CROTON-HARMON

Union Free School District

Comprehensive Technology Plan
2015-2018

Adoption Date: October 8, 2015

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Croton Harmon School District
Comprehensive Technology Plan
2015-2018

District Mission

The Croton-Harmon School District is committed to...

- Challenging all children with high expectations.
- Including parents and the wider community as partners in this endeavor
- Fostering a climate of mutual respect.
- Having teachers play a strategic role in students' education.
- Developing student skills that will enable them to meet responsibly the challenges that lie ahead of them.
- Croton-Harmon School District graduates will develop into effective communicators, researchers, and problem solvers, individuals who are independent learners and assume responsibility for their own learning and behavior.

Technology Vision Statement

We envision an educational environment which utilizes technology to prepare students to be lifelong learners and productive, responsible members of their community and active participants in a changing, information-based, global society.

- Technology will support and enhance learning in order to achieve the district goals of helping each student to become an effective communicator, creator, collaborator and critical thinker.

- A district technology plan will provide for the safe and equitable access to modern technology with professional development and ongoing support in keeping with the district educational mission and vision.

Executive Summary

Between the years 2010-2015, the Croton-Harmon UFSD migrated to a Windows based network, appointed a Director of Technology to coordinate district technology initiatives and contracted with a third party vendor, Edu-Tek to manage and maintain technical support district wide. The District Technology Committee which was initially formed during the 1996-97 school year has been reconvened to promote an integrated well-coordinated modern district technology program which aligns with the district vision and mission. The Committee's responsibilities include the following:

- Articulate a vision for the role that technology plays in instruction.
- Maintain an updated comprehensive technology plan that aligns with district goals.
- Define the hardware and software environment to achieve technological goals and evaluate the level of support that is needed to maintain them.
- Ensure there are provisions to maintain an up-to-date inventory of technology hardware and software available in the district.
- Recommend professional development opportunities to support teachers.
- Present the Technology Plan to the staff, parents, and the Board of Education.

The District Technology Committee will meet three times a year with a committment to increase learning for all in the areas of quality curriculum, instruction, assessment, and the integration of technology into quality learning experiences as well as promoting a school environment where everyone including students, parents, and staff members feel valued, respected and safe. The work for the 2015-16 school year will be on Digital Citizenship. The committee will be putting forth a plan to integrate a digital citizenship curriculum for students and teachers which will incorporate fostering best practice methods for online learning. This plan will support and align with the district vision to ensure that all students will develop the habits of mind and social skills to become lifelong learners, able to contribute to the well-being of society by preparing our students to use technology safely, legally, and ethically in our school systems as well as socially and eventually professionally.

The district plans to increase accessibility by upgrading and increasing ubiquitous wireless access to the internet on all campuses, taking full advantage of cloud based learning and collaboration tools. The district has deployed and will continue to support a wide range of hardware including tablets, chromebooks and laptops so that all students will have equitable access to the best tools available to participate in collaborative

learning, inquiry and student centered learning. The district will continue to provide ongoing support through job-embedded professional development aligned to the Common Core standards.

The Croton-Harmon School District continues to support teachers in creating teacher web pages as well as implementing the recommendations of the recent technology audit to continue comprehensive curriculum mapping, job-embedded professional development, implementing the 4C's (collaboration, critical thinking, creativity and communication) into classroom learning experiences and disseminating a unified vision for instructional technology district wide.

The district website has been upgraded and is now supported by Syntax. Edu-Tek is currently implementing infrastructure changes including: Upgrading the district bandwidth to 1Gbs, upgrading of all switches to support wireless access for all students, reconfiguration of the wireless infrastructure to create redundancy, maintaining all desktops, laptops, tablets and periphery equipment and implementing a new helpdesk system. Additionally, for the 2015-2016 school year, Edutek is installing a MAC server to facilitate easier access on Macs for middle and high school students, upgrading the exchange email system filters and deploying Google Apps for Education district wide.

The Croton-Harmon School District through a BOCES sponsored program has been able to offer our high school student population the option to participate in the many on-line learning opportunities of Virtual High School. The District also continues to expand on the assistive technology initiative by adding more hardware including: I-Pods, I-Touches and Kindles as well as a continually growing e-book (electronic books) collection.

Over the next three years, the district will be working on creating experiential design lab learning spaces where students can work on cross-disciplinary STEM projects. These unstructured learning spaces will help to promote collaboration and innovation in science, technology, engineering and math for our young learners. To complement this initiative, the district is also embracing coding and has implemented new computer science curriculum in the high school to be introduced in the fall of 2015-16.

District Technologies -

The Croton-Harmon Union Free School district maintains a robust network infrastructure. The workstation cabling consists of a mix of Cat 5E and Cat6 UTP Copper cabling run back to distributed IDFs throughout the buildings. In turn these IDFs are connected to building MDFs via multi-mode fiber cabling. The building campuses are connected via private fiber. IDF switches are stacked to maximize space and power. Workstations switches provide upwards of 1Gbs connections to desktop locations as well as wireless access points and IP telephones. The connections between IDFs and building campuses all run at 1Gbs.

The primary MDF for the district is found at the High School campus and is referred to as the Network Operations Center (NOC). This location houses the physical and virtual servers needed to support the district data and communications systems. Virtual servers are hosted on both VM Ware and Microsoft Hyper-V infrastructures. HP SANs provide the primary storage for all district data including databases and applications. Microsoft Active Directory serves as the network directory for all user and workstation accounts. The district synchronizes its onsite directory with its Google Apps for Education domain every 15 min. District mail is maintained by an on premise Microsoft Exchange server.

The following key systems provide the necessary protection against data loss and corruption:

Firewall:	Fortinet FortiGuard
Content/Spam/Virus filtering:	Lightspeed Systems Rocket
Workstation Antivirus:	Microsoft Forefront
Server Antivirus:	Microsoft Forefront
Data Backups:	Barracuda Backup Appliance with Cloud Storage Subscription

Building Technology

Elementary School Configuration - each classroom is equipped with a presentation station consisting of a desktop computer, document camera and interactive whiteboard and 4 student desktop workstations. Additionally, the building shares 4 laptop mobile rolling carts and 14 mobile tablet carts. There is also a computer lab with 27 desktop work stations and a mobile interactive whiteboard.

Middle School Configuration - each classroom is equipped with a presentation station consisting of a desktop computer, document camera and an interactive whiteboard plus a desktop workstation computer for student use. Additionally, the building shares 18 laptop mobile rolling carts and 6 mobile Chromebook carts. There is a computer lab in the building with 27 desktop workstations and an interactive whiteboard as well as a library lab with 18 desktops, an interactive whiteboard and a mobile laptop cart.

High School Configuration- each classroom is equipped with a presentation station consisting of a desktop computer and interactive white board plus a desktop computer for student use. Additionally, the building shares 13 laptop mobile rolling carts and 5 mobile Chromebook carts. There is a computer lab in the building with 27 desktop workstations and an interactive whiteboard as well as a library lab with 24 desktops, an interactive whiteboard and a mobile laptop cart.

Technology Planning Process

The district technology committee is comprised of stakeholders throughout the Croton school community. The committee addresses the evolving needs of Croton-Harmon in a variety of areas related to the use of technology for instruction. The committee makes recommendations to the administrative council on effective strategies and the application of technology within classroom practice. The committee meets three times a year and reviews and updates the comprehensive technology plan.

Committee Members

Deborah O'Connell	Asst. Superintendent
Diane Chaissan	Asst. Superintendent for Business
Deborah August	Director of Technology
Karen Gatto	Director of Pupil Personnel
Kelly Maloney	Principal, CET
Michael Plotkin	Asst. Principal, PVC
Tara Arturi	Teacher
Noah Gallagher	Teacher
Joseph Streany	Teacher
Jodi Burger	Teacher
Eileen Stark	Teacher
Henry Jaensch	Student
David Windmueller	Community Member
Mark Maxwell	Community Member

Committee Meetings

Dates	Outcomes
October 15,2014	Create schedule for Google Apps for Education Professional Development and launch Google Classroom for grades 5-12.
January 28, 2015	Evaluate, make recommendations and create plan for upgrading of bandwidth and infrastructure.
June 11, 2015	Technology Committee - Set goals and objectives. Review Technology Vision.
September 10, 2015	Technology Committee - Review and feedback on final draft of Comprehensive Technology Plan (CTP).
January, 2016	Benchmark evaluation of CTP using Clarity data.
May, 2016	Benchmark evaluation and update the CTP using Clarity data.

The Curriculum & Instruction Program

The Croton Harmon school district is enhancing curriculum and instruction through the use of technology. The district has established goals to enhance teaching and learning in the areas of quality curriculum, instruction, assessment, and the integration of technology into quality learning experiences. These goals promote a school environment where everyone including students, parents, and staff members feel valued, respected and safe.

To meet these instructional goals the district will focus on implementing the recommendations of the recent technology audit including comprehensive curriculum mapping, job-embedded professional development, implementing the 4C's (collaboration, critical thinking, creativity and communication) into classroom learning experiences and disseminating a unified vision for instructional technology district wide which articulates a clear framework for technology use.

Over the next three years, the district will be working on creating experiential design lab learning spaces where students can work on cross-disciplinary STEM projects. These unstructured learning spaces will help to promote collaboration and innovation in science, technology, engineering and math for our young learners. To complement this initiative, the district is also embracing coding and has implemented new computer science curriculum in the high school to be introduced in the fall of 2015-16.

Professional Development

The instructional technology professional development portion of this plan aligns with the district goals and broader professional development plan in support of teaching and learning in the district.

What		**Dates**
Offer inservice courses for teachers while integrating the 4Cs into the classroom using digital resources.	Director of Technology	Ongoing July, 2015 - June, 2018
Run professional learning communities for small cohorts of teachers to develop mastery using technology around a common instructional goal.	LHRIC Model Schools Core Plus	Spring, 2016, 2017, and 2018
Offer a variety of instructional technology opportunities for teachers and staff that map to district goals and staff professional growth goals.	LHRIC Model Schools Catalog of Offers	July, 2015 - June, 2018

Technology Needs Assessment and Goal Development

A Technology Audit conducted in 2013 by Sun Associates, a leader in instructional technology program review summarized recommendations for strengthening and improving the Croton-Harmon UFSD instructional technology program. Teacher input was an integral part of the audit recommendations. The audit included surveys and focus groups to identify areas for improvement. Additionally, in the spring of 2015, the district collected surveys from students, teachers, administrators and the parent community using the Clarity Brightbytes digital platform. The goals set below are derived from the data collected in the surveys and the recommendations from both the Technology Audit and the Brightbytes surveys.

2015 - 2018 Goals

Goal 1: Develop and foster best practices in the classroom to promote effective use of the 4Cs tied to instructional goals.		
What	**Who**	**When**
Provide professional development that builds introductory skills and knowledge around effective communication and feedback.	Director of Technology Teachers Administrators Support staff	Inservice courses throughout the year Job embedded PD Grade level team meetings throughout the year. LHRIC Model Schools July 1, 2016 - June 30, 2018
Research and design and implement a project based learning space for personalized interdisciplinary teaching and learning.	Administrative Council	Fall, 2016 - June, 2018
Provide professional development through new experiential learning spaces in a project based personalized environment.	Director of Technology Administrative Council	July, 2016 - June, 2018

Introduce and align instruction with the SAMR Model that ensures appropriate application of feedback and communication strategies within the Google classroom.	Director of Technology Classroom Teachers Administrators	January, 2016 - June, 2017 Inservice courses throughout the year LHRIC Model Schools
Demonstrate and promote effective digital communication throughout stakeholder community.	Director of Technology Building principals Classroom Teachers	September, 2015 - June, 2018 Digital online portal
Use the Clarity data to measure improvement of instructional technology in the classroom.	Instructional Leaders	July, 2015 - July, 2018
Develop and deliver professional development opportunities around the 4Cs that is expanded to effective use of collaboration and critical thinking skills.	Administrative Council	Fall, 2016 - July 2018
Design a Tech Expo to showcase district wide best practices.	Tech Director Tech Committee Building Principals Teachers	December, 2016 December, 2017
Goal 2: Share Information online in a responsible, ethical, and safe way.		
Design a campaign to teach and reinforce digital citizenship skills.	Elementary Assistant principal Director of Technology	October, 2015 - June, 2018
Perform a gap analysis on Digital Citizenship curriculum at the Middle School.	Middle School Assistant Principal Director of Technology	October, 2015

Perform a gap analysis on Digital Citizenship curriculum at the High School.	Director of Technology High School Assistant Principal	October, 2016
Evaluate & modify effectiveness of character ed digital citizenship programs K-12.	Assistant principals K-12 Director of Technology Classroom Teachers	July, 2016 - January, 2018
Pilot integrated digital citizenship lessons in character ed classrooms.	Director of Technology Instructional Leaders Classroom teachers	January, 2016 - May, 2018
Design regular communication to introduce and reinforce best practices around digital citizenship.	Director of Tech	October, 2015 - June 30, 2018
Map digital citizenship best practices within lessons on curriculum maps in grades 5-12	Classroom Teachers Instructional Leaders Director of Technology	January, 2016 - June, 2018
Goal 3: Ensure equitable access to technology with learning opportunities across the curriculum including those with disabilities and english language learners.		
Develop a plan to address the needs of students with disabilities to ensure equitable access to instruction, materials, and assessments.	Director of Pupil Personnel Director of Technology	July, 2015 - June, 2018
Develop, implement a plan to accommodate home access for students based on need.	Director of Technology	July, 2015 - December, 2015
Upgrade district access	Director of Technology	July, 2016 - June, 2018

points in all buildings.		
Inform teachers and administrators of the process for evaluating and requesting instructional software.	Director of Technology Instructional Leaders	September, 2015
Goal 4: Ensure all members of the school community are safe and acting in a responsible manner.		
Expand, replace, and maintain digital security cameras.	Director of Technology Assistant Superintendent for Business Director of Facilities	July, 2015 - June, 2018
Upgrade security badging software.	Director of Technology Director of Facilities	January, 2016

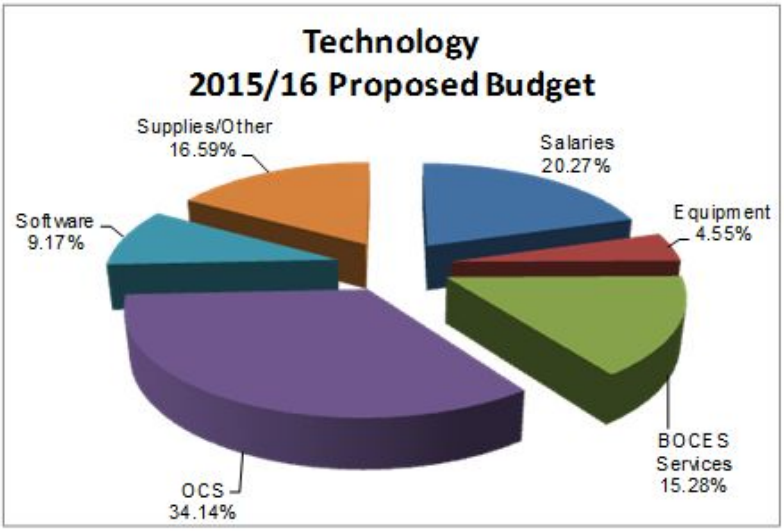
Financial Plan

The Croton-Harmon School District is committed to maintaining technological systems, equipment and professional development for the education of our students and for the staff and administration. To support technology, the Croton-Harmon School District will use several funding sources including: Smart Schools Bond, General fund budget and Erate as applicable. The district will also pursue state and federal grants as they become available as well as possible grants from the local education foundation. In order to avoid spikes in budgetary expenditures, the district relies on a five year replacement schedule for large expenditures such as infrastructure upgrades, replacement of servers and increased bandwidth for internet. The district has also developed a multi-year budget plan to ensure that it can maintain a strong technological environment while staying within the tax levy cap.

2015-16 Technology Budget Plan Information - Funding Year 2015/16

2630-Technology Department- 2015/2016

Account Title	2014/2015 Budget	2015/2016 Proposed	$ Diff.	% Diff
Salaries	171,350	195,850	24,500	14.30%
Equipment	82,608	44,000	(38,608)	-46.74%
BOCES Services	142,021	147,650	5,629	3.96%
Contracted Services	295,964	329,864	33,900	11.45%
Software	50,050	88,607	38,557	77.04%
Supplies/Other	193,552	160,352	(33,200)	-17.15%
TOTALS	935,545	966,323	30,778	3.29%



The Croton-Harmon School District presents the following as the anticipated 2015-2018 Technology Budget:

	2015/16 proposed	2016/17 proposed	2017/18 proposed
Infrastructure Equip.	**24,000.**	**24,960.00**	**25,958.40**
Bandwidth/Connectivity	**60,000.**	**62,400.00**	**64,896.00**
Hardware/Devices	**187,352.**	**194,846.08**	**202,639.92**
Boces Services - includes *professional development, & district reporting systems*	**147,650.**	**153,556.00**	**159,698.24**
Contracted Services- *operations costs for infrastructure and salaries for technical staff*	**458,714.**	**477062.56**	**496,145.06**
Peripherals	**30,000.**	**31,200.00**	**32,448.00**
Software	**88,607.**	**92,151.28**	**95,837.33**
Total	**996,323.00**	**1,036,176.00**	**1,077,622.96**

Appendix A:

Equipment and Software Inventory

Inventory:
https://docs.google.com/spreadsheets/d/1bGwylQuQRfiPejNetrgrTGtHRalnFqTk2QTO4oN_NIU/edit?usp=sharing

Software:
https://docs.google.com/spreadsheets/d/1mS7nw2QTSJvHBL000AOjF17rGN4-wNNBrUuHQbzoFbA/edit?usp=sharing

Appendix B:

Professional Development Plan

http://croton.syntaxny.com/Assets/District_Links/2014-2015_Croton_Harmon_Professional_Development_Plan_-Approved_7-8-14.pdf?v=573

Appendix C - Policies

AUP-

Policy -
http://www.chufsd.org/Assets/Technology_Department_Documents/Policy4526-R--AcceptableUseforComputerandInternetAccessRegulaionFINAL3-12-15(2).pdf?v=16

Contract -
http://www.chufsd.org/Assets/Technology_Department_Documents/AUP_Contract_2015_(Fill_in_Form).pdf?t=635702373587930000

Internet Safety/Cyber Bullying -

http://www.chufsd.org/Assets/Policy_Corner/Policy_5300--Code_of_Conduct_%28REVISION%29_FINAL_8-7-15.pdf?t=635748124512970000

Parent Bill of Rights -

http://croton.syntaxny.com/Assets/District_Links/04_required.pdf