

## Mankato Schools: A Diskless Wonder!

*Apple News*, May 1999

As teachers we have all heard comments like these from our students:

*"I think my diskette is bad. Can you help me get back my work that was on it?"*

*"My computer at home won't recognize this disk. My dad thinks we should all be using Windows so this wouldn't happen."*

*"I lost my diskette." (for the 5<sup>th</sup> time.)*

*"Hey, the disk drive on this computer doesn't work."*

*"My file is too big to fit on my disk."*

*"This computer doesn't have a disk drive. How am I supposed to take my file home so I can work on it there?"*

As these statements show, having students use a standard 3.5 floppy disk to save and store their work creates problems. By going "diskless" next year, we hope problems like these will be solved.

The latest model of one popular computer (iMac) has no internal disk drive. Unless we want the additional expense of buying an external floppy drive, we need to find other ways for students and staff to save and transport files. This adds some urgency to need for change.

What exactly does that mean, "going diskless?" Instead of students each having one or more physical diskettes on which to store their files, they will now have 5 megabytes (about three 3 ½ floppy disks) of space on a single gigantic file server. From any computer connected to a network, either at home or school, students can access their "folders" through the network to read and save personal files of artwork, writing, and other schoolwork.

And while most teachers use the hard drives on their classroom computers to save files, we will be providing 10 megabytes of space on the same server for backing up professional materials.

We are calling this move to a diskless environment: Project YODA (Your Own Data Archive). Project YODA has several important implications for the way we handle data in the district:

1. **Data is more secure since we back up the files.** In the past, students were often advised to save their work on more than one floppy disk in case one of these physical devices failed. They rarely did. The data on the YODA server will be backed up every night on a second server and on a back-up tape. While no system is perfect, this redundant back-up scheme should be far better than what students have been currently using. Student might also make use of Internet based file storage services that have recently become popular. Lost or damaged diskettes will no longer mean lost student work.

YODA will also provide a convenient way for teachers to backup their critical files. Now there will be at least four "copies" of teacher files: 1 on their computer's hard drive, 1 on the main YODA server, 1 on the second server, and 1 on the tape back up.

2. **Larger files can be saved.** Increasingly student's multimedia files are larger than a single floppy disk can hold. This should become less a factor with a larger storage space. Students will still need to periodically clean out their electronic lockers by tossing or archiving files, but 5 megabytes should be adequate for all student work in progress.
3. **Files become more easily used between platforms.** The Windows world has a hard time reading Macintosh

diskettes. Students making an Internet connection from home with their Windows machine will download Macintosh files directly on to their Window's hard drive. Programs like ClarisWorks, Microsoft Office and HyperStudio open files nicely regardless of the platform on which they have been created.

4. **Students can submit papers electronically.** Once students get in the habit of saving to the server, lots of options become available. As a teacher, you can set up a folder into which students can "drop" their drafts for review. A shared folder will allow a group of students (or a whole class) to have access to a single file for collaborative work.
5. **Students will need instruction in data privacy issues.** All folders will be password protected and students will be unable to get access to other folders unless they know the password. The effectiveness of such a system will depend in large part on how well we teach our students about the importance of data privacy and security. Even our youngest students will need to know that you don't share your password with friends. Students will also need to be reminded to logoff a server just as they now must remember to eject their floppy disk.
6. **Student will keep the same folder and method of file access throughout their school careers.** By setting up folders that will be accessible year after year, students can be taught once how to store and find folders. New folders will not need to be recreated every year or even when students change buildings. Students could use their file space to build portfolios of their work (although an extensive amount of portfolio building will require giving students more space than we are currently allocating).
7. **All computers will need to be networked.** Such a storage system requires that all computers be networked. As students (and staff) become accustomed to keeping their files on YODA, computers without network connections become difficult to use. As technology teams make budgeting decisions, network costs need to be factored in.
8. **Gives student experience working in a networked environment.** It's difficult to predict what kind of world students will be working after graduation, but it's a safe guess it will be a wired one. I think we can safely predict that networks will become more pervasive, file sizes will grow, and that security will remain a concern. We are doing our students a favor by giving them experience operating in a virtual world.

We have also converted to an email system that allows users to keep their settings, messages, and address book on the server itself rather than having to carry them on diskette. If you have ever used Hotmail or Yahoo mail, you know that everything is kept on the mail server itself. Very convenient, and again it eliminates the need for floppy disks.

For both systems we will be writing user guides and offering inservices.

Of course for those who feel more comfortable using floppy disks, there are plenty of machines with built-in drives around. There might be other teachers who would be willing to swap their older machines for your new "diskless wonder."

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