Ludington Area Schools

Technology Plan

July, 2015 - June, 2018

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ISD:	**Mason-Lake-Oceana ISD**
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Introduction

Ludington Area Schools is a rural school located on the eastern shore of Lake Michigan in Mason County. The district consists of an early childhood center, three elementary buildings, a middle school, a high school, an alternative high school and a central office/educational resource center. In 2008 the district closed one outlying upper elementary building and consolidated all third through fifth grade students in one building. At the same time, the sixth grade students were moved into the middle school. Our total enrollment is approximately 2350 students. Of those students, almost 50% receive free or reduced lunch. Ludington Area Schools employs around 270 people, 160 full time and 110 part time.

Building	Level	Students	Teachers
Ludington High School	9th-12th grades	695	41
O.J. DeJonge Middle School	6th, 7th and 8th grades	478	35
Foster Elementary	3rd-5th grades	438	25
Lakeview Elementary	K-2nd grades	229	14
PereMarquette Early Childhood	Pre-School	114	3
Franklin Elementary	K-2nd grades	273	16
Journey	Junior/Senior High	113	6
Central Business Office/ERC	Administration	N/A	N/A

District Mission Statement

The Ludington Area Schools, in partnership with the community, will achieve excellence in a positive environment where motivation and quality instruction ensure learning and equip students for success in society.

District Vision & Goals

The mission of the Ludington Area School District is to incorporate technology in the educational and administrative programs so that the district will:

• Encourage problem solving, exploration and learning in the classroom
• Provide student-centered learning
• Provide access to technology for all students and staff
• Provide for both current and future needs
• Provide an easy-to-use system
• Restructure the learning environment
• Implement a comprehensive information system
• Encourage communication and ethical behavior
• Complement current key teaching strategies
• Use technology to enhance the cost effectiveness/productivity of the classroom, business and administration
• Provide ongoing training and technical support for all
• Partner and collaborate within the community to support and fund the use of technology in the learning

process

Technology Vision & Goals

Technology Belief Statements

- Technology is becoming an increasingly critical part of the learning experience and curriculum delivery and is changing the way teachers and students interact with each other.
- Technology is expanding the classroom experience beyond traditional time and space limits.
- Students are "wired" differently today and technology enables us respond more effectively to learner needs.

Technology Goals

- Improve the quality of student learning and academic achievement as they develop knowledge and skills for the future world of work.
- Provide greater access to educational opportunities and differentiated learning anytime, anywhere.
- Improve communication and widen our sense of community by expanding the way teachers, students and parents interact with each other.
- Teach students discernment and the ethical use of technology.
- Equip students to be life long learners.

Goals and Objectives

• *GOAL: Decrease Student/Computer Ratio & Replace Outdated Technology District-wide*

Ludington Schools recently passed a technology bond. The budget and timeline are based on a 10-year implementation with student devices being phased in over the first three years. The budget reflects a replacement cycle in year 5 and year 9. The following objectives are outlined in more detail in the building plans and budget pages following the Goals and Objectives section. The teachers' computers are the newest in the district and will be repurposed to replace the oldest labs and classroom computers.

OBJECTIVE: Provide students with personal computing devices
    ACTION: Following proposed timeline start 1:1 implementation for all K-12 students

OBJECTIVE: Provide teachers and staff with personal computing devices
    ACTION: Update all teacher computers with either mobile, desktop and/or tablet devices

OBJECTIVE: Provide networked computer labs at least until the 1:1 implementation is completed
    ACTION: Update current wired computer labs with repurposed teacher computers
    ACTION: Update wireless labs with new devices

OBJECTIVE: **Provide contemporary computers in the classrooms to support the curriculum**
    ACTION: Add wireless devices to be shared in all grade levels and departments
    ACTION: Update classroom computers in the elementary buildings using repurposed lab computers
    ACTION: Update classroom computers in the middle school using repurposed lab computers
    ACTION: Update classroom computers in the high school using repurposed lab computers

OBJECTIVE: **Provide color printing and copying capabilities for all staff**
    ACTION: Evaluate and install color laser printers and copier as needed

OBJECTIVE: **Provide up-to-date computers in non-classroom areas ie: libraries, workrooms and offices**
    ACTION: Update non-classroom computers where needed using repurposed teacher computers

OBJECTIVE: **Provide for common area printing and copying**
    ACTION: Update appropriate duty cycle laser printers and network copiers as needed
    ACTION: Maintain district level copying and printing capabilities

OBJECTIVE: **Establish and follow a plan to update existing technology on a regular basis**
    ACTION: Replace current three-year replacement plan with new version via the tech committee

• *GOAL: Use Contemporary Technology to Deliver Information and Content*

OBJECTIVE: Provide access to electronic information from a variety of sources
    ACTION: Evaluate and implement online courses

ACTION: Evaluate and implement using electronic textbooks and supplementals
ACTION: Evaluate and maintain availability of online paid subscriptions

OBJECTIVE: **Provide multimedia learning tools for all classrooms**
    ACTION: Equip classrooms with multimedia learning tools including items such as projector, interactive white board, audio system and document cameras
    ACTION: Support curriculum with electronic peripherals ie digital cameras, microscopes etc

OBJECTIVE: **Provide technology to support curriculum goals**
    ACTION: Update current software licenses
    ACTION: Evaluate and purchase updated curriculum support software K-12

• GOAL: Provide Adequate Business/Administrative Systems to Meet the Ongoing Needs of the District

    ACTION: Continue to evaluate updated administrative software on an as-needed basis
    ACTION: Provide SMS capable cell phones for administrative and key staff

• GOAL: Provide and Maintain A Contemporary Data Network

OBJECTIVE: **Upgrade district-wide LAN , WAN and MAN connectivity, capacity and reliability**
    ACTION: Replace current switches
    ACTION: Increase bandwidth as needs increase
    ACTION: Replace and increase capacity of battery backups
    ACTION: Design and implement a reliable data backup scheme
    ACTION: Provide adequate storage space for data warehousing

OBJECTIVE: **Update servers as needs and demand increases**
    ACTION: Update all servers on as as-needed basis

OBJECTIVE: **Utilize current cable TV infrastructure to its fullest extent**

OBJECTIVE: **Provide wireless capabilities where needed**
    ACTION: Install access points in key district locations
    ACTION: Provide wireless capabilities throughout the entire district

• GOAL: Provide For A Proper Computing Environment Conducive to Learning

OBJECTIVE: Provide a high visibility classroom configuration with proper environmental controls
    ACTION: Add network drops to create room arrangement flexibility
    ACTION: Provide a reduced glare environment with proper lighting and window treatment
    ACTION: Provide proper climate control

OBJECTIVE: **Provide for adequate electrical needs of the buildings**
    ACTION: Add electrical outlet locations in older classrooms and common areas
    ACTION: Add electrical outlets in ceiling to accommodate ceiling mounted projectors

• GOAL: Provide all Students & Staff with Contemporary Computer Education

OBJECTIVE: **Support students in reaching an appropriate level of technological literacy**
    ACTION: Evaluate and revise curriculum regularly
    ACTION: Evaluate and revise assessment tools regularly

OBJECTIVE: **Support staff in reaching an appropriate level of technological literacy**
    ACTION: Professional development is included in our tech bond and will be ongoing
    ACTION: Provide online professional development opportunities for teachers
    ACTION: Use intranet to distribute and archive tech tidbits on a regular basis

OBJECTIVE: **Support Staff in integrating technology into the curriculum**
    ACTION: Professional development is included in our tech bond and will be ongoing

• GOAL: Communicate With Parents and Community

OBJECTIVE: **Provide Internet based communication tools for parents**
    ACTION: Evaluate and implement tools for mass communication with parents
    ACTION: Maintain parent portal to SIS system
    ACTION: Maintain parent access to food services information

OBJECTIVE: **Update web pages to provide current information for parents and community**
    ACTION: Train and maintain group of web editors for each building

• GOAL: Provide For the Ongoing Assessment & Updating of District Technology Needs

OBJECTIVE: **Utilize the knowledge of district staff to assess and recommend technology needs**
    ACTION: Assemble district personnel in a tech committee to address technological issues.
    ACTION: Meet with technology committee on a regular basis to re-evaluate the tech plan and assess ongoing issues

OBJECTIVE: **Provide for hardware and software maintenance and support**
    ACTION: Create and sustain an on-going budget for district maintenance and licensing fees
    ACTION: Create and sustain a budget for repairs and upgrades that keeps pace with additional equipment purchases ie: replacement bulbs, memory
    ACTION: Update and replace equipment in compliance with the 10-year technology bond timeline
    ACTION: Keep existing or increase tech support staff as needed
    ACTION: Provide for ongoing PD and resources for technology staff

The following pages show the proposed scope of the tech bond project by building. These documents are the starting point and will be re-evaluated and revised continuously throughout the course of the project. The needs of The Pere Marquette Early Childhood Center will also be considered.
The following charts were created and are provided by Communications By Design, Inc.

Ludington High School

Classroom End User Technology

Staff / Teacher Devices			Desktop Computers			Multi-Media			Student Devices		
Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total
65	$ 1,100.00	$ 71,500.00	74	$ 1,100.00	$ 81,400.00	45	$ 8,750.00	$ 393,750.00	700	$ 900.00	$ 630,000.00

Building Wide Technology

Wireless Network		Network Electronics		Video Monitoring		Network Printers		Digital Cameras		Copiers	
Qty	Total	Qty	Total	Density	Total	Qty	Total	Qty	Total	Qty	Total
95280	$ 33,348.00	500	$ 64,400.00	85%	$ 42,113.76	6	$ 6,000.00	0	$ 10,000.00	0	$ 0.00

Multi-Media Systems

Projector	$ 700.00
Projector Mount	$ 250.00
Screen	$ 200.00
Voice Amplification	$ 700.00
Multi-Media Amplification	$ 250.00
Speakers	$ 150.00
Document Camera	$ 550.00
Interactive Whiteboard & / or Slate	$ 2,200.00
XGA Switcher	$ 400.00
Controller	$ 1,000.00
Equipment Cart	$ 800.00
Spare Bulbs	$ 250.00
Installation	$ 1,300.00
TOTAL	$ 8,750.00

Building Configuration

Room Type	Qty
General Education	0
Special Education	0
Art	0
Media Center	0
Computer Lab	0
Science Lab	0
CAD Lab	0
Music (Band, Choir)	0
Other	0
TOTAL	0
# of Students	695
Building Sq. Footage	95280

Assumptions

Student ratio: 1 to 1
Network complete upgrade

Building Total

$ 1,332,511.76

Ludington Middle School

Classroom End User Technology

Staff / Teacher Devices			Desktops			Multi-Media			Student Devices		
Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total
55	$ 1,100.00	$ 60,500.00	35	$ 1,100.00	$ 38,500.00	35	$ 8,750.00	$ 306,250.00	480	$ 900.00	$ 432,000.00

Building Wide Technology

	Wireless Network		Network Electronics		Video Monitoring		Network Printers		Digital Cameras			Copiers	
	Qty	Total	Qty	Total	Density	Total	Qty	Total	Qty	Unit	Total	Qty	Total
108323	292	$ 37,913.05	35	$ 38,608.00	85%	$ 47,878.77	4	$ 4,000.00	0	$ 10,000.00	0	0	

Building Configuration

Room Type	Qty
Genral Education	0
Special Education	0
Art	0
Media Center	0
Computer Lab	0
Science Lab	0
CAD Lab	0
Music (Band, Choir)	0
Other	0
TOTAL	0

# of Students	478
Building Sq. Footage	108323

Multi-Media Systems

Projector	$ 700.00
Projector Mount	$ 250.00
Screen	$ 200.00
Voice Amplification	$ 700.00
Multi-Media Amplification	$ 250.00
Speakers	$ 150.00
Document Camera	$ 550.00
Interactive Whiteboard & / or Slate	$ 2,200.00
XGA Switcher	$ 400.00
Controller	$ 1,000.00
Equipment Cart	$ 800.00
Spare Bulbs	$ 250.00
Installation	$ 1,300.00
TOTAL	$ 8,750.00

Building Total

$ 975,649.82

Assumptions

Student ratio: 1 to 1
Complete network replacement
No new phones

Foster Elementary (3-5)

Classroom End User Technology

Staff / Teacher Devices			Student Devices			Phones / PA System			Multi-Media		
Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total
37	$ 1,100.00	$ 40,700.00	438	$ 900.00	$ 394,200.00	28	$ 750.00	$ 21,000.00	25	$ 8,750.00	$ 218,750.00

Building Wide Technology

Wireless Network		Network Electronics		Video Monitoring		Network Printers		Digital Cameras		Electrical Upgrade	
Qty	Total	Qty	Total	Density	Total	Qty	Total	Qty	Total	Qty	Total
46,800	$ 16,380.00	232	$ 31,168.00	15%	$ 3,650.40	2	$ 2,000.00	0	$ 5,000.00	0	$ 100,000.00

Building Configuration

Room Type	Qty
3rd Grade	0
4th Grade	0
5th Grade	0
Special Education	0
Arty	0
Gym	0
Music	0
Computer Lab	0
Other	0
TOTAL	0

# of Students	438
Building Sq. Footage	46,800

Multi-Media Systems

Projector	$ 700.00
Projector Mount	$ 250.00
Screen	$ 200.00
Voice Amplification	$ 700.00
Multi-Media Amplification	$ 250.00
Speakers	$ 150.00
Document Camera	$ 550.00
Interactive Whiteboard & / or Slate	$ 2,200.00
XGA Switcher	$ 400.00
Controller	$ 1,000.00
Equipment Cart	$ 800.00
Spare Bulbs	$ 250.00
Installation	$ 1,300.00
TOTAL	$ 8,750.00

Building Total

$ 832,848.40

Assumptions
Student ratio: 1 to 1
Complete network replacement
New phones and/or PA System

Franklin Elementary (K-2)

Classroom End User Technology

Staff / Teacher Devices			Phones / PA System			Multi-Media			Student Devices		
Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total
27	$ 1,100.00	$ 29,700.00	18	$ 750.00	$ 13,500.00	16	$ 8,750.00	$ 140,000.00	275	$ 900.00	$ 247,500.00

Building Wide Technology

Wireless Network		Network Electronics		Video Monitoring		Network Printers		Digital Cameras		Electrical Upgrade	
Qty	Total	Qty	Total	Density	Total	Qty	Total	Qty	Total	Qty	Total
26,500	$ 9,275.00	104	$ 15,296.00	15%	$ 2,067.00	2	$ 2,000.00	0	$ 5,000.00	0	$ 100,000.00

Multi-Media Systems

Room Type	Qty
Projector	$ 700.00
Projector Mount	$ 250.00
Screen	$ 200.00
Voice Amplification	$ 700.00
Multi-Media Amplification	$ 250.00
Speakers	$ 150.00
Document Camera	$ 550.00
Interactive Whiteboard & / or Slate	$ 2,200.00
XGA Switcher	$ 400.00
Controller	$ 1,000.00
Equipment Cart	$ 800.00
Spare Bulbs	$ 250.00
Installation	$ 1,300.00
TOTAL	$ 8,750.00

Building Configuration

Room Type	Qty
Kindergarten	0
1st Grade	0
2nd Grade	0
Special Education	0
Art	0
Gym	0
Music	0
Computer Lab	0
Other	0
TOTAL	0
# of Students	273
Building Sq. Footage	26,500

Building Total

$ 564,338.00

Assumptions

Student ratio: 1 to 1
Complete network replacement
New phones and/or PA System

Lakeview Elementary (K-2)

Classroom End User Technology

Staff / Teacher Devices			Phones / PA System			Multi-Media			Student Devices		
Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total
27	$ 1,100.00	$ 29,700.00	25	$ 750.00	$ 18,750.00	14	$ 8,750.00	$ 122,500.00	232	$ 900.00	$ 208,800.00

Building Wide Technology

Wireless Network		Network Electronics		Video Monitoring		Network Printers		Digital Cameras		Copiers	
Qty	Total	Qty	Total	Density	Total	Qty	Total	Qty	Total	Qty	Total
29000	$ 10,150.00	144	$ 20,256.00	15%	$ 2,262.00	2	$ 2,000.00	0	$ 5,000.00	0	$ 0.00

Multi-Media Systems

Room Type	Qty
Projector	$ 700.00
Projector Mount	$ 250.00
Screen	$ 200.00
Voice Amplification	$ 700.00
Multi-Media Amplification	$ 250.00
Speakers	$ 150.00
Document Camera	$ 550.00
Interactive Whiteboard & / or Slate	$ 2,200.00
XGA Switcher	$ 400.00
Controller	$ 1,000.00
Equipment Cart	$ 800.00
Spare Bulbs	$ 250.00
Installation	$ 1,300.00
TOTAL	$ 8,750.00

Building Configuration

Room Type	Qty
Kindergarten	0
1st grade	0
2nd Grade	0
Special Education	0
Art	0
Gym	0
Music	0
Computer Lab	0
Other	0
TOTAL	0
# of Students	229
Building Sq. Footage	29000

Building Total

$ 419,418.00

Assumptions

Student ratio: 1 to 1
Complete network replacement
New phones and/or PA System

Transportation Building

Classroom End User Technology

Staff / Teacher Devices			Phones			Multi-Media			Student Devices		
Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total
2	$ 1,100.00	$ 2,200.00	0	$ 750.00	$ 0.00	0	$ 0.00	$ 0.00	0	$ 0.00	$ 0.00

Building Wide Technology

Wireless Network		Network Electronics		Video Monitoring		Network Printers		Cat 6 Cabling		Copiers	
Qty	Total	Qty	Total	Density	Total	Qty	Total	Qty	Total	Qty	Total
10000	$ 3,500.00	24	$ 5,376.00	15%	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00

Building Total

$ 11,076.00

Assumptions

Building Sq. Footage	10000

Administration Building

Classroom End User Technology

Staff / Teacher Devices			Phones			Multi-Media			Student Devices		
Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total
17	$ 1,100.00	$ 18,700.00	0	$ 750.00	$ 0.00	1	$ 10,000.00		0	$ 800.00	$ 0.00

Building Wide Technology

Wireless Network		Network Electronics		Video Monitoring		Network Printers		Cat 6 Cabling		Copiers	
Qty	Total	Qty	Total	Density	Total	Qty	Total	Qty	Total	Qty	Total
18,835	$ 6,592.25	108	$ 15,792.00	15%	$ 1,469.13	4	$ 4,000.00	0	$ 0.00	0	$ 0.00

Building Total	
	$ 56,553.38

Assumptions

Building Sq. Footage	18,835

Journey Alternative High School

Classroom End User Technology

Staff / Teacher Devices			Phones			Multi-Media			Student Devices		
Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total	Qty	Unit	Total
7	$ 1,100.00	$ 7,700.00	2	$ 750.00	$ 1,500.00	0	$ 8,750.00	$ 0.00	115	$ 900.00	$ 103,500.00

Building Wide Technology

Wireless Network		Network Electronics		Video Monitoring		Network Printers		Cat 6 Cabling		Copiers	
Qty	Total	Qty	Total	Density	Total	Qty	Total	Qty	Total	Qty	Total
10000	$ 3,500.00	24	$ 5,376.00	85%	$ 4,420.00	1	$ 1,000.00	0	$ 0.00	0	$ 0.00

Building Configuration

Room Type	Qty
Genral Education	0
Special Education	0
Art	0
Media Center	0
Computer Lab	0
Science Lab	0
CAD Lab	0
Music (Band, Choir)	0
Other	0
TOTAL	0
# of Students	113
Building Sq. Footage	10000

Multi-Media Systems

Projector	$ 700.00
Projector Mount	$ 250.00
Screen	$ 200.00
Voice Amplification	$ 700.00
Multi-Media Amplification	$ 250.00
Speakers	$ 150.00
Document Camera	$ 550.00
Interactive Whiteboard & / or Slate	$ 2,200.00
XGA Switcher	$ 400.00
Controller	$ 1,000.00
Equipment Cart	$ 800.00
Spare Bulbs	$ 250.00
Installation	$ 1,300.00
TOTAL	$ 8,750.00

Building Total

$ 126,996.00

Assumptions

Student ratio: 1 to 1
Includes all 6 teachers
No classroom multimedia systems included
10,000 sq. ft.
Video surveillance required

Curriculum

The technology bond will provide many avenues for enhancing curriculum throughout the district. Teachers will learn to become presenters of context rather than content. Students will begin to direct their own learning as our 1:1 project grows in scope. We are very confident our technology bond project will change the way we teach and learn in Ludington Schools.

Computer skills are necessary to fully access, manage, organize, apply, communicate and evaluate information to solve problems in and beyond the classroom. In order to use technology effectively and to enhance student learning these skills must be integrated into curriculum at every level and in all subjects. Guided by the Michigan Educational Technology Standards and Expectation (METS), Ludington Schools will continue to incorporate technology into every curriculum area. The goals listed below will be developed and augmented as students advance through each grade level. While students are using technology we will strive to incorporate three components of effective use:

> Content: Students should gain content knowledge
> Critical Thinking: Students should be engaged in higher level thinking and developing those skills
> Skills: Student should gain technical skills

Educating minors about appropriate online behavior, including interacting with other individuals on social networking websites and in chat rooms, and cyber bullying awareness and response will be addressed at all levels. The programs "Missing", "AirDogs" and "Mirror Image" provided by WebWise Kids is used at the middle school.

Ludington Area Schools continues to promote and showcase technology both within the district and to the public. For example, student art work is displayed in hallway display cases and is entered in area art contests. News broadcasts and student movies from middle and Franklin elementary school are posted online for viewing by parents. During a concert, a student in the band program performed a song composed on the computer while being accompanied onstage by the computer.

Grades K-2

Students in grades K through 2 will be introduced to technology in various ways including using personal computing devices and grade level appropriate software and apps to support the curriculum. Students in second grade will also use computers for Read Naturally and Accelerated Reader. We will endeavor to implement the METS at this level.

In 2010/2011 a 1:1 pilot program using iPads was implemented in a second and kindergarten classroom. Students log on to the district wiki server to collaborate on writing projects and communicate with the teacher and with each other. The iPads are fully integrated in the learning process. For example, during free time students use curriculum based apps to reinforce and expand their learning. Students also create ebooks to share with each other and with parents. This pilot program will be expanded for all students in K-2 following the technology bond timeline.

Grades 3-5

Keyboarding

3rd Grade
* Use correct posture and finger position
* Touch type 10 WPM with 80% accuracy

4th Grade
* Use correct posture and finger position
* Touch type 15 WPM with 85% accuracy

5th Grade
* Use correct posture and finger position
* Touch type 20 WPM with 90% accuracy

Paint/Draw/Graphics

3rd Grade
* Use the shape tools to draw simple shapes
* Select, move and delete objects
* Use the text tool to add text to a document
* Change the color of a fill
* Change the line size of an object

4th Grade
* Use modifier keys to create square, circle and straight lines
* Duplicate an object
* Use the lasso and marquee tools to select complete and partial objects
* Change fill and line pattern
* Change shape of an object using grab handles
* Use all of the available tools

5th Grade
* Copy a graphic to and from the scrapbook
* Group objects
* Align objects to a grid
* Insert graphics
* Use pattern, fills and textures

Word Processing:

3rd Grade
* Create, open and close a word processing document
* Enter text using correct keyboarding skills
* Highlight text
* Understand the insert cursor
* Set size, font and style before typing
* Change size, font and style after typing
* Save and retrieve files from the hard drive

- Understand word wrap
- Set page setup
- Print a document

4th Grade
- Center text as a heading
- Left and right justify text
- Spell check correctly
- Cut, copy and paste
- Drag and drop
- Create and delete page breaks
- Use the thesaurus

5th Grade
- Set and change margins
- Use bullets and numbered lists
- Print a document with various percents
- Set and change line spacing
- Set paragraph indents
- Use print preview

Multimedia/Electronic Presentations

3rd Grade
- Define multimedia
- Plan & create a 2 slide presentation with text, graphics, audio and video and simple navigation buttons

4th Grade
- Plan & create a 3 slide presentation with text, graphics, audio and video with navigation and action buttons

5th Grade
- Plan & create a 4/5 slide presentation with text, graphics, audio and video and navigation and action buttons

Internet

3rd Grade
- Open and close a browser correctly
- Enter a pre-defined URL
- Use the toolbar to move forward and back
- Stop and start page loading
- Use hypertext links
- Save a bookmark/favorite

4th Grade
- Understand how a URL is constructed and what the parts mean
- Troubleshoot an inoperative URL
- Understand the components of a web page (graphic, text, video)
- Save a web page as text
- Print a web page

- Use a search directory to conduct a simple search

5th Grade
- Use a search directory to conduct a multi-keyword search
- Edit browser preferences

SpreadSheet

5th Grade
- Recognize parts of a spreadsheet
- Understand purpose of a spreadsheet
- Enter text in a cell
- Move to a specified cell using cell references
- Select a block of cells
- Create and edit a simple formula

DataBase

5th Grade
- Understand the concept of a database ie: grouping like information
- Create a database from pre-determined data
- Recognize the purpose of the different kinds of fields ie: text, numerical, date
- Add new records
- Move between records
- Match a single field

Network

3rd Grade
- Understand what a network is and why it is used
- Print documents to a network printer
- Log into a shared folder with a classroom password

4th Grade
- Understand the purpose of a file server
- Log in to a file server with an individual password
- Access, save and retrieve documents on a network file server

5th Grade
- Choose a different network printer
- Understand security on a network file server

DTP

5th Grade
- Create and manipulate a document with text boxes, graphics and headlines

Internet Safety

- Read and understand the AUP
- Understand the responsibility, potential risks and dangers associated with on-line communications including chat rooms and social networking sites.

Basic Concepts

3rd Grade
- Startup and shutdown a computer
- Point, click and double click
- Select icons
- Open and close Hard Drive
- Understand the elements of an active window including close box, scroll bars and zoom box
- Move a window
- Understand the difference between closing and quitting
- Use menu items correctly
- Make and rename a folder
- Move icons
- Identify parts of computer in detail

4th Grade
- Create nested folders
- Work with multiple windows
- Use Save As effectively
- Identify icons for folders, applications, documents and disks
- Change views and properties
- Use basic keyboard shortcuts

5th Grade
- Identify which application you are currently using including the Finder
- Open multiple applications and move between them easily

Social and Ethical Issues of Digital Citizenship – all grades

- Educate all students in how to become responsible digital citizens including units on the following:
  - Digital Commerce
  - Digital Communication
  - Digital Literacy
  - Digital Etiquette
  - Digital Law
  - Digital Rights & Responsibilities
  - Digital Health and Wellness
  - Digital Security
- Discuss issues related to acceptable and responsible use of technology (e.g., privacy, security, copyright, plagiarism)
- Describe possible consequences and costs related to unethical use of information and communication technologies

- Discuss the societal impact of technology in the future
- Provide accurate citations when referencing information from outside sources in electronic reports
- Use technology to identify and explore various occupations or careers
- Discuss possible uses of technology to support personal pursuits and lifelong learning
- Identify uses of technology to support communication with peers, family, or school personnel

Grade 6

Objectives:
- The students will demonstrate a sound understanding of technology concepts, systems, and operations.
- The students will understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
- The students will use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
- The students will apply digital tools to gather, evaluate, and use information.
- The students will use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
- The students will demonstrate creative thinking, construct knowledge, develop innovative products and processes using technology.

Week 1 - Computer Basics
- Care for equipment and data
- Navigating the computer and server
- Computer terminology
- Basics of the Internet

Week 1 - 12 - Keyboarding Reinforcement
- Daily practice of keyboarding skills
- Students need to log at least 300 minutes of practice time
- Goal of 25 words per minute with 90% accuracy

Weeks 1- 4 Digital Citizenship
- Develop ethical decision making strategies
- Define rules for safe and responsible online behavior
- Categorize information with regards to online privacy
- Discuss online etiquette

Weeks 5 -12 - Digital Photography
- Use digital cameras to capture still images
- import digital images into iPhoto
- Edit digital images

Weeks 7 - 9 Technological Communication
- Use a wiki as a form of collaboration
- Use a blog to post

Computers 8

Week 1 - Computer Basics
- Care for equipment and data
- Navigating the computer and server
- Computer terminology
- Basics of the Internet

Week 1 - 12 - Keyboarding Reinforcement
- Daily practice of keyboarding skills
- Students need to log at least 300 minutes of practice time
- Goal of 25 words per minute with 95% accuracy

Weeks 1- 4 Digital Citizenship
- Develop ethical decision making strategies
- Define rules for safe and responsible online behavior
- Categorize information with regards to online privacy
- Discuss online etiquette

Weeks 5 - 12 Movie Making
- Digital photography
- video editing
- importing
- exporting
- Understanding a software suite
- sound editing

9-12 Business Education, Services & Technology

Business Mathematics A & B
Accounting
Advanced Accounting
Keyboarding
Personal Finance
Business/Computer Independent Study
Business Today

Retailing - School Store
Retailing Management
Introduction to Computers
Interactive Technology I
Intro to Programming
Yearbook

Curriculum Integration

The district will be implementing a 1:1 student device plan over the next several years. We will have ongoing PD to support the teachers in using these student devices as tools to facilitate learning in their classrooms. We will strive to implement differentiated learning and instruction for all students.

Goal: Demonstrate proper and ethical use of computer systems

Personal Computer Concepts: Students will have a working knowledge of the basic parts of a computer and the relationship of programs and data to the operation, ethical use, and proper care of technology as an appropriate tool.

Computer Navigation and Input: Students will have the ability to communicate with a computer via keyboard and use other input devices such as a mouse and trackpad. They will have a basic understanding as to how data is entered, how programs are initiated, and how to respond to screen displays. The initial concepts of keyboarding will be introduced at the Kindergarten and Preschool levels. A keyboarding emersion program will be used in the first few weeks of third grade.

Goal: Apply productivity tools to enhance and support learning

Word Processing: Students will use word processing skills to create, edit and format documents

Spreadsheet and Database: Students will use a spreadsheet and database to organize, manipulate, analyze and present data electronically

Goal: Use technology to gather, evaluate, synthesize and disseminate information

Presentation Graphics/Multimedia/Desktop Publishing: students will create and edit curriculum related presentations involving video and audio media.

Goal: Use technology to access and exchange information

Telecommunications: Students will use all available resources including online databases, online video resources, and library and Internet resources to gather subject specific information.

Currently at the elementary level students are accessing Accelerated Reader and Read Naturally to attain reading goals. Grades 3 through 5 utilize the computer lab computers to support and enhance the curriculum in all subject areas. All classes use the computer lab at least one hour per week. Each session is centered on a specific curriculum area objective as designated by the classroom teacher. For example, fifth grade students use desktop publishing and drawing tools to illustrate the water cycle and use an application such as Keynote to create presentations on animals.

At the middle school and high school levels, the basic skills identified above will be reinforced and augmented to address the higher level of sophistication of middle school and high school applications. In addition to the three classroom labs, the junior/senior high complex has three computer labs specifically for curriculum support in addition to three mobile labs of wireless laptops. These labs are staffed full time and are available to all

teachers at the secondary level and are used almost every hour of every day. We currently subscribe to the United Streaming collection of video clips. These are used in all subject areas at the upper elementary, middle school and high school.

Specialized applications of technology are currently being used in the following general subject areas at the secondary level.

Language Arts: The Internet is used heavily in College Writing 12 and speech classes for magazine and journal articles for research. That ties directly to student search skills, and paraphrasing, quoting, summarizing and proper citation. The district wiki server is used by the language arts teachers for for peer editing. Word processing is used heavily in the drafting and revising process in writing classes and for writing assignments.

Mathematics: Graphing calculators and software for mathematical analysis are used by the math department.

Biological and Physical Sciences: Students in the physics classes use Pasco equipment (sensors, digital scales, video microscopes) connected to laptops to run experiments, gather data and report their findings. They also use spreadsheets, databases, statistical analysis and graphic presentation software for synthesis and reporting their findings. Interactive labs simulations are used in place of potentially hazardous chemistry experiments and the Internet is used for research into current scientific discoveries.

Social Sciences: Students in social studies classes use the Internet extensively for research and historical analysis. Students produce PowerPoint and United Streaming to present their ideas after gathering and synthesizing data.

Fine Arts: The music department uses composition and mixing software to individualize instruction and create and publish music CDs. Classroom labs in the Art rooms are used for graphic design and digital photography.

Physical Development and Health: Physical Education teachers use software so students can examine their eating habits and create a plan for their personal health and well-being.

Foreign Language: Foreign language students utilize supplemental textbook CDs to reinforce and practice language skills. The teacher uses a photo manipulation program to create subject area slide shows and presentations.

Home Economics: Students in Home Economics classes use the Internet to research recipes and nutrition information. Career cruising is done using the Internet.

Student Achievement

The keys to raising student achievement are to provide students with a solid foundation of basic skills and to motivate them to learn. Technology can help accomplish this goal. It engages students and fires their imaginations. It helps teachers stimulate young minds in ways that make a profound and lasting difference. Numerous research studies on the impact of technology on student achievement have demonstrated this finding

with remarkably similar results. A review of the literature resulting from these studies supports the following conclusions:

- Students, especially those with few advantages in life, learn basic skills—reading, writing, and arithmetic—better and faster if they have a chance to practice those skills using technology.

- Technology engages students, and as a result they spend more time on basic learning tasks than students who use a more traditional approach.

- Technology offers educators a way to individualize curriculum and customize it to the needs of individual students so all children can achieve their potential.

- Students who have the opportunity to use technology to acquire and organize information show a higher level of comprehension and a greater likelihood of using what they learn later in their lives.

- By giving students access to a broader range of resources and technologies, students can use a variety of communication media to express their ideas more clearly and powerfully.

- Technology can decrease absenteeism, lower dropout rates, and motivate more students to continue on to college.

- Students who regularly use technology take more pride in their work, have greater confidence in their abilities, and develop higher levels of self-esteem.

ACOT Research—Source: Teaching with Technology: Creating Student-Centered Classrooms, Sandholtz, Judy, Ringstaff, Cathy, and Dwyer, David C., 1997

Goal	Indicator	Benchmark	Measure	Instrument	Responsibility
Reading, and Writing	Students will produce reports and presentations that teachers judge to be of higher quality	Within 2 years, student grades on reports and presentations will increase, on average, by 10 points or one letter grade	Student letter or numerical grades on reports and presentations	Report Cards Teacher Record Books Focus group random sampling	Classroom Teacher Building Principal
	Students will display increasingly higher performance on tests assessing reading ability	Within two years, students scores on the reading portion of standardized tests will increase by 10%	Student standardized test scores	Terra Nova MEAP ACT	Building Principal

Math Computation	Students will display increasingly higher performance on tests assessing math computation ability	Within two years, students scores on the math computation portion of standardized tests will increase by 10%	Student standardized test scores	MEAP ACT Time Tests	Classroom Teacher Building Principal
Computer Literacy	Both teachers and students will display increased computer literacy	After 1 year, at least 75 percent of teachers and students will display at least an intermediate level of computer literacy	Student and teacher self-report of computer literacy Student and teacher results from a skills test requiring performance of various tasks on a computer	Surveys	Classroom Teacher Building Principal Lab Supervisor
	Students will increase keyboarding speed and accuracy and display proper keyboarding technique	After 1 year, students in the elementary will increase typing speed and accuracy	Students in the 3rd grade will type 20 WPM; students in the 4th grade 25 WPM; 5th and 6th grades 30 WPM	Timed Tests	Teacher Building Principal Lab Supervisor

The technology curriculum integration and assessment portion of this plan will reviewed annually by the technology committee, administrators and grade level curriculum councils. The committee will evaluate the level of attainment of the goals . Changes will be made and goals will be realigned as the needs of our District change. All 8th grade students will be assessed annually. The evaluation outcomes that are obtained from this process then will be used to revise the plan for succeeding years.

Integration Timeline

Kindergarten – Second Grade
Students will be introduced to technology at this level. The introduction will include use of a grade-level appropriate word processor for story writing. Second graders will use Accelerated Reader and Read Naturally.

Third – Fifth Grade
Students in grades 3-5 will use the computer labs for basic computer instruction based on their curriculum. Students in grade 3 will complete a keyboarding immersion program the first two weeks of school. Students will expand their knowledge base by creating curriculum based multimedia presentations, word processing documents, spreadsheets and databases. They will also learn about the network and will learn to utilize the Internet for research. Internet safety will be included in discussions throughout their computer lab time. Students at this level will use Accelerated Reader and Read Naturally.

Sixth – Twelfth Grade

Students in these grades will build on the skills acquired in the elementary grades to achieve mastery. There are several higher level computer classes available including Programming, Advanced Multimedia and Advanced Office Skills. All curriculum area teachers in this building utilize the three curriculum support labs for research and projects.

Technology Delivery

Ludington Area Schools will employ various methods of content delivery including:

- Software such as NovaNet for credit recovery

- Internet access in all classrooms and labs

- Computers connected to either large TVs or video projectors are in all classrooms and labs

- Document cameras

- Interactive white boards in several elementary classrooms in the middle school lab

- Pasco data collection equipment with a video projector in the Physics room

- United Streaming and online videos will be used to enhance lessons in all buildings and grade levels

- Mobile presentation stations which are available for check out in both the middle school and high school

- A video distribution system which is housed at the high school library for building viewing of DVDs

- Individual classrooms as well as computer labs will utilize opportunities to explore educational topics electronically.

Parental Communications & Community Relations

Ludington Area Schools will increase communication with parents and the community by continuing existing methods of communication as well as adding new methods. Current and planned methods are as follows:

- Our new student information system, PowerSchool, includes web access for parents and students. The parent portal includes access to progress reports, assignments, grades, athletic information and attendance and well as providing a means for parents to easily communicate with teachers. Students will also be given access through the student portal section of the software for access to assignments, grades and teacher communication.

- Parents will be able to manage student accounts and view purchased items in Meal Magic. All buildings are currently using the software.

- Our updated web site uses a content management system so individual buildings can easily add content to their pages to keep them more current and parent friendly. Our front page includes an email link so visitors can comment, ask questions and make suggestions.

- Electronic versions of the districts newsletter, the BEAM and building newsletters are available online as buildings continue to add content to their web pages.

- Franklin Elementary produces a weekly news video called "Little "O" News". The video is posted online as well as burned to a DVD for checkout from the building library.

- Teachers use individual email exchanges to keep parents informed of progress

- The AUP is included in all student handbooks and on the web page

- The technology plan is available online

- LASD will include at least one parent and one school board member on the various technology committees

- The middle school and high school have in-room phones for easy communication with parents.

- An open membership computer user group uses the board room for monthly meetings to provide technology assistance for community members

- The superintendent and business manager frequently show PowerPoint presentations to area service groups using district computers and projectors

- Parents can view and download district forms from our web site

- In the future we would like to add kiosks in specified areas around the community local stores, so parents can access student information if they don't have a computer at home.

Collaborations

Currently the technology provided by LASD benefits local Adult Community Education Programs, off campus Community College classes, independent Computer Literacy Classes, ISD wide inservices and trainings. The facilities are also used by a local Computer User Group for group instruction and hands-on assistance. The Knowledge Seekers student group tutors senior citizens at both the Senior Center and in the high school computer labs. Privately owned driver's training classes are held in our media centers.

District Committees

Technology Committee

Duties:

Develop procedures to ensure district software standards

Evaluate monies needed

Develop policies that address staff and student use of technology

Develop procedures to implement a comprehensive staff literacy technology curriculum

Re-evaluate technology plan on a regular basis

Review and revise current technology curriculum

Recommend curriculum support materials

Makeup:

Community Member(s)	School Board Member	Business Representative(s)
Parent(s)	Teacher(s)	Technology Coordinator
Administrator(s)	Support Staff Member(s)	Independent Consultant

Professional Development

It is the intent of Ludington Area Schools to provide its instructional staff with appropriate facilities, tools, training and supplies to maximize effectiveness in the classroom as well as skill building. Professional development on an on-going basis will be offered by the district, the local REMC, the local ISD and through various online sources such as webinars, email tech tidbits and web-based Internet classes and local video training. All staff have access to printed manuals and periodicals available for checkout from the Educational Resource Center. PowerSchool help is available online and all Tech Tidbits and PowerSchool tech support emails are archived for future reference. Ludington Area Schools currently builds five professional development days into the calendar. Technology related professional development will focus using technology to support the curriculum as well as skill building and will keep in mind the areas of literacy as defined by state and national standards addressing competencies for teacher, administrators and other educators.

Professional Learning Communities (PLC) days are built into the school calendar, one day each month, when students do not attend school so that teachers have time to work together on curriculum and teaching. Teachers use these days to work as a team to improve lesson design and instructional techniques across disciplines. PLCs are essentially groups of educators who investigate research-based teaching techniques, examine and discuss student achievement data, discuss content and grade level curriculum using state and local standards and collaborate on lesson plans and assessments.

During our Professional Learning Communities days, our teaching staff works to ensure the continued improvement and success of our learning outcomes for each of our students. We want you to know that these are intensive work days and that the time is structured, coherent within a plan and well used. This is how we "stay ahead of the game" in terms of test scores and student readiness for success after high school so that our graduates continue to soar higher.

Teachers in each building share their knowledge with others in their building and grade level. Subs are brought in so that teachers can work 1:1 with other teachers in their building on specific subjects and skills. Professional Development has been contracted for K-12 teachers on various subjects including Integration, Collaboration and Communication and Electronic Delivery of Content. Our goal is that everyone will do a little or a lot but no one will stay at zero.

Professional development will include, but not be limited to, the following areas:

Productivity Tools: Using electronic documents and text management for reports, letters, lesson plans; electronic worksheets for charts, graphs and tabular data management; computer database management, including a procedural language for creating and editing input screens and ad hoc reporting.

Presentation Graphics/Design/Desktop Publishing: creating and organizing media from several sources, such as graphic images, digital/analog movies and charts, for presentation in the classroom or to other large group audiences.

Digital Media Creation: creating movies using digital still and video cameras and using online videos in multimedia presentations

Telecommunications: access on-line services to various external information database services and Internet resources such as United Streaming

EMail and Intranet: Using email and the intranet mail system to communicate with colleagues and parents. First Class, the intranet software, provides a means for collaboration on the same documents and for shared group workspaces and calendars.

Classroom Management: Monitor classroom activities and resource utilization.

Integrated Lesson Development: helping teachers develop individual classroom plans to implement and support the curriculum. Resources include computers, software and peripherals; video editing; CD/DVD and the instructional television network.

Interfaces to Student Information Systems: Input and manipulate data using the district's central student information system for their particular students

Access to File Services: allow teachers to make backups of important documents, share documents with peers and transfer documents to appropriate personnel.

Collaboration Services: use tools such as Moodle, Edmodo and internal wikis to create or supplement classroom curriculum and provide PD

PD Assessment & Timeline

Goal	Indicator	Benchmark	Measure	Instrument	Responsibility
Professional Development	Increasing numbers of teachers will be trained to integrate technology into their teaching	By the end of the school year, all teachers will have had some technology training.	Number & percent of teachers requesting and receiving training by type of training	Attendance records	Tech Director
	Teachers will learn how to integrate technology into their teaching	After training, teachers will be able to devise at least 1 example per trimester of how technology could be integrated into their lessons.	Lesson Plans produced at professional development activities

Teacher responses from professional development survey | Weekly lesson plans | Building Principals |
| Curriculum Integration | Technology will be increasingly be incorporated into the curriculum in all subject areas | All teachers will have at least 15% of lessons incorporating technology | Percentage of lessons that incorporate technology | Teacher lesson plans | Building Principals |

Building Configurations & Infrastructure
*Note that voice drops are no longer used as we now have VOIP.

Complex (Jr./Sr. High) site of MDF:
435 computers
460 Category 5 data drops
64 Voice Drops
Fiber Backbone
Video Distribution Backbone
District Fiber LAN
6 servers
30 10/100 switches
2 gigabit switches
1 cable router with 10Mb download

Pere Marquette Early Childhood Center:
5 computers
54 Category 5 data drops
10 Voice Drops
District Fiber LAN
1 switch

Franklin:
48 computers
78 Category 5 data drops
16 Voice Drops
Fiber Backbone
District Fiber LAN
1 server
4 switches

Lakeview:
38 computers
88 Category 5 data drops
16 Voice Drops
District Fiber LAN
1 servers
6 switches

Foster:
175 computers
200 Category 5 data drops
16 Voice Drops
District Fiber LAN
3 servers
8 switches

CBO/ERC:
20 computers
30 Category 5 data drops
2 dedicated phone lines
Fiber Backbone
District Fiber LAN
1 Linux file servers
1 Windows 2003 server
4 Mac file servers
3 switches

Electrical capacity:
CBO 800 Amps/80 Amps (available)
Complex 9600 Amps/800 Amps
Franklin 800 Amps/0 Amps
Foster 1600 Amps/320 Amps
P.M. 600 Amps/100 Amps
Lakeview 1200 Amps/200 Amps

Recommended Lab Configuration

30	Student workstations
1	Teacher workstation
1	Laser printer – color optional
1	Scanner
1	Presentation system and/or interactive white board
	Appropriate furniture
	curriculum support software
1	staff person - 6 hrs /day
	hvac (heat, vent & air conditioning)
	Adequate electrical with surge protection and UPS

Recommended Media Center Stations

High School & Middle School

Full text periodical retrieval stations

1 data entry & circulation station in each library

3 card catalog search stations

1 SIRS station at the HS

Library automation software using bar codes

4 network capable student-use stations

Elementary

1 data entry & circulation station

2 card catalog search stations

4 network capable student-use stations

Library automation software using bar codes

Minimum Connectivity Specifications

category 5e or higher cable

fiber optic cable backbone

10/100/1000 manageable switches

10/100/1000 NIC & patch cords

patch panel configuration for wiring closets

Web-based management software for switches

Minimum Specifications for Lab Computers

Student Station
2 GB Ram

CD-RW, DVD-RW Capable

10/100/1000 Ethernet capable

250 GB Hard Drive

Teacher Station
2 GB Ram

CD-RW/DVD-RW Capable

10/100/1000 Ethernet

500 GB Hard Drive

Video Editing Station
2.5 or higher GHz Processor

2 GB Ram

CD-RW/DVD-RW

Firewire

500 GB Hard Drive

Scanner

10/100/1000 Ethernet

Technology must meet minimum specifications and must fit within the structure of the curriculum. Software and hardware purchased by individuals will not necessarily be supported by the technology department.

Software Evaluation and Purchasing

All software and apps purchased for installation on district machines must be evaluated and approved by the grade level or department in each building. All programs must meet appropriate technical specifications in order to be approved by the district.

Prior to review of software it is important that reviewers have a clear idea of the potential of purchasing software from different district sources. These sources would include curricular adoption funds, school building funds, department funds, or grant funds. Reviewing software with no realistic chance of adoption/purchase is a questionable use of time. Faculty reviewing software must work closely with the administrators who would authorize the final purchase of software.

Mobile device apps will be evaluating using a rubric that includes curriculum connection, authenticity, feedback, differentiation, user friendliness, student motivation and reporting.

Technology Implementation Plan

The Technology Plan is an action plan that will use the concept of phased implementation. Phased implementation recognizes the constraints that time, budgets and human resources have on the implementation process. After careful consideration and much research, the Technology Plan action team decided that each phase would be associated with a definitive timeline. These timelines are flexible considering that variables such as costs, availability of human resources, the political climate, new technologies, and community support may cause a project to take more or less time than is anticipated. Schools may have already installed some components of the school models.

As a result of a earlier bond proposal which allocated $700,000 for technology, our previous goals and objectives of getting the buildings internally wired and connected via fiber have been met. Our goals will now move to keeping our hardware current, increasing bandwidth as needed, maintaining our current support levels as well as accommodating the increasingly sophisticated desires of our teaching staff. The recent success of the technology bond will provide a long-term solution for implementation.

Ludington schools recently consolidated three upper elementary schools into one building. We also evenly redistributed all k-2 students into two buildings. This restructuring resulted in the closing of one outlying building and the change in the previous small K-2 building into an early childhood center.

Technology Improvements since our last tech plan was submitted:

- In year 2012-2013 Ludington Schools implemented a new VOIP phone system.
- We have purchased mobile labs of Chrome Books for the K-2 and 3-5 buildings.
- We worked with our ISD to implement a WAN which was implemented in July, 2012. We have also moved to a new SIS along with all of the other districts in the Mason-Lake-Oceana ISD Consortium.

Support Resources

Technology support is handled by the Technology Director and a computer technician, both certified technicians, and one building technician housed at the middle school. Support is requested electronically through the School Dude IT Direct ticket system using a specific form or by phone. The technology staff uses Remote Desktop and video chats to observe and/or control user stations to collaborate with staff on technology issues.

The technology department maintains a library that includes several technology related periodicals. The technicians subscribe to the Apple technical website called GSX which provides all repair manuals, diagnostic software, knowledge base articles and access to upper level technicians. The Technology Coordinator frequently sends out Tech Tidbits to all staff through our First Class system. These tidbits are archived referral at a later date. Technology is part of every building's school improvement plan.

Planning, Funding and Implementation Timeline

The following table shows the first three years of the 9-year bond budget. Device refreshes occur in years 5 and 9. This is a proposed budget and has not been finalized yet due to the possibility of consortium USF funding at the 90% level. If that occurs, the timeline will change to reflect the timeline of the USF process.

Project	2012/13	2013/14	2014/15
Network Upgrade	246,272.00		
Wireless	120,658.30		
Servers	150,000.00		
Phones / PA	54,750.00		
Classroom MM	1,191,250.00		
Teacher Devices	260,700.00		
Printers 1/2	6,300.00	6,300.00	
Video Monitoring 1/2	51,930.53	51,930.53	
Digital Video		100,000.00	
Contingency	25,000.00	15,000.00	15,000.00
Digital Cameras		11,666.67	11,666.67
Student Devices 1/3		637,300.00	637,300.00
Electrical Upgrades	200,000.00		
Peterson Auditorium		100,000.00	
	2,306,860.83	922,197.19	663,966.67

The following items are not included or fully funded in the 9-year bond budget and will be paid out of other district budgets. All dollar amounts represent thousands

Projected Projects	12/13	13/14	14/15
Electrical			
Add electrical wall outlets in older classrooms and common areas	15	5	5
Add electrical outlets in classrooms to accommodate projectors	15	5	5
Total amount needed to update electrical systems across the district	**30**	**10**	**10**
Professional Development			
Support teachers in becoming more technologically literate	2	2	2
Encourage teachers to attend professional conferences	2	2	2
Total amount needed for PD across the district	**4**	**4**	**4**
Measurement and Assessment			
Measure and Assess Technology Effectiveness	1	1	1
Budget			
Create/maintain a budget for district maintenance/licensing fees	10	10	10
Create/maintain a budget for repairs that keeps pace with new equipment purchases	15	15	15
Total amount needed to maintain adequate annual budget	**25**	**25**	**25**
TOTAL AMOUNT NEEDED	**119**	**79**	**79**

Funding Sources

Implementation of the district's Educational Technology Plan will require a variety of funding methods. An in-depth analysis of funding solutions, equity issues, district staff, public support, promotional efforts, and ongoing financial planning will be required for a successful and complete implementation and continued support of technology. The district has established a method of identifying expenditures from all funding sources to reflect costs associated with technology. These funds can then be more efficiently directed towards the acquisition of technology. Possible funding options are as follows:

•**Technology Bond -** The district has recently passed a 10-year technology bond. This will be the main source of funding for all technology related needs.
•**Sinking Fund –** The district currently has a voter approved sinking fund.
•**Grants –** The district will continue to seek grants from a variety of sources.
•**Federal funds including Title II –** The district will provide assistance to the individual school in determining how these funds can be utilized for technology improvements.
•**E-Rate –** The district annually applies E-rate funding at the 80% level. We are working with a consortium at the ISD level that may bring our district to the 90% level.
•**Technology Partnerships –** The district has established relationships with private businesses to enhance technology capabilities. One example of this would be Dow Chemical.
•**General Fund –** The general fund has allocated $35,000 annually for technology improvements. Salaries, benefits, network and some maintenance costs are paid out of different budgets.
•**Elementary building PTCs** have purchased technology for classrooms. These purchases are fully supported by the technology department.

	General Fund	Title Funds	USF	Total
Salaries & Benefits	148642			**148642**
Hardware	15000	3000		**18000**
Network	7370		17194	**24,564**
Maintenance & Service/Tech Support	8000			**8000**
License Agreements	6000			**6000**
Software & Curriculum	5000			**5000**
Professional Development	10000	800		**1,800**

Internet Safety Guidelines For Ludington Area Schools

It is the policy of Ludington Schools to: prevent user access over its computer network to, or transmission of, inappropriate material via Internet, electronic mail, or other forms of direct electronic communications; prevent unauthorized access and other unlawful online activity; prevent unauthorized online disclosure, use, or dissemination of personal identification information of minors; and comply with the Children's Internet Protection Act [Pub. L. No. 106-554 and 47 USC 254(h)]. All students and staff will be familiar with the district's AUP.

Access to Inappropriate Material

Technology protection measures aka "Internet filters" shall be used to block or filter Internet or other forms of electronic communication's access to inappropriate information.

Specifically, as required by the Children's Internet Protection Act, blocking shall be applied to visual depictions of material deemed obscene or child pornography, or to any material deemed harmful to minors.

Subject to staff supervision, technology protection measures may be disabled for adults or, in the case of minors, minimized only for bona fide research or other lawful purposes.

Inappropriate Network Usage

Steps shall be taken to promote the safety and security of users of the Ludington School's online computer network when web browsing and using electronic mail, chat rooms, instant messaging, and other forms of direct electronic communications. Users will not:

(a) transmit, receive, submit, or publish any material deemed defamatory, inaccurate, abusive, obscene, profane, sexually oriented, threatening, offensive, or illegal or material that promotes violence or advocates the destruction of property, hatred against particular groups or individuals or promotes the superiority of one racial, ethnic or religious group over another.

(b) harass, intimidate, threaten or abuse any person or entity by any means. aka Cyberbullying

(c) transmit personal information or use web sites requiring personal registration unless approved by a teacher or administrator

(d) attempt to bypass the content filter by using online proxies or transmit email through an anonymous re-mailer.

(e) promote commercial endeavors, product advertising, political lobbying or political campaigning.

(f) damage computer systems, computer components or computer networks intentionally, including attempted use or possession of a computer virus. Doing so may result in reimbursement to the district for costs incurred in the repairs.

(g) violate copyright laws including the downloading of audio or video files. Plagiarism in any form will not be tolerated.

(h) use email, blogs or chat rooms unless part of an administratively approved class project. Games are not allowed unless approved by the teacher, administrator or support the curriculum. Classroom rules pertaining to games will take precedence.

Procedures for the disabling or otherwise modifying any technology protection measures shall be the responsibility of Technology Director or designated representatives.

Education

It shall be the responsibility of all members of the Ludington School's staff to educate, supervise and monitor appropriate usage of the online computer network and access to the Internet in accordance with this policy, the Children's Internet Protection Act, the Neighborhood Children's Internet Protection Act, and the Protecting Children in the 21st Century Act.

Educating minors about appropriate online behavior, including interacting with other individuals on social networking websites and in chat rooms, and cyber bullying awareness and response will be addressed at all levels. Ludington Schools will provide age-appropriate training for students who use the Ludington School's Internet facilities. The training provided will be designed to promote the district's commitment to student safety. Specifically the programs "Missing", "AirDogs" and "Mirror Image" provided by WebWise Kids is used at the middle school. Several all-school assemblies are presented yearly on cyber-bullying. Students create a public service announcement about cyber-bullying at the middle school level. Education topics will include:

- safety on the Internet
- appropriate behavior while on online, on social networking Web sites, and in chat rooms
- cyberbullying awareness and response
- being a responsible digital citizen including
    - Digital Access: full electronic participation in society
    - Digital Commerce: the buying and selling of goods online
    - Digital Communication: the electronic exchange of information
    - Digital Literacy: the capability to use digital technology and knowing when/how to use it
    - Digital Etiquette: the standards of conduct expected by other digital technology users
    - Digital Law: the legal rights and restrictions governing technology use
    - Digital Rights and Responsibilities: the privileges and freedoms extended to all digital technology users, and the behavioral expectations that come with them
    - Digital Health and Wellness: the elements of physical and psychological well-being related to digital technology use
    - Digital Security: the precautions that all technology users must take to guarantee their personal safety and the security of their network

Following receipt of this training, the student will acknowledge that he/she received the training, understood it, and will follow the provisions of the District's acceptable use policies.

Acceptable Use Agreement For Computers, Network and/or Internet Usage

Please read this document carefully before signing.

The purpose of this agreement is to ensure the use of computer and Internet resources is consistent with our stated mission, goals and objectives. This document outlines expected behavior for students.

The Internet and network is provided for users to save data and conduct research. With access to computers and people from around the world also comes the possibility of obtaining material that may not be considered to be of educational value in the context of the school setting. Families should be warned that some material obtained via the Internet could contain items that may be illegal, defamatory, inaccurate, offensive or potentially dangerous. The District will make every effort to ensure Internet content is filtered to exclude inappropriate material in accordance with the Children's Internet Protection Act (CIPA). In addition to the network-wide filter, Ludington Area Schools will make every effort to monitor students' Internet usage. However, users may still discover controversial information, either by accident or deliberately. We firmly believe, however, that the benefits to users from on-line access far outweigh the possibility that users may procure material that is not consistent with our educational goals.

The signature(s) at the end of this document is (are) legally binding and indicate(s) the party (parties) who signed has (have) read the terms and conditions carefully and understand(s) their significance.

This agreement may also be printed in student handbooks. The handbook edition takes the place of this document and is to be considered the same. Signatures in the handbook are treated as signatures on this document.

Terms and Conditions for Computer and Internet Use

Access is a privilege. Users are responsible for their behavior on the school computers and network and are expected to abide by generally accepted rules of network etiquette and conduct themselves in a responsible, ethical and respectful manner.

Using someone else's user name or password and/or trespassing in another user's folders, work or files is prohibited. Attempts to log on to the network as anyone but yourself may result in cancellation of your privileges.

All communication and information accessible via the computer resources shall be regarded as school property. Administrators who operate the system may review files and messages. Messages relating to or in support of illegal activities may be reported to the authorities. Student computers may be monitored at any time.

Personal laptops or other network capable devices will not be allowed on the network unless approved by the administration. All personal devices allowed on the network will be governed by this AUP.

Cell phones/camera phones will not be allowed in locker rooms.

Users will not:

(a) transmit, receive, submit, or publish any material deemed defamatory, inaccurate, abusive, obscene, profane, sexually oriented, threatening, offensive, or illegal or material that promotes violence or advocates the destruction of property, hatred against particular groups or individuals or promotes the superiority of one racial, ethnic or religious group over another.

(b) harass, intimidate, threaten or abuse any person or entity by any means. aka Cyberbullying

(c) transmit personal information or use web sites requiring personal registration (ie eBay) unless approved by a teacher or administrator

(d) attempt to bypass the content filter by using online proxies or transmit email through an anonymous re-mailer.

(e) promote commercial endeavors, product advertising, political lobbying or political campaigning.

(f) damage computer systems, computer components or computer networks intentionally, including attempted use or possession of a computer virus. Doing so may result in reimbursement to the district for costs incurred in the repairs.

(g) violate copyright laws including the downloading of audio or video files. Plagiarism in any form will not be tolerated.

(h) use email, blogs or chat rooms unless part of an administratively approved class project. Games are not allowed unless approved by the teacher, administrator or support the curriculum. Classroom rules pertaining to games will take precedence.

Violations may result in disciplinary action including but not limited to detention, loss of privileges, expulsion and legal prosecution. Building administrators have the authority to apply consequences based on judgment and severity of the infraction. Knowledge of the AUP is considered a verbal warning. Users are considered subject to all local, state and federal laws.

Ludington Area Schools makes no warranties of any kind, whether expressed or implied, for the service it is providing. We assume no responsibility or liability for any additional charges nor for any damages a user may suffer.

Acceptable Use Agreement Signature Form

STUDENT AND STAFF SECTION

I have read Ludington Area Schools' Acceptable Use Agreement. I agree to follow the rules contained in this policy. I understand that if I violate the rules my account can be terminated and I may face other disciplinary measures including reimbursement to the district for costs incurred as a result of my violation.

Name (please print) _____   Grade or Building _____

Signature: _____   Date   _____

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PARENT OR GUARDIAN SECTION

A) Computer and Internal Network Permission

I have read and discussed this Acceptable Use Agreement with my child and accept full responsibility for his/ her behavior while using Ludington Area Schools' computers, hardware, Internet and internal network.

Parent Signature _____ **Date** _____

B) Elementary Internet Permission (to grant Internet permission, this section must also be signed)

As the parent or legal guardian of the student signing above, I have read this Internet Use Agreement and grant permission for my son or daughter to access the Internet. I understand that the district's computing resources are designed for educational purposes. I also understand that it is impossible for Ludington Area Schools to restrict access to all controversial materials and I will not hold them responsible for materials acquired on the network. I understand that individuals and families may be held liable for violations. Furthermore, I accept full responsibility for supervision if and when my child's use of the Internet is not in a school setting.

Parent Signature _____ **Date** _____

Parent Printed Name _____

Cyberbullying Policy For Ludington Area Schools
adopted by the Board on May 21, 2012

Permission To Publish Form

As part of your son's/daughter's educational program, he or she may have the opportunity to publish documents and projects on the World Wide Web and other distributed media. These documents might include a personal Web page, a story or poem, a graphic, a science or research project, a group photograph from an activity or club, or a collaborative project with other students locally or internationally. If published on the Internet individuals around the world would be able to view and possibly respond. In addition, Ludington Schools may from time to time created public relations or orientation materials involving students.

We will publish these documents only with your written permission. Please consider the following options, then sign and return this form to your child's teacher. This permission will remain in effect unless revoked by the person whose signature appears below. Thank you for your cooperation.

Guidelines:

Published documents may not include a child's phone number, street address or box number, names of other family members, or other personally identifiable information;

Documents may not include any information which indicates the physical location of a student at a given time other than attendance at a particular school or participation in school activities;

Documents may not contain objectionable material or point directly or indirectly to objectionable material;

Documents must conform to school board policies and established school guidelines.

Documents must be approved by a referring teacher and/or school principal before publication.

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Parent/Guardian Permission

Child's Name: _____Building_____

_____I grant Ludington Area Schools permission to publish documents as described above, including the following information: (initial all that apply)

    First Name_____   Last Name_____   Photograph/video _____   email address_____

_____I do not grant Ludington Area Schools permission to publish documents as described above.

Parent/Guardian Signature:_____ Date:_____

CONTENT STANDARDS

All documents to be published on District servers must be edited and approved by a referring teacher and/or school principal before publication. (See RESPONSIBILITIES OF STUDENTS, TEACHERS, AND PRINCIPALS.) Individual schools are encouraged to develop and make public their own standards for content. Schools should concentrate on submitting material that reflects school activities, student work, special projects, or aspects of the community, which they serve. All work published on the District's server should be free of any spelling or grammatical errors consistent with the author's appropriate age and grade level. The following District guidelines also apply to all student work published on the World Wide Web:

1. Contain some original content; stories, artwork, photography, etc.;
2. Avoid a preponderance of links to game and entertainment sites; and
3. Reflect a student's academic interests by pointing to academic or cultural resources.

Students can showcase examples of their work, list awards they have received, publish stories or artwork, and collect and point to resources elsewhere on the web.

Student and staff publications may not contain copyrighted material. This means that clip art taken from commercial or entertainment sites such as a movie site or an NBA site may not be included on a student's page unless they have obtained specific permission to do so from the copyright holder and if they include this permission on their Web page.

The work of students under the age of 18 may not be published on the World Wide Web without written permission from parents or guardians. The District form for securing permission for publication may be found here.

PLEASE NOTE: It is the responsibility of the supervising teacher submitting material for publication to check students' work for content, spelling, grammatical, and usage errors. Material published by students reflects directly on the submitting school. Please screen all work to be submitted.

PLEASE NOTE: It is the responsibility of the Principal to insure that the content of a school's Web page is appropriate and within the guidelines for student publications.

For more information regarding responsibilities of various parties in the development and publication of World Wide Web documents, see "RESPONSIBILITIES OF STUDENTS, TEACHERS, AND PRINCIPALS".

SUBMITTING MATERIAL FOR PUBLICATION

A designated Webmaster (sometimes more than one person) at each school can post material directly to the District's servers. All school postings must go through this person. The Webmaster has access to the school's directory. The Webmaster is responsible for making sure that submitted material conforms to all guidelines above.

RESPONSIBILITIES OF STUDENTS, TEACHERS, AND PRINCIPALS

STUDENT/CLASS

Follows guidelines set by teacher, school and District
Edits for spelling and grammar
Edits for content
Edits for appropriate length
Seeks approval to publish from supervising teacher

CLASSROOM (SUPERVISING) TEACHER

Edits student work for spelling and grammar
Edits student work for content
Edits student work for appropriate length
Checks for appropriate permissions from parents/guardians
Grants permission for publication
Submits material for publication

PRINCIPAL

Sets standards for school content
Approves content of student and school pages

WEBMASTER

Sets standards for content and length
Edits for correct links in published material
Checks for appropriate length
Publishes or resubmits materials for editing

Employee Email & Internet Policy

Communications over school networks should not be considered private. Network supervision and maintenance may require review and inspection of directories or messages. The district reserves the right to access stored records in cases where there is reasonable cause to expect wrong-doing or misuse of the system.

In the event of litigation Email will be archived by the district.

Employees are permitted to use the school network and school owned computers for email and web browsing providing it does not interfere in any way with classroom order or instruction. This judgement will be up to the discretion of the building principal.

Personal use of the Internet and Email on school networks and computers must be in accordance with the district's Acceptable Use Policy.

Hardware Donation Policy

If technology related hardware is donated to Ludington Area Schools, the Technology Staff and/or Technology Committee will assess the acceptance of the donation based on the criteria below. If the hardware meets the criteria, it will be accepted with our thanks. If not, it will be gracefully declined.

- Does the hardware fit somewhere in the technology plan? If so, where?

- What are the costs to the district to prepare it for use? (ie: network cards,memory, parts)

- What are the ongoing costs to the district for its use and maintenance?

- What are the software needs to make the hardware usable? Does the donation include licenses for installed software?

- Can needed repairs be made by the staff or do they need to be contracted out?

- Are the costs to make it functional proportional to its usefulness?

- Where is the best placement for this hardware?

Technology Improvements since our last tech plan

In year 2012-2013 Ludington Schools implemented a new VOIP phone system.

We have also purchased mobile labs of iPads for the K-2 and 3-5 buildings.

The computer lab at Foster Elementary School was updated.

We have an extremely successful Kindergarten and Second Grade iPad pilot program that has provided the framework, inspiration and motivation to expand the pilot to all students. Our two pilot teachers were recently awarded the MACUL Technology Teacher of the Year and runner up.

We worked with our ISD to implement a WAN which was implemented in July, 2012. We have also moved to a new SIS along with all of the other districts in the Mason-Lake-Oceana ISD Consortium.