Natick Public Schools

TECHNOLOGY PLAN
SCHOOL YEAR
2009 – 2012

DENNIS ROCHE, CISA, CISM
DIRECTOR OF TECHNOLOGY
NATICK PUBLIC SCHOOLS

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Document Control

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Reviewers

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<tr>
<td>Peter Sanchioni, Ph.D.</td>
<td>Superintendent of Schools</td>
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Distribution

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<td>2</td>
<td>Peter Sanchioni, Ph.D.</td>
<td>Superintendent of Schools</td>
</tr>
<tr>
<td>3</td>
<td>Karen LeDuc, Ph.D.</td>
<td>Assistant Superintendent for Curriculum, Instruction and Assessment</td>
</tr>
<tr>
<td>4</td>
<td>William Hurley</td>
<td>Director of Fiscal Management</td>
</tr>
<tr>
<td>5</td>
<td>John Hughes</td>
<td>Principal, Natick High School</td>
</tr>
<tr>
<td>6</td>
<td>Anna Nolin</td>
<td>Principal, Wilson Middle School</td>
</tr>
<tr>
<td>7</td>
<td>Rose Mary Vickery</td>
<td>Principal, Kennedy Middle School</td>
</tr>
<tr>
<td>8</td>
<td>Barbara Brown</td>
<td>Principal, Lilja Elementary School</td>
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<td>9</td>
<td>Edward Quigley</td>
<td>Principal, Brown Elementary School</td>
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<td>Beverly McCloskey</td>
<td>Principal, Memorial Elementary School</td>
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<td>11</td>
<td>Ian Kelly</td>
<td>Principal, Ben-Hem Elementary School</td>
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<td>Karen Ghilani</td>
<td>Principal, Johnson Elementary School</td>
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Technology Vision

Our vision for the Natick Public Schools is to create the best educational environment for our students; one that creates opportunities and allows our students to excel in today’s ever changing world.

But to create the best educational environment, our educational system in Natick needs to change!

The world today is a much difference place than a mere generation ago. It is a much smaller planet; as students regularly compete on a global basis for entry into college. Our workforce is also much more competitive as outsourcing strategies are often used in the business world to keep labor costs down which shifts many jobs overseas.

Technology has played a role in this global shift as transportation systems have improved; worldwide travel has increased, as it is now faster and more affordable. Through the use of technology participation in the global economy is also much easier and global travel is often not needed; a mere internet connection anywhere in the world can now give you a global storefront if you have an idea or product to sell.

In the midst of all of these changes, how has our public school system changed over this same period of time? Is our public school system keeping pace to meet these new trends and competitive environments?

The reality is that much more needs to be done; especially if our students are going to compete and thrive in this new global economy. We need to do more. Our students need to be problem solvers, critical thinkers, and collaborative workers; able to work from anywhere, anytime, anyway. Our students must be able to manage projects and deadlines, qualify valid sources of information, prioritize, organize and disseminate information, analyze data and identify trends, reach conclusions, make decisions and take action, and be able to shape the direction of our world by leading effectively.

Students today are digital natives; they use technology constantly to communicate amongst themselves and expect immediate access to information. Students today want to create and express themselves; they don’t want to sit and be lectured to. Most importantly students want to be engaged and not told to “power down” when they come to school. All of these challenge the traditional school model and create missed opportunities.

To transform the educational system in Natick and help our students develop 21st century skills; those skills needed to be successful in our world today, we need to embrace change. Our school system needs to embrace the use of technology. Technology can be both an accelerator of the learning process and help streamline administrative functions of a school district if implemented and used effectively.

In the learning environment, technology can help improve student engagement as most digital natives are just waiting for school districts to get it right and encourage use of technology in our schools. Technology can also be used to
create easier access to information through on-line classrooms or portals; which extend the learning process beyond the four walls of the classroom and beyond the restrictions of a single block of time for each subject. Use of technology also creates an opportunity to personalize the learning experience, we know not all students are alike and learn differently.

Effective technology use in our schools changes everything! It challenges teachers to rethink how to best use classroom time; maybe spending more time on group projects and collaboration while viewing lectures at home via podcasts; or participation in an on-line forum to discuss a topic are just a few examples that break the traditional stand and lecture model.

The administrative burdens of running a school district are also becoming much more demanding and complex and require the same level of automation and streamlining that the business world has realized. Increasing levels of mandatory federal and state reporting will overwhelm school districts that realize this trend too late and could jeopardize alternative sources of funds through eligible grants or E-Rate programs.

All in all technology plays a key role in today’s educational environment and is no longer something we can live without. It is an expectation that needs to be in place and given careful and thoughtful planning and execution.

Effective technology in our schools does change everything, and it will not come easy. It will require dedicated individuals who want to make a difference and work hard to change the ways our schools operate and the way our classrooms function. But what’s at stake is our student’s future and in the end that’s why we are here in public education.

It’s all about our students!!!
Technology Foundation

In order to have an effective and reliable technology presence in our school district, it requires a solid foundation to build upon. This means leveraging our existing investments and making sure our technology house is in order. The four corners of this foundation are:

- Technology Staffing
- Infrastructure & Emerging Technologies
- Applications & Classroom Technologies
- Professional Development

In order to progress forward and realize this vision, periodically a rebuilding process needs to take place, a process very similar to that of renovating or rebuilding a house. We cannot tear down the structure since it is used daily as the renovation takes place. An assessment conducted before construction begins will allow for careful planning and execution.

As in any project, planning is the key to success. Before constructing the walls or roof of a house, the foundation must be solid to support the structure above it.

**Technology Staffing**

In the case of the Natick Public Schools, the first and most vital corner of our technology foundation is the technology staffing. By far, people are the most important element when it comes to technology. If people do not have the proper training, the proper skill sets, or are not comfortable or cannot rely on the technology, then we will not succeed.

We rely on people to evaluate, implement, train and use technology, so it is vital we get the right people in the right jobs. We need people who view technology as a tool to get things done and come each day with an open mind to achieving success.

It is important that we have defined roles and responsibilities for all technology positions. This will allow us to recognize staffing gaps and formulate staff development programs. Part of the success of building an effective team is not just defining the right positions and completing the recruitment process but what is done after they are on the job to inspire and develop each member to their fullest potential.

**Infrastructure & Emerging Technologies**

The infrastructure should be flexible and reliable giving us options to grow. Our vision for technology should be an open one, that embraces all forms of technology and we need to be aware of emerging technologies and their future impact. We should not limit ourselves to a single vendor’s solution or marry ourselves to one technology, as it would only back us into a corner that we would need to deal with later on.

We need to consider the convergence of voice, video and data. Technologies such as wireless, interactive whiteboards, on-line learning environments and data repositories, RFID, biometrics, VOIP and various hand-held devices all offer tremendous possibilities.
**Applications & Classroom Technologies**
As a school district, we should take a serious look at open source and web based software. Open source is software developed by a community of users and freely distributed throughout the world. Many open source products meet if not exceed many of our needs and may help keep our software license costs down. Web based products today offer robust functionality, usually for a modest annual investment, rapid deployment and allow students and teachers the flexibility of using in school or from home. Before making purchase decisions on traditional commercial software packages these options will be considered.

In the classroom, we need to define the tools needed to aide students and teachers to excel with teaching and learning. Technology is both a tool to get things done but also a way to engage and make learning fun. Technologies such as on-line learning environments, interactive white boards and laptop computers and other wireless devices for students and teachers need further exploration.

**Professional Development**
The final corner in our foundation is professional development. As we progress on the other three corners, our focus needs to shift toward getting the maximum value from all our investments. That will only occur by offering both our technology staff and faculty the proper amount of training and development opportunities along the way. For each dollar spent on technology we need to invest in training our people how to use it. We also need to keep in mind, training and development is an on-going process, not just when new systems are deployed and implemented. As our plans develop and evolve much more attention and focus will occur in this area.

As the following plans indicate it will be an iterative rebuilding process. As the technology team and infrastructure matures more strategic discussions on applications and professional development opportunities will emerge. But what makes our technology plan unique from most other school districts is our plan begins and ends with people.
Technology Planning Framework

Since July of 2005, the Natick Public School has been using the following framework for Technology Planning. It is an iterative process and sometimes takes years to complete a full cycle. The framework has been extremely helpful in guiding and gauging our progress:

Technology Planning Framework

1. Assessment
2. Team Building
3. Invest in the Back End Solutions
4. Invest in the Front End Solutions
5. Invest in Training and Support
6. Collaborate on new Technologies and Expectations

Assessment
The Technology Director conducts regular audits and assessments of our technology environment and frequently includes findings in our annual technology plans. These audits uncover a variety of issues and potential risks. It documents recommendations made, action taken and results achieved. It is these audits that still guide much of our technology planning today.

Team Building
In order to address concerns discovered in any audit, and ensure the proper resources are in place to manage the technology environment in both the short and long term, a technology staffing plan was defined and is included as Appendix A in this year’s plan. A process of restructuring and recruiting is sometimes necessary to ensure we have a team of talented individuals in place, ready, willing and able to continue moving our technology efforts forward.

Invest in the Back End Solutions
Before we can address the needs of students and teachers directly in the classroom regarding technology we need to have a solid foundation on which to build on. Sometimes audit concerns require changes to our backend infrastructure to support the goals and initiatives we want to achieve in the classroom.

Invest in the Front End Solutions
Investing in the front end is simply investing in the teachers and the students. It means investing in the classroom, in the things we all see and touch. It is the most visible area of our technology environment and it is the most widespread. The front end encompasses all the computers and software used by students, faculty and administrators. It includes all the physical devices we see such as printers, scanners, digital and video cameras, projectors and also the more progressive technology we have been piloting such as interactive white boards.

Since these front-end technologies include so many touch points, it is also the most expensive and dynamic. It will require a significant amount of planning, funding and a review of all technology resources. It will require collaboration with students, parents, teachers, administrators and members of the community. It will require an expansion of the technology planning process that doesn’t exist today so that all these groups have a voice toward our future direction.
Invest in Training and Support
As the building blocks are put into place, the faculty and staff need to be given frequent opportunities to master their technology skills so that they can effectively use them in the classroom. The faculty need to feel confident that the district will fully support technology before we will see its use expanded into the curriculum. As our technology staffing plan indicates (Appendix A), a dedicated resource has now been allocated to this function, as it has become a standard practice within the Natick Public Schools.

Collaborate on new Technologies and Expectations
As we meet objectives previously identified, our needs and expectations as a community will continue to rise. On a regular basis, we need to look beyond our daily activities and seek out what are the next rounds of challenges we need to face. As we do this, the framework begins a repetitive process as we need to re-assess where we are, identify we have the proper staff to get to the job done, make back end adjustments as we consider and implement new front end technologies, ensure people have the opportunity and training to master the technology and then look outside the box for the next wave of expectations.
2008 – 2009 School Year Improvements

**Completed Initiatives Summer and Fall of 2009:**

1. **Implementation of Virtualization Technologies**
   - Upgraded our backend technology architecture to take advantage of virtualization solutions offered by VMware. The efficiencies gained by deploying this technology allow us to:
     - Add redundancy where needed without the cost of buying additional hardware.
     - Retire older servers rather than incur the cost of replacement.

2. **Upgraded Email System**
   - Retired old First Class system.
   - Assigned new email addresses and new domain: natickps.org
   - Old email addresses forwarding to new email system for 1 year.
   - Implemented new archiving system of all email going forward for compliance.

3. **Added Internet Capacity**
   - Added 50% more capacity to the District Internet Connect – (Now 30 MB)

4. **Upgrade of Wiring Closets**
   - All equipment was replaced with faster switches (1GB POE HP Pro-Curve Switches – Lifetime Warranty) to improve network reliability and performance at both Memorial Elementary and Kennedy Middle School.

5. **New Point of Sales Systems**
   - High School and Middle School – Implemented in November.
   - Elementary Schools to be scheduled later this school year.

6. **Computer Updates District Wide (1500 Computers)**
   - Teacher Laptop Software Refresh
     - Microsoft Office 2008
     - Data now encrypted on all laptops
   - Windows Machines
     - Microsoft Office 2007
Technology Fundraising Summary

Last school year through collective efforts of school district administrators, members of the Parent Coordinating Council, the Natick Education Foundation, parents and many local businesses fund raising efforts were put in place to further fund the needs of technology within the Natick Public Schools. The “Taste for Technology” fundraiser raised over $35,000 in its first year and one local business Cognex made a multi-year contribution of $10,000 a year for the next five years.

With this kind of support from the community we were able to obtain and deploy the following equipment to each school:

<table>
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<tr>
<th>School</th>
<th>Results Achieved</th>
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<tr>
<td>1. Elementary Schools</td>
<td>Each elementary school received 1 document camera and 4 LCD projectors.</td>
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<tr>
<td>2. Middle Schools</td>
<td>Wilson – 1 Interactive Whiteboard, 4 LCD projectors.</td>
</tr>
<tr>
<td></td>
<td>Kennedy – 2 Interactive Whiteboards, 1 Document Camera.</td>
</tr>
<tr>
<td>3. High School</td>
<td>1 Interactive Whiteboard</td>
</tr>
<tr>
<td></td>
<td>1 Document Camera</td>
</tr>
<tr>
<td></td>
<td>2 LCD Projectors</td>
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<tr>
<td><strong>District Totals</strong></td>
<td>4 Interactive Whiteboards</td>
</tr>
<tr>
<td></td>
<td>7 Document Cameras</td>
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<tr>
<td></td>
<td>26 LCD Projectors</td>
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# Technology Funding Summary

## Technology Replacement Funding 2009 – 2010 School Year
as of 4/26/2010

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<th>Cost Estimate</th>
<th>Actual Cost</th>
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<tr>
<td>1. Fund Year 2 of Laptop Lease</td>
<td>Annual payment needed to fund lease of laptops purchased for teachers and</td>
<td>$203,000</td>
<td>$203,000</td>
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<tr>
<td></td>
<td>elementary students.</td>
<td></td>
<td></td>
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<tr>
<td>2. Pilot Managed Wireless Infrastructure</td>
<td>Project deferred due to change in priority to ensure all teachers have laptops.</td>
<td>$70,000</td>
<td>0</td>
</tr>
<tr>
<td>3. Pilot Mobile Devices</td>
<td>Project deferred due to change in priority to ensure all teachers have laptops.</td>
<td>$30,000</td>
<td>0</td>
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<tr>
<td>4. Wiring Closet Upgrades</td>
<td>Upgraded and replaced old updated wiring closet hardware at both Memorial</td>
<td>$69,000</td>
<td>$71,000</td>
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<td></td>
<td>Elementary School and Kennedy Middle School.</td>
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<td>5. Funding Added</td>
<td>Funding added back to Replacement Account – Restoration of budget cut.</td>
<td>$44,500</td>
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**New Initiatives Added due to Priority and Available Funds:**

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<th>Results Achieved</th>
<th>Cost Estimate</th>
<th>Actual Cost</th>
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<tbody>
<tr>
<td>6. Expanded Laptop Rollout</td>
<td>Expanded rollout to include teaching positions that were not considered in initial laptop rollout. Many of the specialist’s roles such as Art, Music Physical Education and Special Education were reconsidered and expanded.</td>
<td>69,000</td>
<td></td>
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<tr>
<td>7. Replacement Desktop Computers</td>
<td>Additional desktop computers were purchased to replace broken and aging computers throughout the district.</td>
<td>22,000</td>
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<tr>
<td>8. Storage &amp; Backup Capacity</td>
<td>Additional storage and changes to our backup regiment were necessary to due to increased usage of laptops by our faculty and staff.</td>
<td>13,000</td>
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<td>9. Intranet</td>
<td>The need for a collaborative environment to share electronic information within the district has become a bigger need as we continue to focus more of our attention on Professional Learning Communities and Professional Development of our staff. This funding was needed to purchase servers to create this environment.</td>
<td>14,000</td>
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## Funding Summary

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<td>$416,500</td>
<td>$392,000</td>
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<td></td>
<td>$24,500</td>
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Current Environment and Challenges

TECHNOLOGY STAFFING
Our Technology team manages the technology needs of the entire school district, serving approximately 700 faculty and staff and over 4600 students. The team today consists of individuals whose jobs focus in the following areas:

- Help Desk
- Network Administration
- Training
- Data Base Administration and Reporting
- Web and Internet Technologies

Over the last five years, the Technology Team has worked on and accomplished many district objectives by working closely and collaboratively with faculty, staff, administrators, parents, students, and many other members of the Natick Community. Our goal is to provide daily support and solutions that enhance and enrich our educational mission. A current technology staffing organizational chart is provided in Appendix A.

Below is a brief list of some of these accomplishments:

- Provide the most basic of services such as file storage, backup, robust internet access, network security, new websites, implementation of a new Student Information System, a new Point of Sales System for all school lunch programs and an upgraded Library Circulation System district wide.

- As our backend work has progressed, the Technology team has been able to shift much of its focus in the areas of Professional Development of the faculty and staff and into implementing strategies to replace much of our front-end technologies; the technologies in use within our classrooms that are used by both students and teachers on a daily basis.

PROFESSIONAL DEVELOPMENT
In the area of Professional Development we conducted our first ever district wide Technology Day in September 2009. All school district employees attended this all-day workshop, which offered everyone opportunities to enhance their technology skills sets. Workshop offerings varied from Multi-Media Creation, to Teacher Web Page Design, On-Line Learning using Moodle, Email using Entourage, Tips on Using our Student Information Systems, to using other On-Line searching tools such as Nettrekker to name a few.

In addition, the Natick Education Foundation made an announcement to kick-off the Technology Day with a $40,000 grant that it gave to the Natick Public Schools to continue our work on developing additional Professional Development opportunities that would enhance teacher’s use of technology throughout the district. With these funds the district has awarded stipends to teachers who are interested and able to teach technology oriented workshops outside of the school day to help other teachers move forward with learning specific technology skills and strategies for using them in their daily practice. Some of the workshops created through this program include:
Using your MAC Effectively
Using Blogs
MS Word Fundamentals
MS Excel Basics
MS PowerPoint Fundamentals
IPhoto
IMovie
IDVD
GarageBand Podcasting
GarageBand for Music
Intro to Moodle and Blended Learning
Using Excel – Data Driven Instruction
Using Google
Using Survey Monkey

CLASSROOM TECHNOLOGIES & FUNDRAISING
As mentioned earlier in the fundraising summary page a number of projectors, interactive whiteboard, and document cameras have been deployed to our schools. In addition, earlier this school year funds became available to invest in two mobile iPod touch labs; one was deployed to each of our Middle Schools following a training session and introduction to our faculty and staff.

Due to the poor economic conditions no official fundraising was conducted for technology initiatives this year. We however did have the second year of a multi-year donation made by Cognex in the amount of $10,000. These funds will be used to provide more interactive technologies for each of our schools.

TECHNOLOGY INFRASTRUCTURE
The district maintains approximately 1600 computers and roughly 1/2 of these devices are laptop computers. The majority of laptops are deployed to faculty and staff to ensure teachers have tools of the 21st century which is essential if our expectations are that technology be integrated into as many areas of the curriculum as possible. Our long-term vision, which we share with our Superintendent Dr. Peter Sanchioni, is to establish 1 to 1 initiatives with our students. But first, we need to ensure our teachers; the ones leading and guiding the educational experience in the classroom are provided the tools, training and opportunities to master these skills so they have the confidence to integrate them into routine daily classroom use.

These laptops have given teachers the ability to work with current technologies and the flexibility of doing so anywhere their work takes them. Whether it is conducting a videoconference with students from remote locations, using updated web technologies to communicate and share information with both students and parents, truly effective technology changes the way we do things. This can now be seen in the administrative side of teachers’ and administrators’ jobs as much more efficient and cost effective ways of distributing information is now in use than ever before; weekly email blasts from all schools to interested members of the Natick community, automated calls from our ConnectED System to quickly notify parents and staff of timely information as the need arises, providing web based access of student attendance, grades and discipline from our Student Information System, and with continued enhancements being made to our websites; use of the “Virtual Backpack” concept at all schools and teachers providing additional content to students and parents via Teach Web Pages.
In addition to these 1600 computer devices, the technology team also continues to support hundreds of networked printers and numerous other computing devices located within 9 buildings: one high school, two middle schools, five elementary schools and central office staff within the Town Hall.

All school and town buildings are interconnected by a fiber based network that enables us to provide centrally managed services, such as robust internet access, to all school district employees and students from the High School where the technology team is based. This strategy has allowed us to implement solutions once and provide them throughout the district without having to re-invent the wheel at each school.

Our backend infrastructure is constantly changing and evolving to adapt to the growing needs of the school district. Virtualization technologies are being introduced to help add both redundancy and maximize the utilization of all backend devices. Our backend is based on well known industry standards utilizing solutions from Microsoft, Apple, Dell, Cisco, HP and Sonicwall to name a few.
Next Steps – Implementing a District Wide Digital Conversion

Certainly the big news this year was passage of the new High School project by Natick residents. It is a challenging project but it is much more than a new brick and mortar building. It’s much bigger than just building a single school. It’s about rethinking and building the finest 21st century learning environment for all our students.

As we meet and work with community members, building architects, various vendors and trade people and visit other school districts; everything we do is being rethought. If our new High School is to prepare our students for college, the workforce and ultimately to be successful citizens in our society then what skills do they need to achieve true happiness and success?

Our district must undergo a digital conversion at all levels. We must use the tools of the 21st century if our students are to develop 21st century skills.

Below are main themes we will continue to focus on during the next several years to ensure a district wide approach is taken and all our students benefit:

1. Faculty Creation of Digital Content
2. Creating and Extending the 21st Century Learning Environment
3. Focused Professional Development
4. Other Plans this Year

1. FACULTY CREATION OF DIGITAL CONTENT
All faculty and staff have been given school issued laptops within the last two years and numerous opportunities to learn the various ways of creating and converting to digital content. We will continue to re-enforce this through additional professional development offerings, as digital content needs to be created so students have digital resources to support the learning process. This will be done at all levels.

2. CREATING AND EXTENDING THE 21ST LEARNING ENVIRONMENT
As we create digital content for students and teachers to use in the learning process we need a digital repository for them to store, access, organize and collaborate.

To do this we are exploring two new environments:

GOOGLE APPLICATIONS FOR EDUCATION
Google offers a suite of web-based applications for educators and students that include email, calendar, document creation and sharing and websites to name a few. Our plans are to pilot as many of these features as possible next
school year and see how teachers and students benefit from this environment.

**MOODLE**
Moodle is a web based Learning Management System that we started a pilot on back in July of 2009. It gives teachers the ability to conduct classes with students on-line or in blended environments; to supplement a traditional face-to-face class. To date we have offered courses via Moodle at both the High School and Middle School level. Below is a brief list of the courses we’ve offered to date on Moodle:

**Middle School Classes – Wilson Middle School**
- Earth Science – Grade 8
- Spanish – Grade 8
- Honors Algebra – Grade 8
- Ancient Civilizations – Grade 6
- Language and Literacy – Grade 8
- Music Elective – Grade 7 & 8
- Physical Science – Grade 7
- Integrated Algebra and Geometry – Grade 8
- Technology Education (Civil Engineering) - Grade 6
- Technology Literacy – Grade 7
- World History I

**High School Classes – Natick High**
- AP French
- Espanol 4.0 La Cultura Laninoamerica
- A+ Certification
- Cybercrime and Security
- Robotics
- Succeeding with Technology

Moodle is an Open Source product so it offers a lot of value at very little cost. Moodle is also an environment all teachers can use to house digital content. As we move forward with use of technology in our schools it’s important to have one place that teachers and students can use as a digital repository. Moodle has this capability, in fact we have also started to use it for administrative purposes as well as it provides much the same functionality that most intranets do and gives administrators, faculty and student a home to store digital content and collaborate in a secure and separate space that teachers use with their students. Moodle is widely used in K12 and higher Education environments and has huge potential to extend student learning beyond the classroom as it can be accessed anywhere an internet connection is available.

### 3. FOCUSED PROFESSIONAL DEVELOPMENT
To continue to prepare our High School faculty and staff for a new High School that will be rich in new technologies we are building a Technology Model Classroom this summer which will incorporate many of these technologies. This room will be available for High School teachers to bring their students over the next two years so they are better prepared for the new building and the opportunities that it will bring. This room will be equipped with the latest in interactive whiteboard technology, wireless internet access, mobile laptops and a document camera at a minimum.
In addition we are revising the High School schedule so that departments will have common time to attend additional professional development during the school day to further explore and enhance technology use. We strongly believe regularly scheduled professional development to be the key to ensuring our transformation into the digital world is happening in each and every classroom.
4. OTHER PLANS THIS YEAR

INFRASTRUCTURE
As we work with the technical designs of the new High School we want to implement as many of the same concepts throughout the district as much as possible. This will help all our students prepare for the digital world of not just today but also what it may look like tomorrow.

The new High School environment will be a completely wireless environment. Plans are already in place to begin implementing a managed wireless environment this summer at both our Wilson and Kennedy Middle Schools. The following year our plans are to add additional wireless capacity to both Middle Schools and also to introduce wireless at all Elementary Schools. This plan would have us implementing a wireless infrastructure in all of our schools by the time the new High School opens.

CLASSROOM TOOLS & TECHNOLOGIES
By the time the new High School opens the laptops we leased for our faculty and staff will be 5 years old. We own them and we’re currently reviewing plans to refresh these devices by this time. When this is done, those 5-year-old laptops will be reallocated to other schools and replace all of the equipment exceeding five years. This would be the first time all devices in the school district would be 5 years old or less.

As we move forward with our planning process we are also reviewing options to provide students mobile devices for grades 8 thru 12 by the time the new High School opens. From all the school districts we visited that are providing students devices the most successful ones provide the same device to both the teachers and the students. This minimizes surprises and allows the students and teachers to focus more on the learning and less on the tools.
## Plan for 2009 – 2010 School Year

<table>
<thead>
<tr>
<th>Objective</th>
<th>Recommended Action</th>
<th>Comments</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Equipment Replacement</td>
<td>Fund annual replacement of technology equipment before major failures occurred.</td>
<td>Details are disclosed on Technology Funding Summary page.</td>
<td>$416,500</td>
</tr>
<tr>
<td>2. Technology Professional Development</td>
<td>Develop a program to continuously develop technology skills of the faculty and staff.</td>
<td>Grant of $40,000 was awarded to the Natick Public Schools from the Natick Education Foundation to dedicate to this effort. Plan being developed to encourage teachers to create and teach other teachers technology skills.</td>
<td>Private Funding</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$416,500</td>
</tr>
</tbody>
</table>
## Plan for 2010 – 2011 School Year

<table>
<thead>
<tr>
<th></th>
<th>Objective</th>
<th>Recommended Action</th>
<th>Comments</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fund Year 3 of Laptop Lease (Final Year)</td>
<td>Annual payment needed to fund lease of laptops purchased for teachers and elementary students.</td>
<td>Needed to maintain the lease.</td>
<td>$203,000</td>
</tr>
<tr>
<td>2.</td>
<td>Implement Managed Wireless Solution</td>
<td>Implement a managed wireless solution at the Middle School level (Wilson &amp; Kennedy).</td>
<td>Provide students and teachers a true 21st century learning environment.</td>
<td>$100,000</td>
</tr>
<tr>
<td>3.</td>
<td>Replacement of Student Computers</td>
<td>Provide a mobile lab of computers to both Middle Schools.</td>
<td>This is the minimum level to continue to allow the curriculum to grow and provide students opportunities to use advanced technology.</td>
<td>$97,044</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td>$400,044</td>
</tr>
</tbody>
</table>
## Plan for 2011 – 2012 School Year

<table>
<thead>
<tr>
<th>Objective</th>
<th>Recommended Action</th>
<th>Comments</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Implement Managed Wireless Solution</td>
<td>Implement a managed wireless solution at the Elementary level. (Ben-Hem, Brown, Johnson, Memorial and Lilja)</td>
<td>Provide students and teachers a true 21st century learning environment.</td>
</tr>
<tr>
<td>2.</td>
<td>Wiring Closet Upgrades</td>
<td>Needed at Brown, Lilja and Wilson to support wireless deployments.</td>
<td>These are the schools still in need of closet work.</td>
</tr>
<tr>
<td>3.</td>
<td>Expand Managed Wireless Solution</td>
<td>Expand wireless solution at the Middle School level (Wilson &amp; Kennedy).</td>
<td>Add additional capacity to prepare for 1 to 1 initiative at 8th grade level.</td>
</tr>
<tr>
<td>4.</td>
<td>Replacement of Student Computers</td>
<td>Review all computers available for student use and replace the oldest and most needy equipment.</td>
<td>Need to review age of equipment and keep within 5 years in order to meet basic educational needs.</td>
</tr>
</tbody>
</table>

**Total** | **$400,044** |
Summary

It’s no secret; the key to a successful educational system is having dedicated individuals that want to make a difference and strong support from the community in which we work. Here in Natick we have very strong support for all that we do and we thank each and every one of you for your continued support, feedback and collaboration.

Technology continues to change and we need to continue to find ways to accelerate, to raise the standards and expectations of the Natick educational system.

As we continue with our digital conversion over the next few years you will continue to see a focus on Professional Development, Infrastructure and Tools and Technology for the Classrooms. We will continue to focus on making the most significant district wide impact so that all students benefit.

Over the next couple of years there will be a lot of attention given to the new High School but our focus is much broader than a single building or any single initiative. Our entire educational system is being rethought.

I would like to continue to encourage those of you in the community to contact me directly if there is anything you see that interests you or if you simply want to help move our schools forward.

Some of our best ideas come from those we serve.

Sincerely,

Dennis E. Roche, CISA, CISM
Director of Technology
Natick Public Schools

droche@natickps.org
508-647-6400 x1727
Appendix A – Technology Staffing Plan

Natick Public Schools
Long Range
Technology Staffing Plan

Help Desk Support Team
- First Line of Defense
- Hardware & Software Repair
- AV & Computer Technologies

Technology Director

Technology Training
- Faculty Training Programs
- Classroom Technologies

Network Administration
- Network Infrastructure
- Data Protection & Security
- Performance Monitoring Projects

Data Base & Development
- Database Administration
- State and Internal Reporting
- Web Development

Help Desk Support Team
Natick Public Schools
Current Technology Staff
2009 – 2010 School Year