Technology Plan

October 2007

prepared by

the Instructional Technology Committee

Table of Contents

Introduction

The purpose of this Technology Master Plan is to establish technology guidelines that will help to direct Modesto Junior College as we move into the 21St century. This plan contains procedures, visions and recommendations for technological enhancement within Modesto Junior College that will occur over the next five years. However, this Plan should be viewed with a degree of flexibility since it is impossible to account for rapidly evolving technology and funding issues.

The Modesto Junior College's Instructional Technology Committee served as initiator and primary source of information for this Plan. The Committee's makeup allowed for easy access to several of the most technologically dependent areas on campus and provided a significant source of information and recommendations for the structure and body of this Plan.

Understanding that this Plan focuses on three major elements that are crucial for the success of any technology master plan - organization, processes, and technology - it examines the current status of technology on the Modesto Junior College campus. It contains administrative procedural recommendations that should be implemented and supported if the College intends to continue to maintain the high standard of education it currently provides. The Plan outlines budgeting requirements that facilitate currency in technology and infrastructure. It includes future staffing needs that require consideration to support the College's growth in technology. In effect, this Plan should become a "living document" that serves as the strategic guide for current and future technology for Modesto Junior College.

A review of this Plan should be conducted every other year and a report submitted by the Instructional Technology Committee to the College Council on the status of the implementation progress and success of this Plan.

Instructional Technology Committee Membership:

Mel Ainsworth	**Software/Network Analyst - Technology Services**
Nancy Backlund	**Faculty - Business, Behavioral & Social Sciences**
Nancee Carrillo	**Alternative Media Access Technician - DSPS**
Jim Clarke (chair)	**Coordinator of Instructional Technology & Distance Education**
Tobin Clarke	**Dean of Library, Learning Resources & Technology**
Alex Cordova	**Academic Publication Specialist - Instruction**
Ellen Dambrosio	**Faculty - Library**
Margo Guzman	**Systems Information Manager, YCCD**
Will Lotko	**TeCHED**
Ernie Medrano	**Multi Media Specialist - Media Services**
Felicia Osnaya	**Technology Services Manager**
Dale Phillips	**Faculty - Business, Behavioral and Social Sciences**
Larry Scheg	**Faculty - Literature and Language Arts**
Kim Schrader	**Administrative Secretary - Library & Learning Resources**
Barbara Wells	**Interim Dean of Literature and Language Arts**
John Zamora	**Faculty - Business, Behavioral and Social Sciences**

Mission

The Technology Plan for Modesto Junior College centers on our mission that states, in part, "… Modesto Junior College is committed to serving its diverse community through high quality transfer, vocational and general education programs. The College assesses student outcomes and uses the results to improve teaching, learning and support services."

The mission of the Modesto Junior College Technology Plan is to help define, create and support an environment that promotes access and learning for students and staff utilizing the most advanced educational technology available.

- Provide direct, universal and equal access to information and instructional technologies by students, faculty and staff to facilitate improved teaching and learning.
- Promote students' success in their educational and career goals.
- Improve communication, collaboration and coordination among those who enable students, faculty and staff to make the most effective use of technology resources.
- Sustain and improve instructional, student and administrative support services.
- Promote alternative methods of education that integrate technology into instruction.
- Invest in staff development to increase use and application of technology resources.
- Invest in technical support staff to enhance services to students and staff.
- Support the institutionalization of educational technology in order to guarantee funding.

The successful implementation and completion of this Plan will establish a strong technological presence at Modesto Junior College and give the faculty and staff the necessary tools to incorporate technology into instruction and day-to-day operations. It is imperative that Modesto Junior College remains committed to the advancement of technology in order to provide a productive workplace and an exemplary educational environment where our students receive an education that is current both in content and technology.

Technical Support

Current Environment

Modesto Junior College's technical services support consists of: an Electronic Specialist, three electronic technicians, three software/network analysts, four Multi-media Specialists, a Multi-media scheduler, a Technology Services Manager, a Tele-communications' Systems Manager, a secretary, a Video Production Specialist and a photographer. These positions are led by the Dean of Learning Resources & Technology.

The College's computer information system is growing across campus. The most striking omission from technology planning has been a realistic staffing model. While staff for business operations, purchasing, curriculum, human resources, building and grounds have been maintained and in some cases - increased, few planning teams have recognized that a large network of computers will require a substantial group of highly trained professionals to cope with its many demands.

The College's technology infrastructure now includes over 2000 networked computer systems, a growing number of administrative and instructional servers, a 45 megabit direct connection to the state of California's CENIC network, video-conferencing capability over a dedicated DS 3 line; one landline T-1 as a fail-over and two T-1 lines for voice for communicating with Columbia, providing a comprehensive wired network. The ability to provide a seamless wireless network across the campus is not currently available. While a growing number of areas are being covered via wireless network "hot-spots", there is not adequate funding available to deploy a comprehensive wireless network across both campuses.

Successful implementation of technology into education is obviously dependent on a number of variables. While technology supporters are quick to advocate the benefits of technology, the requirements for adequate technical support are slow to be understood and funded. It should, however, be fairly easy to appreciate the frustration an instructor may face when a piece of "technology" doesn't work or a skilled technician is not available to make it work.

Another important aspect of technical staffing is compensation. The College should establish a market-based approach to determine competitive compensation for key positions in the Technology Services department. The current salary schedule does not take into account the current high demand for skilled network and computer managers and technicians, thereby causing the pay scale to be inadequate.

The College has come a long way in a short period; but, as with any other dynamic organization, there is always room to improve. For instance the California Community College Chancellor's Office released a report in 2000 that advocates the concept of Total Cost of Ownership in technology and includes technical support staffing as follows:

Position	Assumptions
Technical Management	1 staff per 500 Computers
Web Administration	1 staff per 12,000 FTES
Technical Support Staff	1 staff per 150 Computers
Network Technical Support	1 Staff

Application Development	2 Staff
Network Systems Admin and Wiring	1 staff per 300 Computers

The College can purchase the most technologically advanced equipment, but without adequate support staff to install, operate, train, and maintain the equipment, it will never be fully utilized.

Future Plan

It is unlikely staffing needs will decrease in the future as new, more challenging iniatives are attempted. It is mentioned within this specific Technology Plan, Modesto Junior College's technology infrastructure appears to be well-positioned for the next five years. The same cannot be said for the technology support staff.

It is recommended the following positions be re-evaluated or established:

New	Software Network Analyst, 100%-12 months
Replacement	College Webmaster
New	Electronics Technician
New	WebCT/Online System Adminstrator at MJC

Inclusion of the above positions are immediately important so the level of Technology support is not compromised as the student population and the faculty and staff needs grow. It is critical that staffing needs for technology be evauated on a regular basis in order to maintain needed support.

Computer Replacement, Upgrade and Maintenance

Current Environment:

Modesto Junior College (MJC) provides many information technology resources for use by the MJC community that contribute to a high quality learning environment. Students, faculty, and staff utilize computer software, and the electronic network provided by MJC to perform routine tasks, to communicate, to learn, to instruct, and to do research. Acquiring and maintaining adequate computer hardware is essential to the operation of the college. This is in keeping with the mission of the MJC Instructional Technology Committee to "create an environment that promotes access and learning for students and staff utilizing the most advanced educational technology available."

To keep pace with the rapid changes in technology, MJC is participating in replacement of computer equipment every three to four years. In order to best serve the MJC community, computer upgrades will be made according to the following criteria:

- Maintain appropriate computing resources available to college classrooms, labs, and offices to support the college's mission.
- Assure that each faculty and staff member who uses computing resources in his/her position has a computer of sufficient capability to fulfill his/her responsibilities.
- Implement minimum standards for computer equipment on campus.
- Encourage a planned and cost-effective installation of new equipment and transfer or disposal of old equipment.

Future Plan

- Continue the three-year replacement plan with periodic evaluations of instructional administrative needs. Consider moving to a four-year plan.
- Expand the replacement plan to include all campus computers including those in "operational" areas (library circulation; student center; etc). Include laptop computers in the replacement program.
- Assure that replacements are adequately funded throughout the capital outlay budget.
- Technology services will continue to work with the lease provider for maintenance of leased equipment.

Media Equipment Replacement and Maintenance

Current Environment

Most classrooms have basic media equipment- overhead projector, screen, and TV & VCR. Video/Data projectors have rapidly become a standard in classrooms as well. Technology and Media Services work with divisions to upgrade equipment as funds are made available.

The College has embraced the idea of smart classrooms. Technology and Media Services provide support to all smart classrooms and lecture halls. Virtually all rooms are equipped with a computer teaching station, Internet access, a projection system, sound system and the ability to play different media ranging from videotape to DVD.

Currently, not all College classrooms have video/data projectors. Upon request, Technology/Media Services will place video/data projectors and laptops needed for multimedia presentations across campus and at off-site locations. This service is available to all faculty, staff and students.

Future Plan

- All media equipment will be compatible with the ADA guidelines so they will be capable of showing closed captioned media. Currently digital computer projectors do not have the capability to show captioned material. Therefore, special captioning decoders should be purchased to allow the use of captioned material through the use of digital computer projectors.

- Create a standardized process of media equipment procurement.

- Develop a plan for replacing all media equipment before it becomes non-operational.

Procurement Procedures

Current Environment

With the exception of the three-year computer replacement plan, purchases are handled by departments/divisions for needed technology-related equipment and software.

Future Plan

- The College should continue to provide all employees with necessary technology where and as needed.
- In order to save money and streamline services, a centralized purchasing and replacement plan for non-lease technology items should be developed. Items included are scanners; printers and portable storage devices. Software purchases may also be included if possible.

Multimedia

Current Environment

Multimedia is a broad term used to describe any combination of two or more of the following elements: text, image, animations, sound, speech, video, and computer programs. The elements are digitally controlled and enhance the information for better communication and understanding. As the need for technology in the classroom has grown over the years, Modesto Junior College has attempted to keep pace with the development and usage of multimedia on campus evolving to include video conferencing, full-motion video, the Internet and satellite connectivity.

Modesto Junior College provides basic support for campus-wide use of multimedia as a medium where instructors can enhance student learning outcomes with Internet access, PowerPoint presentations, CMS (Course Management System), Omni Update and videos. Since not all college classrooms have video/data projectors, Media Services will set up a video/data projector and laptop for multimedia presentations anywhere on campus and at off-site locations. This service is available to faculty, staff and students.

MJC currently has an Alternate Media Specialist who converts all forms of media into formats designed to meet the needs of students with a verified disability.

The goal of the Instructional Technology Committee is to develop a strong dialog concerning instruction and technology on the Modesto Junior College campus and how to use both to meet faculty and student needs. The hope is to encourage the use of multimedia technologies and make it possible to address instruction among students with diverse learning styles and increase student motivation.

Future Plan

- Faculty will need continuous training and support as they integrate technology (such as multimedia and presentation software) into the curriculum in order to prepare demonstrations and collaborative projects for their students.

- As the College renovates, upgrades and/or constructs either traditional classrooms or computer labs, planning must be done to assure the deployment of cost-effective and robust methods for providing data, voice and video services.

- The college should provide the capability to convert old media to newer formats, provided provisions of the copyright law are met; i.e. analog to digital for audio and video and streaming media content. Modesto Junior College will seek funding to replace media that cannot be converted.

- The College needs to expand the current pilot program of providing audio-video capture of faculty lectures. Currently, the only lectures scheduled for capture (starting in Spring 2007) are the nursing program lectures. The current beta program needs to be "institutionalized" and expanded to include more classroom locations and instructors. As a companion to this, the college needs to identify appropriate off-site locations where the broadcasts can be received by a student

audience. Off-site locations must be selected based on having an appropriate infrastructure; being able secure the site in order to protect the technology from theft and having adequate support staff necessary to operate and troubleshoot the equipment.

- The College (in consultation with the District) should investigate the expansion of the real-time video and on-demand streaming capibilities that are currently support by the District Information Services. Any such expansion should be based on current use and future expected growth of video streaming.

Distance Education

Current Environment

Distance education means instruction in which the instructor and student are separated by distance and interact through the assistance of communication technology according to California Community Colleges' Distance Education Regulations and Guidelines. These regulations continue to allow California Community Colleges to explore and develop educational initiatives using advanced communication and computing technologies to address student access issues related to geographical, cultural, disability or facility barriers. These regulatory changes will assist in mainstreaming Distance Education (DE) and fully integrating it into the community college system.

During the 1998-99 academic year, Modesto Junior College's Virtual Classroom Committee (VCC) was formed under the auspices of the Academic Senate. The purpose of the Committee was to provide guidance and advice regarding the development of online educational offerings. At the time the Committee was formed, only three Web-based online courses were being offered. Currently there are over 160 fully online courses; 5 hybrid courses and more than 55 enhanced courses. The College also offers varying numbers of Telecourses. One of the key initial recommendations made by the VCC was the adoption of minimum training requirements for all faculty teaching online. These recommendations were adopted by the full Senate. In addition, the VCC recommended the licensing of WebCT in 2001 as the "official" Learning Management System at MJC.

At the committee's inception, a handful of staff met and worked on the Mission Statement and charge for the Committee. The Virtual Classroom Committee also sent out a survey to gather feedback from the faculty to help the efforts. The following focal points were adopted as the goals of Modesto Junior College College's Virtual Classroom Committee to help promote and support the College's Distance Education Program.

A Distance Education Plan needs to be created by the Instructional Technology Committee in cooperation with the Virtual Classroom Committee. The Plan should clearly articulate the vision and process for supporting a well-managed and robust Distance Education program.

- The College should develop policies and procedure standards consistent with California Community Colleges Distance Education Regulations and Guidelines.

- The College should provide training and instructional design support for faculty engaged in the teaching of distance education courses.

- The College should utilize California Community Colleges' distance education programs and services as available.

Modesto Junior College offers over 160 online courses, between 6 to 10 Telecourses and two live broadcast courses serving over 3000 students. The distance education offerings currently produce in excess of 550 FTES. The college uses WebCT's course management tool to provide online, hybrid and enhanced course content. Currently the College licenses telecourses through

The Northern California Telecommunications Consortium. There is a continuing need for training and support in the use of technology. This support is critical for the College to move rapidly into more distributed learning modes.

Future Plan

- Since much of the current online education infrastructure has been created using "soft monies", the College and District needs to develop a secure institutionally supported funding mechanism in order to guarantee the maintainance and growth of distance education offerings. Secure funding in this circumstance means the ability to guarantee funds for the yearly WebCT license and for related infrastructure costs necessary to the maintainence and growth of a robust distance education program.
- Maintain continued support and training for alternative modes of distance education such as video-conferencing and Internet courses.
- In the area of synchronous distance learning, the College will continue to maintain interactive videoconferencing classrooms. The College should expand the offerings to include other locations as they are identified. The following are current examples of District interactive video broadcast locations – Founders Hall 155, Muir Hall 253-54 & Muir Hall 262-63, The Advanced Technology Training Center, MiWuk Tribal counsel, YCCD District Conference Room B, the Tuolumne County Office of Education (TCOE), the Calaveras Center, Columbia College - Fir 2 and the Manzanita Conference Room and the Patterson site.
- Concerning strategic planning and policy recommendations for campus distance education, the Virtual Classroom Committee and Instructional Technology Committees will work concurrently to develop a comphensive Distance Education Plan. This document will provide strategic guidance in terms of how the program should develop and be supported.
- As the distance education offerings grow, a college-based Technology Design Center/Distance Education Office is required to support faculty in their training and course development needs. The Center should be adequately staffed with a full time Director, at least one full-time Instructional Designer/Technologist and full-time clerical support.
- Distance learning moduals should be created in a format that is accessible to students with disablities and be compatible with the state and federal guidelines on accessiblity standards. Additionally, modules should utilize clear and thoughtful instructional design principles in order to maximize their effectiveness.
- The Distance Education Program should be periodically reviewed and evaluated to be certain the offerings are meeting the needs of students and other stakeholders.

Online Student Services

Current Environment

2002 marked a major transformation in Student Information Systems for the College. After several months of evaluations, the College chose Datatel's Colleague software for its integrated management information system. The student module of the Datatel System went live in March 2004.

The Web-based service system called PiratesNet was implemented summer 2004. PiratesNet is supported by Datatel and allows students to not only register on the Web, but also retrieve information including schedules, financial aid and transcripts. Web registration in conjunction with touch-tone has increased access to Student Services.

Using PiratesNet, students can now get up-to-date information and search the class schedule in a variety of ways. Since its inception, the online schedule has been made available before the printed version, and students can access schedules online.

Online student services includes applications, registration, student educational plans, advising, tutoring, transcripts, and access to grades, financial aid and fee payment. In addition, students are able to look up their schedules, collaborate with instructors and other students, and access library catalogs and resources over the Internet. The goal has been to offer the same level of services online that are available to students who come on campus.

Future Plan

- The College needs to improve the availability of online student resources by fully integrating these resources into the MJC web site.
- The College needs to implement the degree audit process online. It will be a valuable tool for students, faculty and staff when developing educational plans and will help to reduce load in Admissions and Counseling.
- Online counseling services need to be more widely available for all students. Additionally, the services are not well known to students and should be advertised so that students are aware of their existence.
- The College needs to provide email accounts for all students. (The establishment of a student email system is currently in the early stages of implementation.)

Telecommunications Network

Current Environment

A telecommunication infrastructure is a combination of physical connections, hardware, and software that provide for the transmission and reception of voice, data, and video information and services. Planning for expansion of the telecommunications network is critical as the College continues to grow in both technology and facilities. A strong telecommunications infrastructure is essential to ensure that students and faculty have the best opportunities available for teaching and learning and that staff has the latest in technology to help streamline the administrative process. All the data and voice networks are supported by Central Services. The IP-based voice and video network services are also supported by Central Services along with staff support from Media and Technology Services at MJC. (The standard video distribution system is supported by Media Services.)

The College's telecommunications network is separated into voice and data. Each currently operates as an autonomous unit with the capability of future integration.

To ensure reliability of the data network, a disaster recovery center is in place, and battery backups are installed in key locations to reduce downtime in the event of a power outage. The campus network backbone and all related network equipment necessary to maintain our network are attached to battery backups that will provide several hours of uninterrupted run time. Barring a protracted event, this system should be sufficient to outlast most planned or unplanned power interruptions.

The College has off-site locations for instructional purposes with limited connectivity to high-speed data delivery.

All faculty and staff have voicemail capabilities. Lines are in place to allow direct calling of extensions from off-campus bypassing both the main number and switchboard.

A battery backup is provided for both the telephone and voicemail systems.

Future Plan

- The College's telecommunications network will continue to support the College's mission by providing opportunities for teaching and learning with access to the voice, video, and data network (including Internet access and the latest technologies). This would include all off-site locations maintained or leased by the College.

- Increased resiliency and redundancy needs to be built in to the current data network in order to guarantee system reliability.

- A robust wireless network will be deployed across all areas of the campus.

- The College (in consultation with the District) should investigate the implementation of a Voice Over the Internet Phone (VOIP) system. A VOIP system may provide an opportunity to save money over time while providing new voice services to users.

- Ensure that off campus sites are connected so that all access is routed through the college firewall for security purposes.

- The voice and data network for Modesto Junior College should be expanded as needed to accommodate expected growth.

Remote Access for Faculty and Staff

Current Environment

Information Services has maintained a Remote Access Server (RAS) allowing full-time employees of the College dial-in access to the campus. Once connected, users have been able to perform tasks as though they were on campus. Employees are allowed to use the modem to access email, retrieve files if their job requirements mandate such need. Internet access is available but due to limited phone lines its use is not encouraged. The RAS modems offer only local access numbers consistent with those in the Modesto Junior College area. Using the RAS system, faculty and staff can retrieve their email while off-campus through a Web server running Outlook Web access. This server allows access to their Outlook schedule, contacts, and email information. The current RAS system is limited to eight phone lines and is currently not widely being used due to its slow connection speed.

A limited "beta" deployment of a Virtual Private Network (VPN) has been implemented by District Network Services staff. Use of the VPN allows staff and faculty to access their campus computer resources from home IF the user's home computer meets the minimum resource requirements needed. (District staff are currently establishing minimum computing and security requirements for those who would like to utilize the VPN from home.) In terms of functionality, the VPN provides most of the same benefits of the RAS system while adding many new powerful features.

The PiratesNet web interface allows faculty and staff access to information while off-campus. This service provides class rosters, leave accruals, contact information, and budget reports. PiratesNet provides end-users with information in an easy-to-use Web format.

Future Plan

- As newer technologies become available, the college should consider improved functionality over expansion of the current system.

- Encourage Central Services to more widely deploy the Virtual Private Network (VPN) which has been implemented on a limited basis. MJC and District Network Services staff need to develop procedures and protocols in order to facilitate a wider deployment to the MJC campus community. Once the system has been fully deployed, District Information Services needs to provide training to MJC Technology Services staff so that the VPN will be fully supported.

Electronic Mail

Current Environment

The use of electronic mail (email) as a means of communication has expanded rapidly over the last decade. Electronic mail allows for the efficient exchange of information regardless of the distance between the parties. It has become a collaborative tool that allows colleagues to stay in touch and faculty and students to easily communicate. Email is also an excellent way to provide information to large groups of people such as the employees within the College.

All faculty and staff have access to email. Microsoft Outlook is currently deployed campus-wide. Outlook provides collaboration options, calendar, contacts, and tasks. In addition, the Web client for Outlook allows employees to check their mail anywhere in the world there is an Internet connection.

Future Plan

- Modesto Junior College will continue to participate in discussions with District Information Services staff concerning decisions about and improvements in the Outlook email system.

- Use of computer resources will conform to District Board policy and computer-use procedures. These policies and procedures will provide guidelines and structure for overall use of computing resources.

- Periodically evaluate Outlook email account size in regard to staff, instructional and administrative needs. Expand the storage needs as warranted.

- Provide student email accounts using a cost-effective method.

- In conjunction with Information Services staff, the College must develop an Authorized Use Policy regarding the student email system whose deployment is planned to occur within the next six to twelve months.

Backup Procedures and Disaster Recovery

Central Services provides the support for virtually all server and network hardware and related software services used by MJC. Therefore, they are the only group capable of providing the guidance necessary for the completion of this phase of the Technology Plan.

A request for Backup Procedures and Disaster Recovery has been made to Central Services. The Committee is waiting to receive this portion of the Plan.

Web Site Access and Development

Just as electronic mail has revolutionized the office memo; the Internet has revolutionized nearly all other aspects of the work place. The Web serves as a medium that allows the College to store, present, and gather information to and from audiences on campus, in our community, and around the globe. Increasingly, students make decisions about attending colleges based on viewing a college's web site. In addition, due to the popularity and universality of this means of information exchange, the World Wide Web is by far the most significant move the College has made toward a "paperless" campus.

Current Environment

In early 2003, MJC and Central Services implemented a Content Management System in conjunction with a total web site re-design. Currently, the ability to create Web sites is provided "in theory" to all faculty, academic departments, and administrative offices. However, early in the implementation of the web site re-design, the position of MJC Web Master was eliminated. While some initial faculty and staff training was done in order to deploy the Content Management System, many components of the 2003 site re-design project have not been implemented. The official MJC web site, is currently maintained by a District Web Master who is not to able adequately provide services and support necessary to maintain the wide variety of College web pages. In addition, many departments and divisions are still not using the Content Management System to update and maintain their web content. As a result, the look and feel of the web site is very non-uniform and does not present a cohesive and professional picture of the College to potential students, community members and other internal stakeholders.

Future Plan

- MJC must continue to work with the programmers in Central Services in order to more fully deploy the Content Management System implemented in 2003.
- Modesto Junior College needs a full-time Web Master to facilitate and maintain the college's web presence and assist in deploying a consistent and cohesive site design.
- A Web Site Team should be created in order to evaluate the effectiveness of the web site and recommend changes based on internally collected data and usability studies conducted on a regular basis. The Team should survey stakeholders on a regular basis to evaluate the effectiveness of the web site.
- The College needs to fullly support its web presence by elevating the importance of web content across all departments, divisions and service areas. This means that web content for all areas is current, accessible and visually appealing.
- The College needs to improve the quality, amount and consistency of training available to staff and faculty in the use of web systems and software.
- The Web is a public medium and the easiest way for the general public to assess the College's level of technology. Therefore, Modesto Junior College should make a concerted effort to keep web technologies current and the site visually appealing to all users. This may mean periodically re-designing the web site in order to refresh the appearance and appeal of the site.

Software Replacement, Upgrade, and Maintenance

Current Environment

MJC and the District currently supports most personal computers running on campus using the Windows operating system (XP). In addition, a small group of Apple MacIntosh lab computers are also supported by Technology Services staff. The District also licenses the Microsoft Office Suite to all on-campus users. The suite includes Word, Outlook, PowerPoint, Access and Excel. In addition, all users have the ability to have FrontPage installed on their computer if requested. The College also recently purchased a large number of pdf creation software licenses that are being installed on all new lease computers and by user-request on older machines. For the past three years, the MJC Instruction Office has also paid a site license for the web-based plagiarism checking service - Turnitin. However, virtually all other software that is purchased on campus is done by individual departments or divisions based on identified internal needs. There are currently no other software "site licenses" available to faculty or staff.

Since there are a wide variety of programs being purchased across campus, compatibility is one of the main issues that all computer users and the College face. From different hardware platforms to different file/data formats, being able to share reliable/secure information is the key to a successful organization, as are the tools that enable cross platform compatibility. Having a single platform with standardized software reduces compatibility problems.

Violations of software licensing agreements are also a concern. With so many employees and computers, the risk of having unlicensed software increases dramatically. By installing software the College is agreeing to abide by its terms and conditions.

The College fully supports applications running on Windows systems and provides limited support of Macintosh systems. All new faculty and staff computers and all office computers come equipped with a standard desktop software package as described above.

Currently within the College, there are single-user, multiple-user, network, and site licenses. Some monitoring and tracking of campus licensed software occurs.

Future Plan

- In order to minimize costs of software support, the College should strive for further standardization of general-use, College-licensed software. Verification of licenses should be kept in division offices and copies forwarded to Technology Services.
- Upgrades and new applications should be evaluated for functionality, system requirements, investment value, and feasibility of cross-platform operation. The expertise for selection resides with the department requesting the software. Individual departments may purchase and license any software package they choose provided that Technology Services has reviewed and approved their request. The rationale for having Technology

Services review software requests is to prevent any hardware and software conflicts and to assure purchased software will work properly.

- Increase the training budget for Technology and Media Services staff so they are able to fully support all installed software applications used on the MJC campus.

- The compatibility of assistive software programs and campus-wide programs for students should be considered when new software, upgrades and maintenance are considered. Departments will be responsible for keeping assistive programs upgraded in order to guarantee students with disabilities the ability to access instructional technology. If the current assistive software is not compatible with the campus-wide software being purchased, upgraded or maintained, the compatible assistive software upgrade cost must be included in any purchasing, upgrading or maintenance.

- Create a process to consolidate software purchases campus-wide in order to maximize cost savings opportunities and consolidation of licensing agreements.

- Create a process to better facilitate communication between Divisions/Departments and Technology Services regarding the purchase of software.

- Identify a "line-item" source of funding for software that is used campus-wide. Currently, the programs listed below are paid for using rapidly diminishing rollover Fund 12, TTIP dollars. The College needs to investigate a more "sustainable" source of support in order to pay for these licenses. The College should investigate having District pay for these licenses "off the top" since both MJC and Columbia College currently purchase them using soft money.

    - The following are programs/services currently being used by MJC and Columbia:

        - Turnitin - plagiarism checking service
        - Norton Ghost
        - Prism - Deploy
        - Respondus - Test Creation Software

Library and Learning Resources

Current Environment

The Library maintains a web site to facilitate access to the online catalog, electronic databases, and links to important academic and reference web sites. The Library provides a web-based catalog of materials shared with Columbia College. Online databases are available for student, faculty and staff use; included are approximately 15,000 full-text subscription-based journal and magazine titles in addition to hundreds of thousands of full-text, open access journal articles. Databases can be accessed remotely by means of proxy server authentication. There are two computer labs available in the East Campus Library and one in the West Campus Library. All these labs are available to students for educational use. All labs have printers available which are connected to the "GoPrint" print-management system. Four computers (one in each lab and one at the East Campus reference desk) are outfitted with technology to assist individuals with disabilities. Each has installed on it the Job Access With Speech (JAWS) program for the visually impaired. In addition, one of the computers is equipped with the "MAGIC" print-enlarger system to assist those who are visually impaired. The East Campus library has two text enlargement machines to facilitate easier viewing of print materials by the visually impaired. It also has a text-to-speech machine which converts text into audio, then saves it to audiocassette.

Future Plan

- Expand accessibility with adaptive technology in both East and West Campus libraries: acquire a scanning/reading system in each library, additional closed caption capable TVs for the visually impaired, voice recognition licenses (e.g. Dragon Naturally Speaking) and text enlargement program (e.g. MAGIC). Further, insure all media purchased for the library are closed captioned for the hearing impaired.

- Acquire coin and bill changers for the print control system and stations.

- Continue to develop the library Web site in order to increase use.

- Measure E planning is well under way for a building to include library and learning resources that will include a variety of technological services including distance learning, staff development, computer labs, faculty and staff offices, group study areas, silent study areas, print center, conference rooms and work spaces for all the above functions. The District has applied for State grant money to augment the amount allocated in the Measure E budget. Notification is still pending.

- Continue to expand library services available via the online library catalog to greater facilitate distance learning.

- Evaluate online database services to assure ADA compliance.

Staff Development

Current Environment

In order to provide exemplary service and support, education and technical expertise is required. The scope of staff development is college-wide, with the focus on what students need and how to foster student success through the improved use of technology.

Technology Institutes are provided in order to address technology training needs. Continuing training for faculty and staff is also available at the Instructional Resource Center (IRC). Training includes the following topics:

- Email; Datatel; PiratesNet; OmniUpdate; Turnitin; Office Applications; PDF995; WebCT and online pedagogy; Respondus; and Assistive Technology Issues.

Future Plan

- The College should continue to support the professional development of employees in areas of technology.
    - Train-the-trainer program

- Technical support staff and Professional Development trainers should be readily available and current on new technologies to provide on-demand support to both faculty and staff. (These positions are also described in the Distance Education portion of this Plan.)

- The College should offer ongoing opportunities for assistance in the development of classes that integrate technology into the curriculum and how to use technology in the classroom. (See Distance Education portion of this plan).

- It is important for the successful infusion of technology into teaching and the continuing education of faculty and staff that the College develops a system of incentives, rewards and institution-wide recognition.

- Train and motivate faculty and staff to integrate accessible technologies into the curriculum.

- Continue to assess technology staff development needs.

Assistive Technology

Background

Modesto Junior College was established to meet the needs of the community. Today, the college looks forward to future years of service with the same objective: that of dedication and service to the community.

Under guidelines of the Americans with Disabilities Act (ADA), of 1990 PL 101-336, MJC's responsibility to its students with disabilities has focused the attention of college staff on committing time and resources to provide universal access to all, including those accessing MJC through technology.

Current Environment

It is the current policy of MJC that, faculty, staff, the community at large and students who have disabilities shall be given academic accommodations (e.g. auxiliary aids, extended time for tests, note takers, scribes, alternative media, etc.) as necessary to ensure access to MJC services, programs, and activities; assistive technology (AT) is one such reasonable accommodation.

Assistive technology (AT) has been placed in computer labs throughout campus to ensure accessibility. There is a fully equipped High Tech Center (HTC) for students with disabilities on MJC's West Campus where AT is taught in several course sections. The HTC teaches and makes available for students eight (8) different specialized software programs that are unique to individuals with various disabilities. These disabilities include blindness, quadriplegia, one handed-typing, speech dictation, low-vision, learning disabilities, and acquired brain disabilities, and more. The HTC is also outfitted with equipment for individuals with disabilities. On the east and west campus is a Resource Lab (HTC serves as Resource Lab part time on west campus) were students can access the software and equipment found in the HTC. The Resource Lab allows the students to utilize specialized software, such as JAWS, and complete homework assignments.

The staff members working in the Resource Lab are trained in the proper use of assistive technology and provide information when needed to faculty and other staff. The Alternate Access Media Specialist provides training in the latest assistive technology software and hardware.

Future Plan

- The college should maintain a funding source to purchase required assistive technology, specialized software, specialized training, server based assistive technology and ergonomic support equipment to accommodate all users.

- The college should maintain a funding source that will allow Distant Education courses to be designed to accommodate all users including closed captioning of synchronous and asynchronous material.

- The east and west Campus Resource Lab's hours should be increased to allow students to access the needed technology.

- A minimum number of adjustable height computer stations (to be determined in consultation with DSP&S and IT staff) will be available in all Modesto Junior College locations where computers are used by students.

- Assistive technology will be provided for College employees on an as needed basis.

- Each department will be responsible for ensuring that assistive technology is deployed in their respective lab and technology based classroom.

- Faculty and staff continue to be educated on the needs of the disabled population.

- The computers to be purchased with the Computer Replacement Program will meet minimum specifications for assistive technology.

- Visual fire alarms should be positioned throughout the campus to ensure that hearing-impaired students are notified in emergencies.

Staffing

The following list provides a centralized view of the various technology staff needs identified in the Technology Plan.

College Webmaster - Full-Time position
Instructional Designer/Technologist - Full-time position
Director of Distance Education - Full-time postion
2- Media Technician Specialists
2 - Electronic Technicians

Facilities

Current Environment

The physical plant that encompasses all of the structures and equipment owned or leased by the College is vital to the success of this Plan. Certain technological considerations must be included to support the future technology growth of the College. Since the facilities of the College fall under their own master plan and it would be redundant to go into great detail, below is a list of requirements necessary for this Plan to be successful:

- Adequate power supply to smart classrooms, server rooms, and data closets.
- Power receptacles that meet building and fire codes in type, quantity, and location.
- Proper environmental conditions for heating, ventilation, and air conditioning.
- Security measures such as secured classrooms, key control, and video surveillance.
- Sufficient storage facility to house computer equipment and peripherals.
- Smart classrooms and computer labs built to ensure functionality and mobility.
- Proper accessibility for persons with disabilities that either meets or exceeds ADA requirements.
- Integrate technology into classrooms in order to facilitate ease of use while maintaining the security of the virtual and physical environments.

Just as all of the master plans of the College should be focused on the same goal, each department within the College must work together to achieve these goals.

Future Plan

- College Technology and Media Services staffs need to work closely with building planners in order to assure that infrastructure considerations are built into the design, remodel and construction of any existing or new buildings. Technology should be seamlessly integrated in order to facilitate teaching and learning. Additionally, technology should be as minimally intrusive as possible when it is deployed in classrooms.

Review Process

As mentioned throughout this Plan, technology is constantly changing. In order for this Plan to maintain currency and effectiveness it must be reviewed annually. The Instructional Technology Committee will schedule a review of the Technology Master Plan during one meeting each fall. During that meeting the Committee will review current trends in technology and education, evaluate the progress the College has made since the last review, and make recommendations for modifications or additions to any part of this Plan.

Once the plan is completed, it will be submitted to the Instructional Administrator's Council for review. After a final review, the plan will be sent to the College President who will bring the Plan to the College Council.

Conclusion

The College's Technology Master Plan focuses on the technology needs of Modesto Junior College over the next five years. This document will assist in the planning and implementation of the information technology efforts to an end that is both beneficial and functional for the College.

The Master Plan is a comprehensive view of technology within the College and how technology supports our mission. The Plan breaks down several important topics and lists recommendations for future enhancements and changes. While some of these activities are already in practice, others require serious planning, preparation, and budgetary support. Over the next five years, significant effort needs to be made in terms of the development of student learning outcomes as a method for assessing technology needs. In addition, MJC's distance education program should be assessed for its effectiveness in meeting the needs of students.

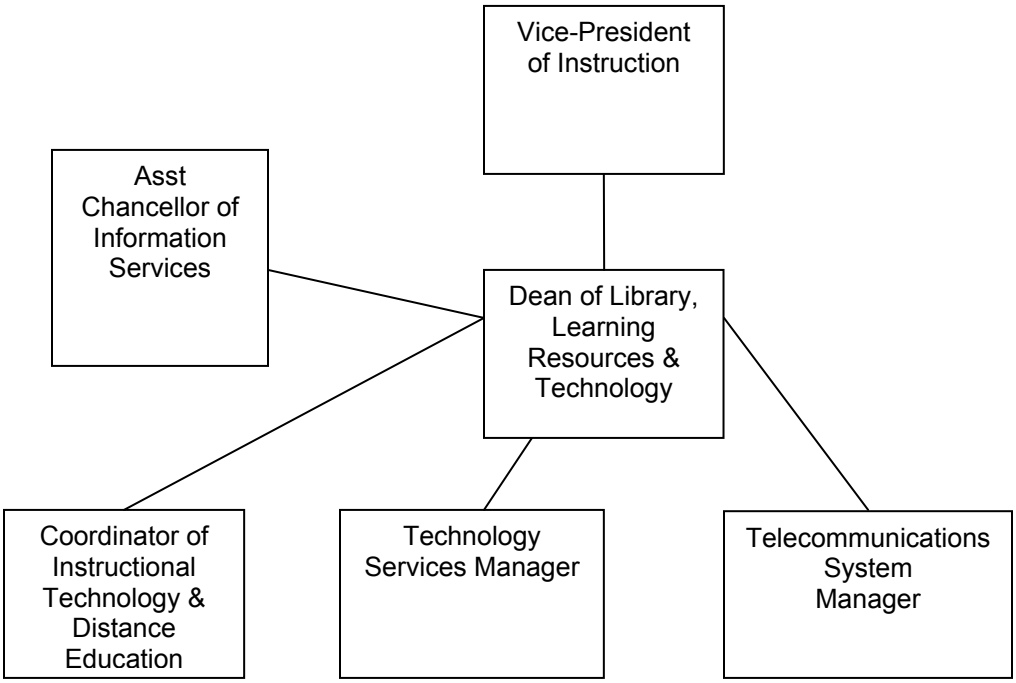
In support of this Plan, the College needs to establish a consistent funding process. Funding should be based on a percentage of the College's capital outlay, maintenance, and operational budget. For instance, the FTES generated by distance education is growing, therefore a percentage of the revenue generated should be used in support of the distance education program. A minimum of three percent of the revenue generated by the distance education program should be set aside for technology, maintenance, upgrades, and changes. The Dell lease program has been a positive means of updating and maintaining up-to-date hardware on campus. This program needs to be maintained and expanded as necessary. Additionally, the campus needs to provide a source of staff development funding in order to maintain the currency of technology staff and to train faculty in how to effectively integrate technology into the teaching.

This Master Plan is a living document which, if properly executed, will provide a dynamic yet structured view of technology. The Plan should be reviewed annually in order to insure the technological health of the College. The College should continue to rely on and support the Instructional Technology Committee, Virtual Classroom Committee and Technology Services as they monitor the success of this Plan, continue to investigate emerging trends, and update the Plan accordingly.

All stakeholders should request that the Board of Trustees and the College administration institutionalize financial support of the technological infrastructure in order to maintain a high level of technology services.

Appendix A

Technology Organizational Structure



Appendix B

Acceptable Computer Use Policy

Procedure 2720 - Computer Use

DEFINITIONS

1. District Network - A variety of information technology resources, including computer and communication systems, providing voicemail, electronic mail (e-mail), telephone, and access to the Internet, are owned and operated by the District for the use of District faculty, administrators, staff and students in support of the programs of the Colleges and District. These resources and all the component parts are referred to as the "District Network."

2. Ownership - The entire District Network, and all hardware and software components within it, is the sole property of the District, which for that reason has and retains complete and sole authority over the terms and conditions of its use. Except as provided in Board Policy or collective bargaining agreements pertaining to intellectual property rights, employees and students have no rights of ownership to these systems or to the information they contain by virtue of their use of all or any portion of the District Network.

3. Privacy - The District recognizes the privacy interests of faculty and staff and their rights to academic freedom, shared governance and freedom of speech, as well as their rights to engage in protected union and concerted activity. However, both the nature of electronic communication and the public character of District business make electronic communication less private than many users may anticipate. The District Network is not to be relied upon as confidential. All users of the District Network, including employees, students, independent contractors, and authorized guests, can have no expectation of privacy concerning their uses of the District Network or concerning information created or stored in such media. Nevertheless, the District does not routinely inspect, monitor or disclose such information without the user's consent.

DISTRICT ACCESS:

Because the District Network is solely owned and controlled by the District, system administrators may access user files or suspend services they manage without notice as required: (1) to protect the integrity of computer systems; (2) when required by and consistent with the law; (3) under time-dependent, critical operational

circumstances; or (4) when there is a reason to believe that violations of law or District policy or procedures have occurred. For example, system administrators, following organizational guidelines, may access or examine files or accounts that are suspected of unauthorized use or misuse or that have been corrupted or damaged. The District will attempt to notify users before discontinuing service. However, the District is not required to give notice or to show cause before accessing the District Network or any parts thereof.

ACCEPTABLE USE:

For District employees, the intended uses of the District Network are those which are reasonable and necessary for the pursuit of job duties; for students, the intended uses are those which are reasonable and necessary for the pursuit of instructional activities. Unauthorized uses include prohibited uses and any other use for a prohibited purpose, including illegal activities, messages which may constitute discrimination or harassment under state or federal law or anything that interferes with the intended use. These types of prohibited uses and purposes are further defined below.

PROHIBITED USE

Examples of behaviors constituting prohibited use or abuse which violate District Board Policy 2720 include, but are not limited to, the following activities:

System abuse

- Using the telephone, voice mail or computer account without authorization.
- Obtaining or using a password for a computer account that one is not authorized to have or use.
- Using the District Network to gain unauthorized access to any computer systems.
- Deliberately performing an act which will interfere with the normal operation of computers, terminals, peripherals or networks.
- Knowingly running or installing on any computer system or network, or giving to another user, a program intended to damage or to place excessive load on a computer system or network. This includes but is not limited to programs known as computer viruses, Trojan horses and worms.
- Attempting to circumvent data protection schemes or uncover or exploit security loopholes.
- Violating terms of applicable software licensing or copyright laws.
- Masking the identity of an account or machine.

- Forging a name to an email, discussion group, web page or other electronic resource.
- Posting materials that violate existing laws on any college electronic resource.
- Attempting without District authorization to monitor or tamper with another user's electronic communications, or reading, copying, changing, or deleting another user's files or software without the explicit agreement of that user, or any activity which is illegal under California Computer Crime Laws.
- Using YCCD resources for personal gain or partisan political activity.
- Copying of copyrighted software.
- Deliberately wasting computing resources.
- Deliberately downloading, displaying, uploading or transmitting obscenity or pornography, as legally defined.
- Allowing someone else to use your account who engages in any misuse in violation of Board Policy 2720 or of these procedures.
- Personal use which is excessive or interferes with the user's or others' performance of job duties, or otherwise burdens the intended use of the Network.

Harassment

- Using the telephone, email or voice mail to harass or threaten others.
- Knowingly downloading, displaying or transmitting by use of the District Network, communications, pictures, drawings or depictions that contain ethnic slurs, racial epithets, or anything that may be construed as harassment or disparagement of others based on their race, national origin, sex, sexual orientation, age, disability, religious or political belief.
- Knowingly downloading, displaying or transmitting by use of the District Network sexually explicit images, messages, pictures, or cartoons when done to harass or for the purposes of harassment.
- Knowingly downloading, displaying or transmitting by use of the District Network sexually harassing images or text is prohibited.
- Posting on electronic bulletin boards material that violates existing laws or the colleges' Codes of Conduct.
- Using the District Network to publish false or defamatory information.

Commercial use

- Using the District Network for any commercial activity, without written authorization from the District. "Commercial activity" means for financial remuneration or designed to lead to financial remuneration.

Copyright

- Violating terms of applicable software licensing agreements or copyright laws.
- Publishing copyrighted material without the consent of the owner on District Web sites in violation of copyright laws.

Exceptions

Activities by technical staff, as authorized by appropriate District or college officials, to take action for security, enforcement, technical support, troubleshooting or performance testing purposes will not be considered abuse of the Network. Although personal use is not an intended use, the District recognizes that the Network will be used for incidental personal activities and will take no disciplinary action provided that such use is within reason and provided that such usage is ordinarily on an employee's own time; is occasional and does not interfere with or burden the District's operation. Likewise, the District will not purposefully survey or punish reasonable use of the network for union business-related communication between employees and their unions.

ENFORCEMENT:

Abuse of computing, networking or information resources contained in or part of the District Network may result in the loss of computing privileges. Additionally, abuse can be prosecuted under applicable statutes. Users may be held accountable for their conduct under applicable District or college policies, procedures, or collective bargaining agreements. Complaints alleging abuse of the District Network will be directed to those responsible for taking appropriate disciplinary action. Illegal reproduction of material protected by U.S. Copyright Law is subject to civil damages and criminal penalties including fines and imprisonment.

May 10, 2006