Technology Plan

Technology at The Blake School

Technology at Blake exists to support the academic and administrative needs of the School and to enable students, faculty and staff to utilize the appropriate technology in their studies.

The use of technology supports the School's Mission by providing:

- resources for faculty in the development of curriculum that promotes life-long learning
- opportunities for students to develop their creativity and passion for knowledge
- an environment where students use resources in an ethical manner

This Technology Plan supports Blake's Long Range Plan in addressing the need for providing training to facilitate effective integration of technology throughout the School and to ensure a consistent, high quality, and effective PK-12 curriculum. To support those goals the School must align resource allocation to develop and maintain technology in support of academic and administrative activities.

This plan is intended to provide the structure for the School's use of technology over the next three years. Technology planning is beneficial and necessary to ensure best use of technology resources, and successful integration of technology with instruction and library/media practices. It is also critical to support integration of technology as a means to assist students in pursuing an academically challenging curriculum and to support administrators and staff who need to work efficiently across systems and departments.

The Technology Advisory Committee recognizes that technology-planning documents should be "living documents" that provide sufficient flexibility to make mid-course adjustments to improve the effectiveness of resource allocation. Thus, the Committee recommends that this plan be reviewed annually and altered so that the School's technology is responsive to changes in the curriculum, teaching practices, and the technology industry.

The Technology Advisory Committee is actively involved in development of the technology plan and implementation strategies. This document is the collaborative effort of faculty, the Information Systems Services (**ISS**) staff, parents and administrators. Its implementation ensures that all students and staff have access to resources and support.

Members of the Committee include:

Tom Bretl, Faculty
Craig Ellis, Parent
Rand Harrington, Faculty
John Gulla, Head of School
Margaret Jadin, Business Director
Rick Johns, Faculty
Rob Kauffman, Parent
Marilyn Kelley, IS Director
Maelene Krig, Faculty
Steve Ladendorf, Network Manager
Peter Leppick, Parent
Lisa Lyle, Assistant Head of School

Mission Statement

Technology at The Blake School will be used to:

- *ensure that all students and staff have access to technological resources and the support to use them effectively*
- *allow our students to use effectively "tools of learning," and to think and act creatively*
- *integrate technology resources into the daily routine of work and study at the School*
- *create an academically challenging environment for our students*
- *ensure students are technologically literate*

Vision Statement speaks to

- *using the School's curriculum to drive the Technology Plan*
- *enriching student learning with challenging activities in multiple disciplines*
- *investing time in research and development by faculty, administrators and staff*
- *providing ongoing professional development opportunities for faculty, administrators and staff*
- *providing an information technology infrastructure that is reliable and secure*

-- *A Vision for Our Students*

Technologically literate students will:

- demonstrate a sound conceptual understanding of the nature of technology systems and view themselves as proficient users of these systems
- use all forms of technology in an ethical and responsible manner in both social and personal contexts
- use a variety of technology tools in effective ways to increase creative productivity
- work independently or collaboratively, as appropriate, recognizing and presenting different points of view
- gather, analyze, evaluate, synthesize and communicate information in a variety of formats from a variety of sources
- use technology to identify and solve complex problems in real-world context
- use communication tools to reach out to the world beyond the classroom and communicate ideas in powerful ways
- demonstrate flexibility with the various technology tools

-- *A Vision for Our Faculty*

Technologically literate faculty will:

- invest time in research and development to understand the benefits and challenges of embedding technology within the curriculum
- use school chosen tools to enhance their productivity and professional practices
- apply technology to facilitate a variety of effective assessment and evaluation strategies
- understand the social, ethical, legal and human issues surrounding the use of technology and apply those principles in practice
- demonstrate knowledge, skills, and understanding of the school defined technology competencies
- plan and design effective learning environments and experiences supported by technology
- support students in their efforts to use technology effectively
- use Effective Teaching framework in defining technology goals

-- *A Vision for Our Administration*

Technologically literate administrators will:

- inspire a shared vision for comprehensive integration of technology
- ensure appropriate funding for needed technology resources
- ensure that curricular design, instructional strategies, and learning environments integrate appropriate technologies to maximize learning and teaching
- use technology to plan systems of assessment and evaluation
- understand the social, legal and ethical issues related to technology and model responsible decision-making related to these issues
- identify and support exemplary uses of technology by faculty and students
- model the routine, intentional, and effective use of technology

-- *A Vision for Our Families and Alums*

Technologically literate families and alums will:

- access the parent and alumni portals for School information
- help their children make good choices when using technology
- learn about appropriate kinds of information resources that will support their children's participation in School activities
- use the School's technology to further community

There are three goals the plan needs to address in order to support this vision. These areas are infrastructure/support, curriculum, and administration.

Goal 1: Systems Infrastructure

Provide secure and dependable networks for students, faculty, staff and administrators to meet their educational and administrative needs.

Objectives

- Research alternatives to provide higher speed for between campuses
- Research solutions, which would allow resources to be accessed from home by students
- Maintain reliable systems for backing up all data stored on academic and administrative file servers
- Continue to access support provided by ISS staff
- Develop plan for consolidation of servers

Strategies

- Fund ISS personnel necessary to support the technological needs of the School
- Provide space for offices, servers, storage, a technical testing bench and training facilities
- Allocate time and funds for on-going professional development for ISS staff
- Implement procedures to drive continuous improvement of technology systems and to support technology replacement 4-6 year cycle
- Integrate strategic plan and other improvement plans and policies to align efforts and leverage resources
- Develop, implement, and monitor policies and guidelines to ensure compatibility of technologies

Goal 2: Curriculum Support

Promote effective technology resources in support of the curricular needs of the School.

Objectives

- Provide departments or grade levels the necessary training that promotes the appropriate use of technology in their curriculum
- Promote the use all forms of media resources in an ethical and responsible manner
- Provide ease of access for available information technology resources to students, faculty and administrators
- Support faculty, administrators, staff and students in their multiple uses of technology
- Find the balance between security and doing your work
- Implement a Citrix pilot program for students
- Promote use of professional development funds to grow technical skills
- Promote the use of a content management system (CMS) for faculty to develop and maintain class web pages

Strategies

- Maintain computer labs or carts of wireless laptops, which allow classes to meet and work on a project with the same hardware and software
- Promote use of remote access to academic file servers, e-mail, Internet and library/media resources
- Provide every classroom with the hardware needed to deliver the curriculum and support the learning styles of the students
- Provide R&D funds to support new uses of current equipment or to investigate use of new products
- Provide timely technical support so down-time is not an issue
- Provide professional development opportunities for faculty/staff to support their use of technologies
- Provide updated information on copyright and other ethical concerns with using electronic media
- Explore ongoing costs (hard and soft) of both offering faculty and administrators the choice of laptop or desktop in their classroom/office or replace desktop with a laptop
- Develop CMS for faculty and department web pages
- Promote and enforce privacy, security, and online safety related to the use of technology
- Provide for learner-centered environments that use technology to meet the individual and diverse needs of learners

Vision: *We will ensure that all students and staff have access to information technology resources and the support to use them effectively.*

Vision: *We will provide ongoing professional development for faculty and staff with respect to information technology because it is critical for the School's success.*

Goal 3: Administrative Needs of the School

Deliver technology resources that support the effective administration of the School

Objectives

- Provide fast access to integrated database with security of data a top priority
- Promote timely ongoing professional development
- Define the technological tools necessary for carrying out the daily functions of the school
- Develop intranet resources for ease of accessing school information more readily
- Support staff in their uses of technology

Strategies

- Establish a teaching lab for ongoing administrative/staff professional development
- Provide for and ensure that administrators and staff take advantage of quality professional learning opportunities for improved learning and working with technology
- Provide information on different phone configurations to help address need of live voice
- Establish an intranet to access forms, announcements, and other Human Resource and business functions
- Provide video conferencing centers for an alternative to face-to-face meetings and eliminate travel time to interview job applicants

Strategies (continued)

- Foster and nurture a culture of responsible risk-taking and advocate policies promoting continuous innovation with technology
- Establish a Blackbaud user group within the Twin Cities to share areas of expertise and concerns
- Support R & D for emerging technologies
- Provide time to gather and discuss data flow and how departments can work together to attain efficiencies
- Explore ongoing costs (hard and soft) of either offering administrators the choice of laptop or desktop in their office or replace desktop with a laptop
- Establish technology competencies
- Examine management of information within Blackbaud and design systems to maximize the utilization of data collected
- Upgrade Blackbaud Admission Office/Registrar Office software to Education Edge 7.0
- Establish a PK-12 Registrar position
- Establish a Blackbaud database manager position

Overview of Strategic Initiatives

The initiatives outlined in the three areas need to be identified as top, medium and low priority. Within each priority level, the Technology Advisory Committee has recommended all initiatives be given equal consideration.

Top Priority for 2005-2008

- Restructure ISS to better serve the needs of the School as Blackbaud and other all School functions (e.g., phones, new online initiatives)
- Technology Advisory Committee will revisit the use of Apple platform in academic areas
- Observe impact of different operating systems (OS X and Windows XP) on management systems and software utilized by the School
- Support use of Blackbaud products at all divisions and departments and provide guidance in adding modules
- Continue maintenance and replacement of systems
- Provide ongoing and timely professional development for faculty, administrators and staff
- Provide time to work with AHOS on providing curriculum development opportunities for faculty and staff throughout the year that focuses of integration of technology resources
- Evaluate impact of multimedia installations to help guide future decisions
- Refine software for all School calendar; install and provide training
- Technology Advisory Committee will define time line for the use of laptops at Blake and whether the School should support a laptop initiative
- Fund security audit by outside firm for all networks and systems
- Work with School on all building initiatives to ensure installation of the needed technology infrastructure
- Identify measurable benefits attained through the use of technology in infrastructure, curriculum and administrative support
- Determine whether desktop replacement for faculty in 2006-07 will be desktop only, option of laptop or desktop, or laptop only
- Evaluate the need of student laptops vs. carts of laptops at each division
- Define budget needs to support the current and future technology needs

Medium Priority for 2005-2008

- Research alternatives for connectivity between campuses
- Establish a classroom of network systems for ongoing training
- Redesign phone system and purchase additional hardware for a live operator
- Establish Intranet to support all school functions
- Research school wide color printing needs
- Install gigabit backbone on Highcroft and Northrop campuses
- Continue to evaluate Blake's web site presence and services provided to the community

Low Priority for 2005-2008

- Establish a switch network at Highcroft campus
- Refine online Support Request within email and support line
- Update Blake School Computer, Phone Handbooks in conjunction with HR Department
- Research need for a document management system

Vision: *The emphasis of the Blake School's Technology Plan is on curriculum. To be of greatest value in our community, technology must support the varied styles of teaching and learning that we value.*

As the School creates a Technology Plan for the next three years, the Technology Advisory Committee recognizes that it is important to understand that technology should not drive the curriculum. Instead, it should open up new possibilities, encourage us to question present methods, suggest new ways to both teach and learn, and serve as a catalyst for change. On the administrative and support side of the School, information technologies have the potential to provide new efficiencies. But the School must recognize that providing time and funding for ongoing training is key in ensuring the successful application of any new resources.

The Technology Plan must be flexible, allocate funds for research and development, and define the appropriate ISS staff needed to support the networks, hardware, software and users. The increasing merger of voice, data, and video requires the School to recognize the needs for greater bandwidth by establishing a fiber network at the Upper school. Similar initiatives may be needed for the Middle School, Lower School and Administrative areas.

High Priority Strategic Initiatives

Begin in September 2005 and complete within next 12 months

- **Restructure ISS to better serve the needs of the School as Blackbaud and other all School functions (e.g., phones, new online initiatives).**

The ISS Department has been responsible for the infrastructure, shared resources, phones, and hardware in offices, classrooms and labs. With the infusion of hardware in 2001-02, ISS is now maintaining over 750 workstations and laptops. A wireless network has been added to each campus and additional tech closets have been constructed for Hopkins and Northrop. In addition, the Blackbaud initiative has required significant additional effort by the ISS Department for training, software user support, and hardware management. However, ISS's staffing has not changed since 1998, when 350 workstations and laptops were in place To better serve the School, a review of the responsibilities and structure of ISS is needed.

- **The Technology Advisory Committee will revisit the use of the Apple platform in academic areas of the School.**

The School continues to grapple with supporting two platforms. The committee needs to research the pros and cons for the Apple versus PC platform.

- **Observe impact of different operating systems (OS X and Windows XP) on management systems and software utilized by the School.**

The support and administrative systems were upgraded to Windows XP in Summer 2002. Continued research is necessary to enable ISS to support issues in a timely manner. Apple Computer hardware is shipped with only OS X installed and earlier operating systems can be utilized but not all software runs well in Classic Mode. Current systems in classrooms, LS and MS labs utilize OS 9.2.2. ISS is working with LS on migrating to OS X in the labs and wireless carts of laptops for 2006-07. Software identified as OS X native will be purchased and testing of software not available in OS X native is scheduled.

The Technology Advisory Committee needs to re-evaluate the school's commitment to Apple systems for PK-12.

- **Support use of Blackbaud products in all divisions and departments.**

ISS provides appropriate hardware and network access (Citrix) that allow users to access the database readily. Speed of access over the wide area network (**WAN**) has been a concern. Citrix provides the speed needed.. The Registrar needs to expand the use of Faculty Access on the Web (FAWEB) for online attendance and grades, and work with Marketing and Communication Director in announcing NetClssroom, which allows parents and students to access grading and attendance information Defining database manager and PK-12 Registrar positions will move forward the integration of Blackbaud.

- **Continue maintenance and replacement of systems.**

The School is on a 4 to 6 year replacement cycle of desktops. Desktops in classroom are replaced on a six year cycle. If the School moves to laptops for faculty, a four year cycle is recommended. Budgets need to reflect the change. Data should be gathered to determine if continued upgrade of labs is needed or if carts of laptops, is preferred over a lab environment. On the business side, high end users have systems replaced as upgrades of software demands. Their systems are used to provide upgrades to other users.

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- **Provide ongoing and timely training for faculty, administrators and staff.**

One of the things that defines this Technology Plan is the commitment that is being made to the School's technology users. ISS will provide assistance with the development of training plans that are tailored to and developed with input from departments and divisions. As the School hires PK-12 department chairs, a goal is to work with the chair in determining the training needed by faculty and staff.

- **Work with AHOS on providing ongoing curriculum development opportunities for faculty and staff that focus of integration of technology resources.**

Ongoing professional development for all is critical to the School's success. ISS has allocated funds for two initiatives. Atomiclearning.com is a website that offers Quicktime movies, as well as PDFs on the use of software (iMovie, Office products) and specific hardware (Canon digital cameras, scanners). Every user at Blake or with a userid/password from home can access the site. Through Elert and Associates, 90-minute "at-your-desk" classes are offered with an interface on either a Mac of PC to learn software applications. ISS is working with HR to provide first-day training on e-mail, Internet, and other resources for that position. Departments must allocate funds and their staff members' time for additional training and determine the skills needed for this position. Related to this, the School is exploring a stronger departmental system design. ISS will work with AHOS in designing professional development opportunities in this context.

Vision: *The Blake School's goal with respect to the application of technology to learning, teaching and administration is to be a cost-effective leader among independent schools.*

High Priority

- **Research student use of laptops – whether school owned or personal**

An unanswered question is whether a laptop initiative is part of the answer in ensuring that all students have access to technological resources. A laptop initiative has not only curricular impact but also financial implications for families and the School. If a laptop initiative for students is not the answer, what steps does the School need to take to make each campus laptop friendly. A careful study and recommendation are needed by 2006-2007.

- **Schedule security audit by outside firm of all networks and systems**

ISS has implemented procedures and systems to ensure data security. The School has not had security breaches. However, an independent audit would verify the level of security. First audit to establish a baseline; audits recommend-ed after "major" infrastructure changes.

- **Collaborate with School on all building initiatives to ensure installation of the needed technology resources**

ISS meet with architects and contractors to verify voice/data and other technology needs are being considered.

- **Research alternative methods of connectivity between campuses.**

Looking at other means of providing WAN connectivity affords opportunity to revisit recurring telecom costs.

- **Evaluate use of Citrix for remote access by students**

Provide students with anytime/anywhere connectivity to school resources.

- **Measurable benefits from use of technology are to be identified**

The School needs to identify skills and set goals for faculty, staff, and administrations.

Medium Priority

- **Establish a classroom of network systems for ongoing training**

To meet the training needs of staff, having either a designated lab or set of wireless laptops allocated for. A designated space allows departments to schedule training when it fits their needs and not when space is available.

- **Redesign phone system and purchasing additional hardware for a live operator**

School values a live voice when someone from the community calls and not a recorded message.

- **Establish Intranet to support all school functions**

An Intranet facilitates ease of access of information.

- **Continue refinement & training in the use of WebEvent as the School's online calendar**

A first step in providing School information for students, parents and alums is an all School web-based calendar. Need to continue defining who is responsible for updates and implement suggestions from the community.

Low Priority

- **Monitor conferences within FirstClass.**

FirstClass conferences were designed in 1994; changes were made Summer 2003. Certain conferences are heavily read, other only by a few. Recognizing different ways to access information continue refining conference structure.

- **Establish a switch network at Highcroft**

Review of Highcroft's infrastructure is recommended during the design phase of the Highcroft expansion.

- **Refinement of online Support Request within email and support line**

Current systems allows users an easy way to report needs, however, ISS would benefit from a tracking system.

- **Updating Blake School Computer, Phone handbook in conjunction with HR.**

The current handbook format was developed by ISS to meet the needs of our department. With the addition of an HR person, a review of the handbook is recommended as well as distributing updates through the web

Three Critical Technology Issues for Further Study

- **Issue #1: Laptops at the Blake School – Hook Up or Lose Out?**

As the prices of laptop and notebook PCs continues to fall, and the power and simplicity of software rises, one of the key issues that the Technology Advisory Committee must consider in the coming years is whether it is time for the School to implement a "Laptop Initiative." Computers are still relatively expensive, even if prices have fallen dramatically of late. It is possible that prices for other "thin client" substitutes and file-sharing on a school-to-home network might become more attractive as telecommunication prices fall further. Similarly, cheap and transportable storage devices beyond the current hard drive and technology may increase data portability and interoperability. But still, basic questions remain: Will the School's teaching and learning be better supported as a result? Will the faculty be able to respond to a Laptop Initiative with new innovations in curriculum that leverage laptop availability? Is laptop adoption a competitive necessity to encourage the best students to enroll at the School? And what kinds of operational support will be needed to permit the School to deliver an effective "laptop-integrating" computing infrastructure? Making laptop computers a requirement for students who attend the School is a problem that demands careful study.

- **Issue #2: Laptops for faculty and administrators**

Desktops are provided for faculty within their classrooms and for administrators. The current replacement cycle for classroom systems is six years and depending on use, 4-6 years for administrative areas. Should the School consider providing laptops to all/some faculty and all/some administrators? What is the impact on budgets and total cost of ownership? Should faculty and have a choice between a laptop or desktop?

- **Issue #3: School to Home: How Much "Connectivity" Is Right?**

A "final frontier" for the School's computing and learning infrastructure is the home of each student that attends our School, each faculty member who teaches here, and every graduate who wishes to stay connected with our community. Connectivity to the School's computing network is highly beneficial. For students, an ideal level of connectivity should be high enough so that working at home permits the student to have "virtual" interaction with most of the application software and computer-based learning environments that are offered at the School. For teachers, it should be possible to obtain enough bandwidth so that class preparation done at home is either network-transportable to school, or even more direct, so that preparation for teaching can be accomplished right on the network itself Blackbaud's NetCommunity will provide the alumni and parents with an extranet and allows the School to easily interact with our community. The School can increase its interaction with potential donors, and reduce the costs of keeping them involved. The School needs to consider providing students and parents access to their course requirements, grades, comments and attendance. In spite of the benefits, however, connectivity doesn't come cheap, nor does it come without raising significant administrative issues. As the School moves forward with these initiatives, does usage warrant costs and can we measure the benefits?