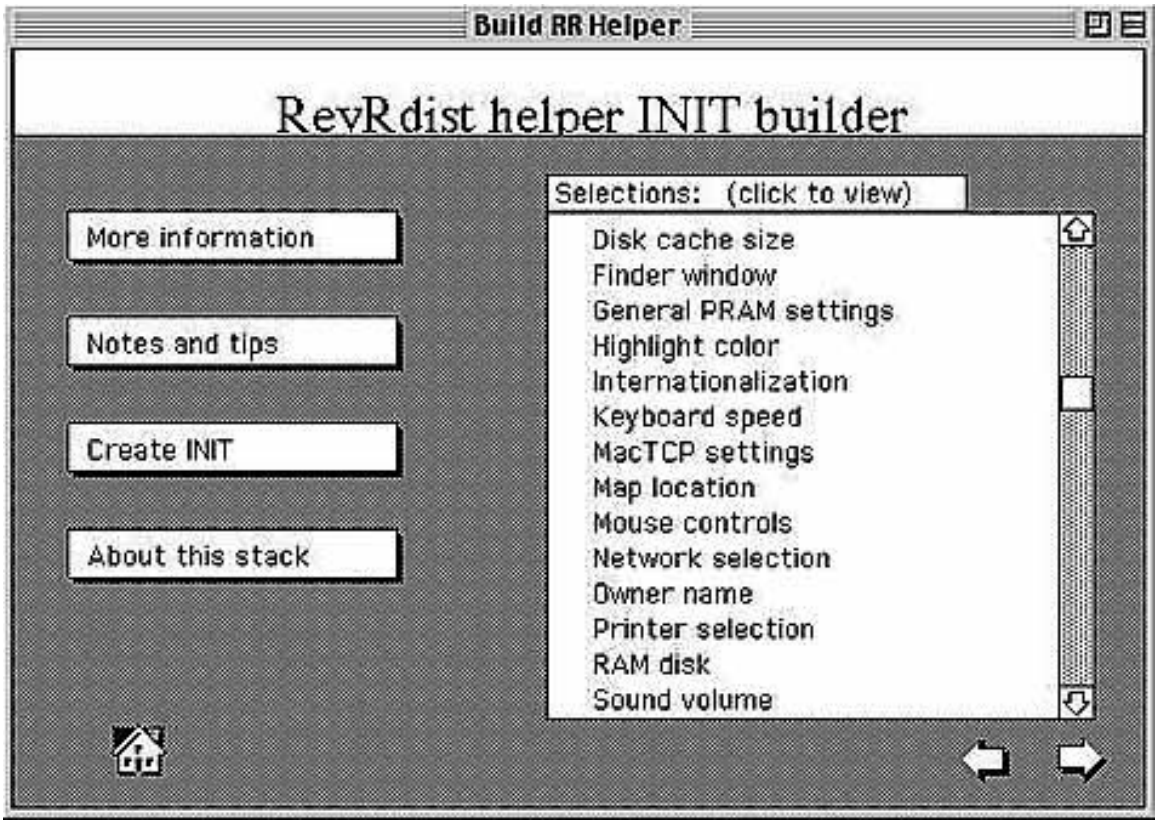

Figure 1. RevRdist helper stack

COMMERCIAL LAB MANAGEMENT PACKAGES AND TOOLS

Commercially-produced software management applications offer a wider range of features than shareware products, but they are often more expensive and require a higher level of technical expertise to operate. Commercial products offer the advantages of flexibility, frequent upgrades, and technical support, which are not always available with shareware products.

MacAdministrator, the first complete Mac network-based lab administration software package, allows the administration of a Mac lab from a single machine, through the use of server and client software. Major features of *MacAdministrator* include control of access through passwords and user level access restrictions, machine replication, and protection of specified files and folder structures (see Figure 2). *MacAdministrator* also enables lab managers to provide customized files to a specified user group, as well as full print and software auditing, which not only offers the ability to control user printing and software distribution, but also provides detailed usage reports for each user and application. *FileMaker Pro* version 2.1 or newer, is necessary to view these reports.

Figure 2. MacAdministrator folder control interface

AtOnce is a management utility designed to prevent damage to computers in a lab and to facilitate the automation of various management functions. It can be customized to meet the needs of individual practitioners and provides complete control over applications (see Figure 3). For example, interface consistency can be maintained on all machines in a lab, and menu bar options may be disabled in selected applications. *AtOnce* also permits protection of the hard disk, recording of user activity, and the operation of a networked environment without a server.

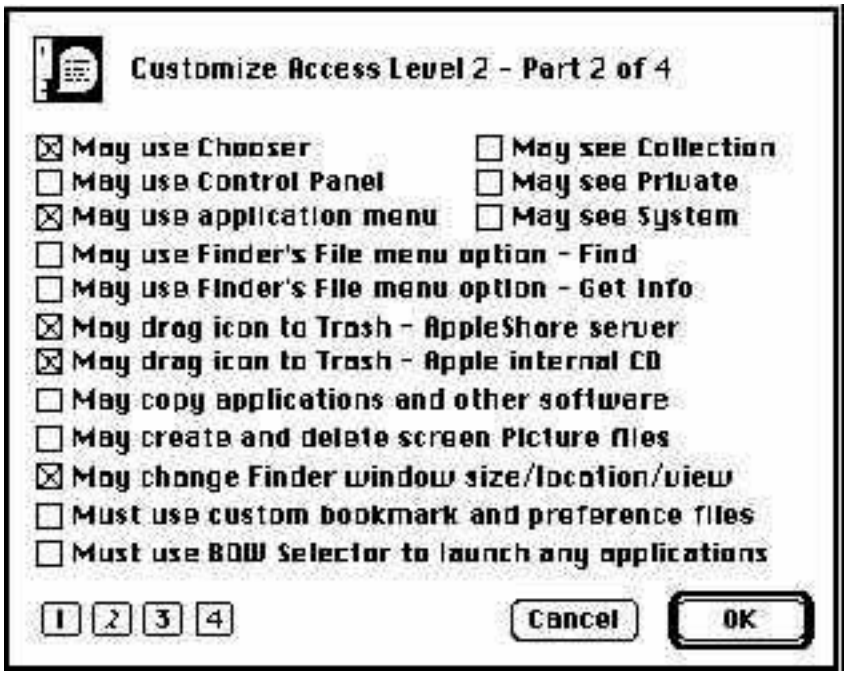

Figure 3. *AtOnce* control panel

Apple Network Assistant allows centralized control and distribution of applications across a network. Other features of this software include provision of multi-level administrator access, network performance testing, and support for AppleTalk networks and TCP/IP. In addition, *Apple Network Assistant* offers administrators various innovative features such as the ability to control the screens of client machines, and the means to converse with users using either text or voice. (see Figure 3) The Web site for this product provides extensive links including a discussion forum and a FAQ page.

KeyServer is a cross-platform software license-monitoring tool designed to prevent software copyright violation while also reducing licensing costs. The program limits the number of users who can launch a network-based application simultaneously This permits a given application to be used on multiple computers without requiring that licenses be purchased for ever single machine. *KeyServer* also provides restrictions on access through multi-level administrative passwords.

FolderBolt Pro enables a lab administrator to prevent tampering with the hard drive of a machine thus limiting desktop configuration damage by shared users. This product provides protection for Mac labs at the folder level. Folders may be locked completely, made read-only, or password protected. In addition, *FolderBolt* may be configured to prevent changes to the system, extensions, control panels, or chooser (Stevens, 1996). *FolderBolt* requires OS system 7 or newer.

CONCLUSION

The software discussed here represents a sample of the growing number of software management solutions available to practitioners. Given the great variety of CALL center needs and resources, the author has refrained from recommending particular products. Instead, because the specific circumstances of CALL labs must be taken into account when choosing management software, this review has focused on informing educators of the software solutions available. Future years may see a further increase in the number and sophistication of these tools, as the market continues to expand. However, the central challenge facing the lab manager will remain the same: effectively managing the lab environment through the selection and use of the most appropriate software. While the specific programs may change, the issues discussed here will likely continue to be central in the choice of software.

ABOUT THE REVIEWER

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