

iPad Evolution at Gateway School District



Jesse C. Smillie
Gateway School District



<https://bit.ly/psumac2019-389>

This Presentation and any Scripts mentioned will be available on GitHub:

https://github.com/JCSmillie/PSUMacAdmins2019_iPadEvolutionsGSD

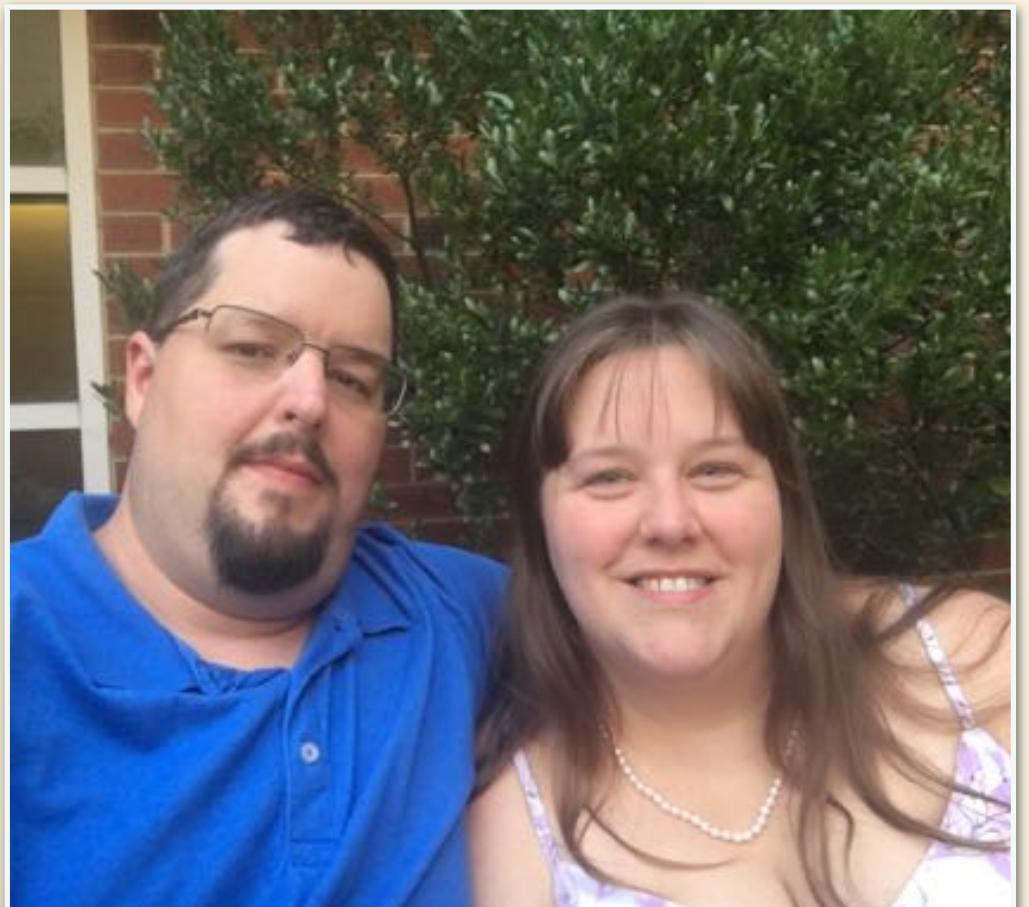


Me



My Love for Computers
starts here

Got Encouraged Here →



What was a Hobby
turns into work in 99'

And GSD introduced
me to Apple on work day 1



About Gateway

- ❖ Located in Monroeville, Pennsylvania (just outside Pittsburgh)
- ❖ 3,200 Students across 4 elementary schools, 2 middle schools, and 1 high school
- ❖ 330 Teachers / 600 Staff Total
- ❖ MacBook Pros (2017) for all teachers:
Mac OS (70%)/Windows 10 (30%)
- ❖ iPad 5th gen or better for Teachers who want them



IT Department of Gateway

❖ 1 Director



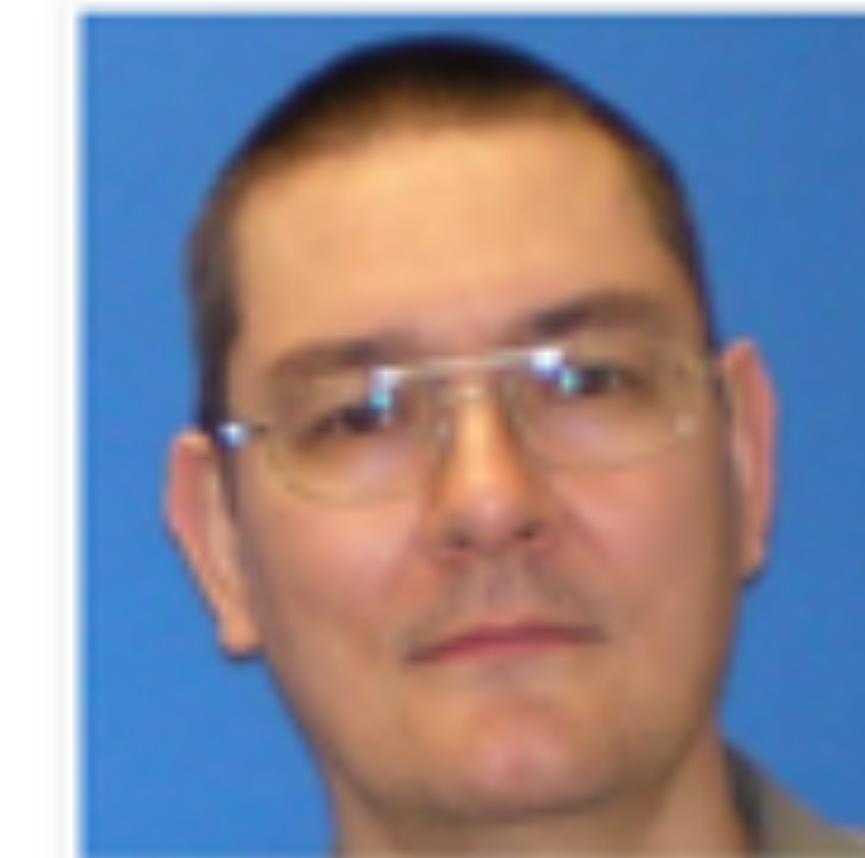
Michael Brown

Director of Technology

✉ Email Michael Brown

📞 412-373-5716

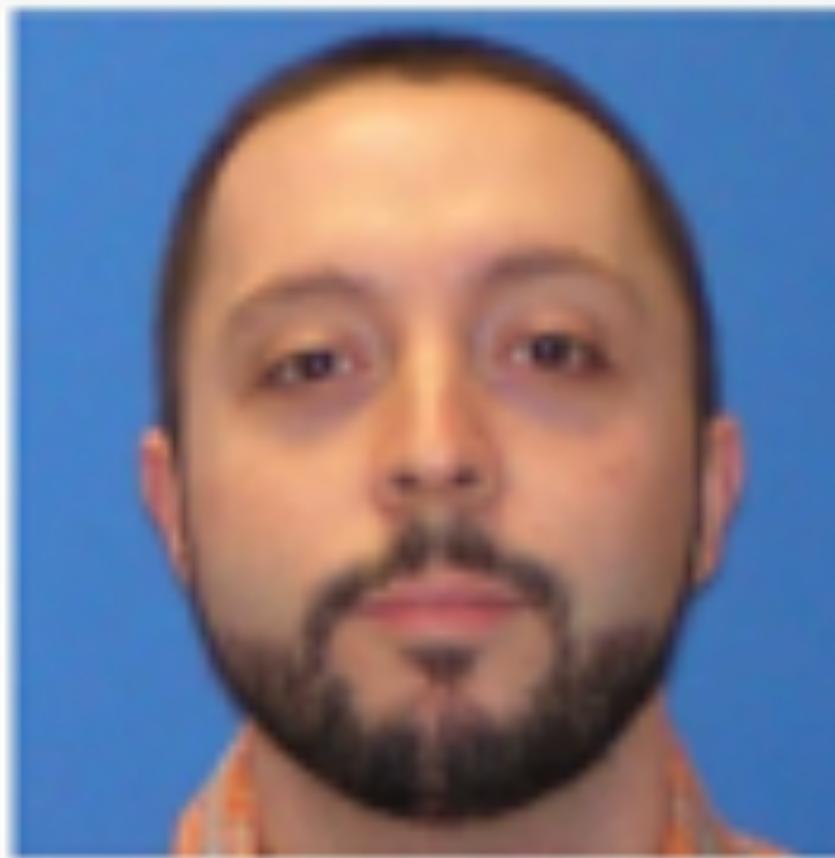
❖ 3 Technicians



Barry Podunavac

IT Support Technician

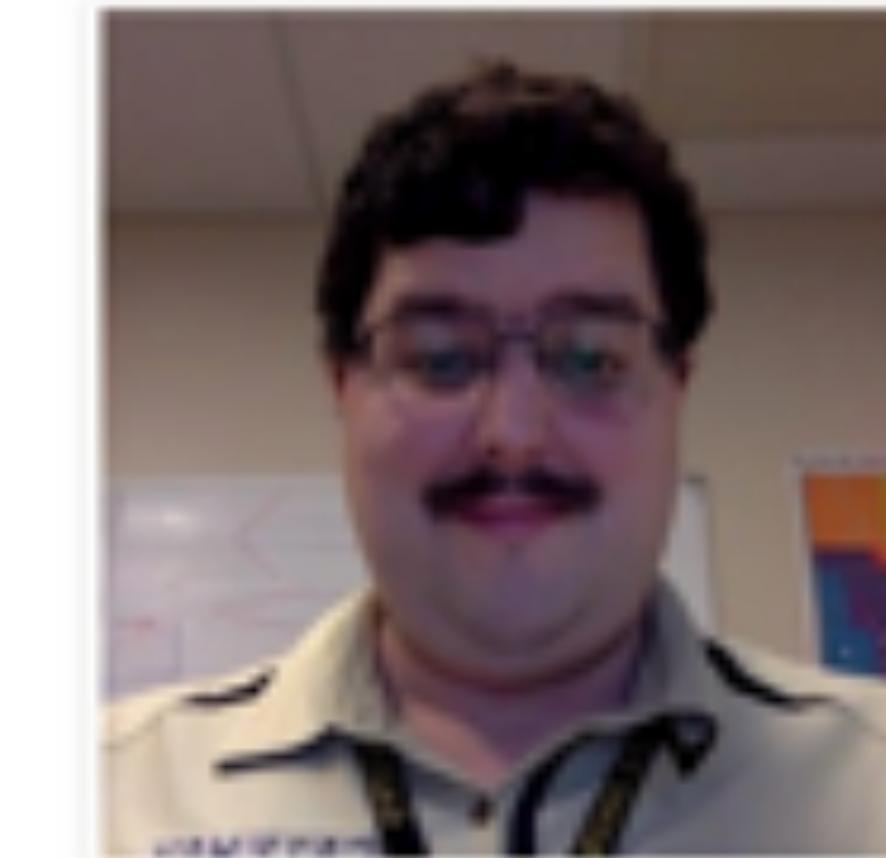
✉ Email Barry Podunavac



Sean McMahon

Technology Assistant

✉ Email Sean McMahon



Jesse Smillie

Mac & Linux Operations Engineer

✉ Email Jesse Smillie

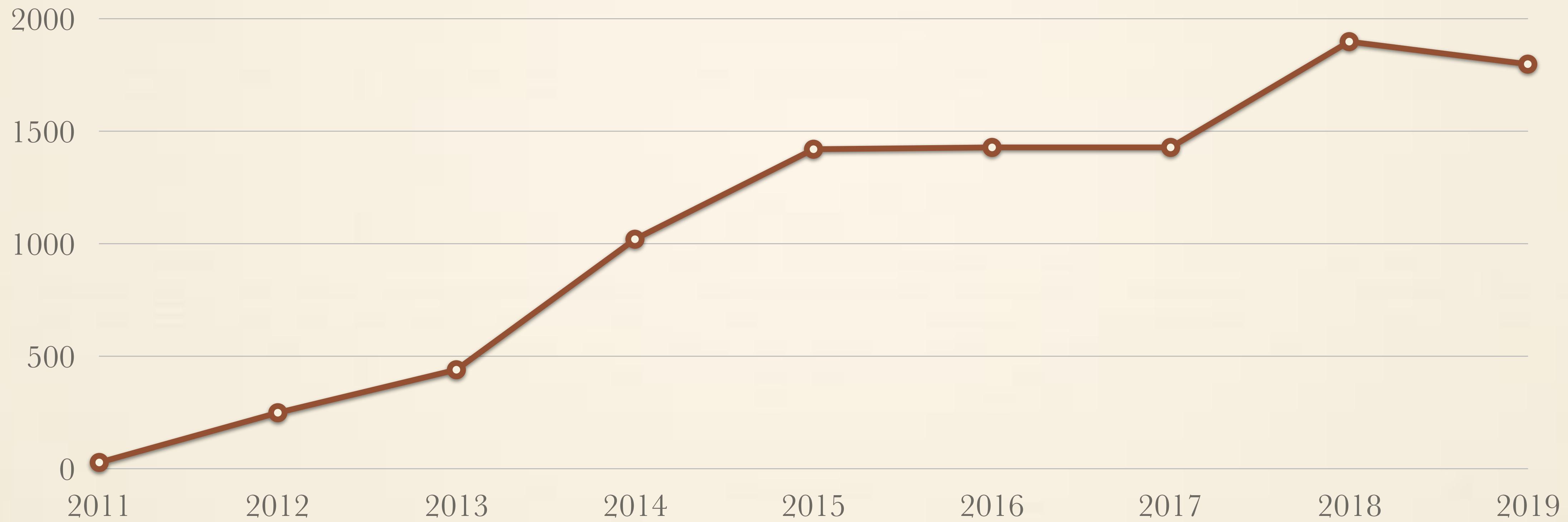
📞 412-858-0453

Technology Deployed at a Glance

- ❖ Shared-mode iPads in each Elementary (x240) with x60 shared MacBook Airs (2013) and x30 shared ChromeBooks
- ❖ Moss Side Middle is 1:1 with 600 iPads since the 2017-2018 school year.
- ❖ Gateway Middle 200 ad hoc shared iPad4s, x60 shared-mode iPad6s, 100 Windows laptops, and 300 ChromeBooks
- ❖ Gateway High School: Basically Windows Land
- ❖ All Apple hardware is enrolled in JAMF Pro since April 2012.
 - ❖ Premium Support Customer since October 2018



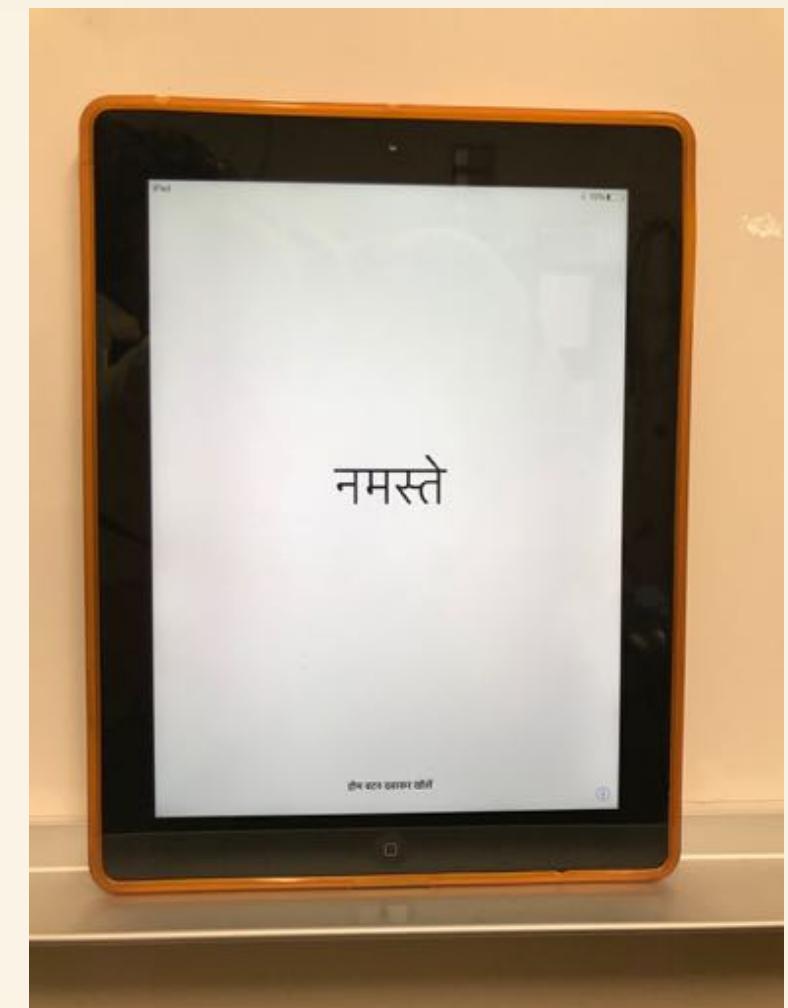
iPad Growth in the District



Our 1st Try at 1:1-> GMS

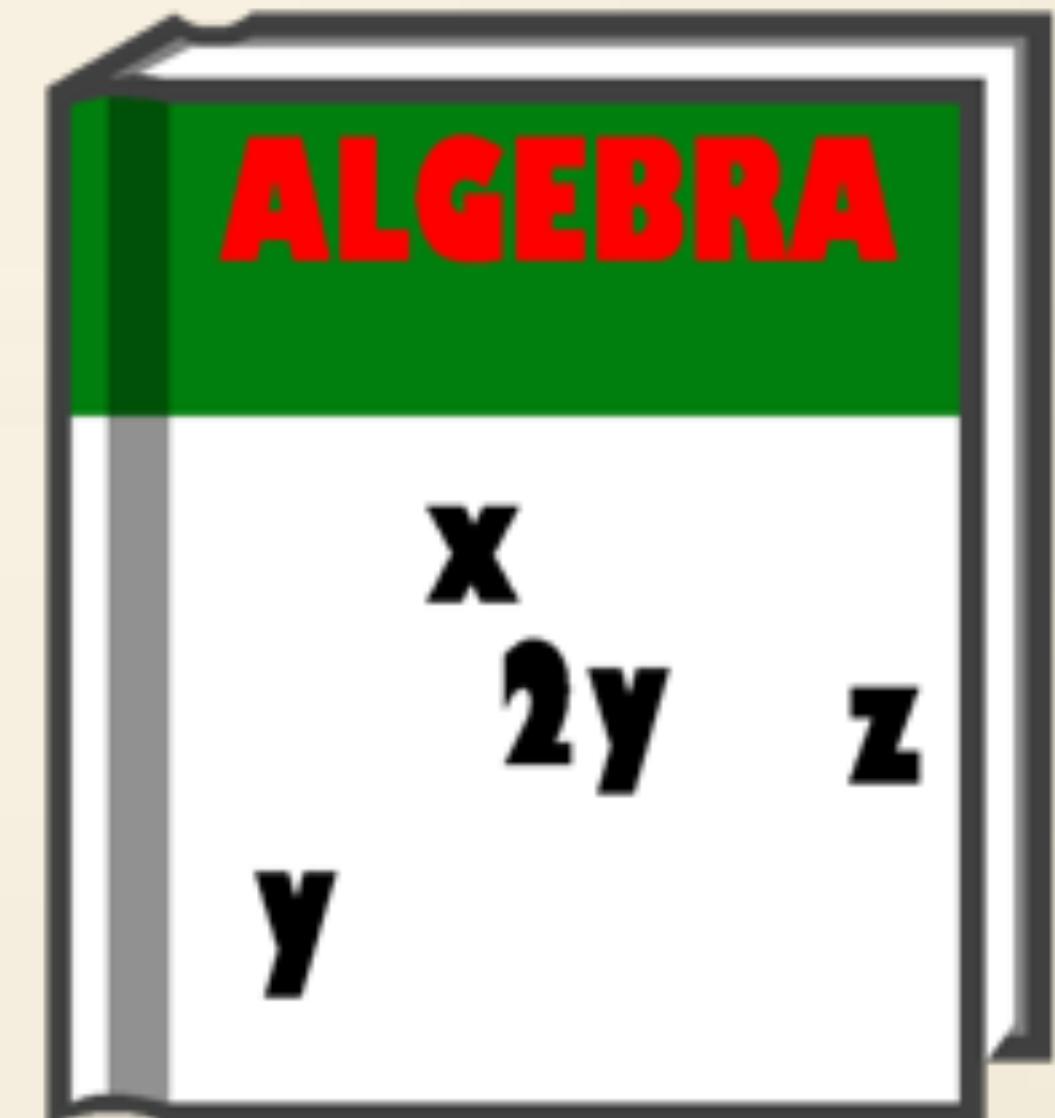
Summer 2014

- ❖ 300 iPad4 16 GB Wi-Fi units for 8th grade and select 7th graders (Gifted Students.)
- ❖ iOS 7.1.2
- ❖ Orange gel cover cases utilized
- ❖ Dedicated MacMini for GMS iPads to connect to for MDM.



Reasons Behind Purchase

- ❖ AIU offered free Algebra I book in PDF to be deployed to all units.
- ❖ Offset cost of purchasing books...



Deployment Plans

- ❖ Students will authenticate to Wifi and MDM with their email address.
- ❖ Student Apple IDs done through deploy.apple.com
- ❖ Prerequisites to receive an iPad:
 - ❖ Moodle course completion
 - ❖ Apple ID setup completed by parent
 - ❖ Opt in or out for GSD Insurance on device
 - ❖ Physical printed paperwork turned in to building secretary

Student AppleIDs

- ❖ Apple's 1st foray into any sort of institute-organized Apple IDs done through deploy.apple.com
- ❖ Import spreadsheet to create accounts.
- ❖ Parent gets email. Parent follows through process to setup account.

Student's temporary password: OP05X\$84@h

Dear Parent or Guardian,

We are excited that your student will be using an iPad as a part of your school's program. We know that as a parent or guardian, you want the best learning environment for your student—one that makes learning personal for each student and allows for creativity, collaboration, and critical thinking.

Please read this email carefully as it contains important information and instructions.

Apple ID for Students
As part of this program, your student will have an Apple ID—an account with Apple that provides easy access to school materials, like documents and textbooks. An Apple ID also gives students access to iCloud, so they can access content on multiple devices and stay up to date from anywhere.

For students under the age of 13, we must obtain your verifiable parental consent before we can create an Apple ID for your student. This is in compliance with the Children's Online Privacy Protection Act (COPPA). You will provide your parental consent by agreeing to the Parent Privacy Disclosure and Consent online.

For students under 13, the following features will apply:

- No credit card is required to set up the account.
- Limit Ad Tracking is turned on for the account to ensure the student does not receive targeted advertising from Apple.
- The accounts are unable to opt in to receive marketing materials from Apple.
- Parents and guardians are notified of material changes to the service or issues with the account.

For more information on Apple IDs For Students, please see the [Parent Guide](#).

Creating an Apple ID
To create an Apple ID for your student, go to our [online consent form](#) and enter the temporary password included at the top of this email. Provide the information requested, and you will then be asked to review and agree to the iOS, iCloud, Game Center, and iTunes Store terms and conditions, Apple Limited Warranty as well as the Apple Privacy Policy and the Parent Privacy Disclosure and Consent notice. We will use the parent or guardian email address you provide during this process to contact you about important changes to our policies or services, to notify you of issues with your student's account, or to verify a reset to your student's password.

Parental restrictions
An iPad can give your student access to a wealth of information. However, there may be times when you want to limit your student's access to certain types of content or resources. On your student's iPad, you can set restrictions, such as preventing in-app purchases and designating allowable content. Please refer to the [Parent Guide](#) to learn more about setting device restrictions. We strongly encourage you to set device restrictions promptly after creating your student's Apple ID.

Getting started
Once your student has an Apple ID, he or she can begin using the iPad with all the apps, books, and educational content that your district has chosen. It is important that all students have an Apple ID so they are prepared with all the right materials for the classroom.

For more information about Apple's education programs, please see [apple.com/education](#).

Sincerely,
Apple Inc.

Email parent gets asking them to setup an Apple ID for their child

Apple ID for Students



Register your Student

Student Information

First Name: Ziggy

Middle Name: optional

Last Name: Topp

Birthdate: September 28, 2004

Apple ID and Password
This is the Apple ID and password that the student will use to sign into their account. Please be sure to remember the password.

Apple ID: zxt100@gatewayk12.net

Password:

Confirm Password:

Security Questions
Choose three security questions memorable to you and your student. This will help verify your identity if you or your student forget the account password.

Security Question 1: Please Select

Answer:

Security Question 2: Please Select

Answer:

Security Question 3: Please Select

Answer:

Preferred Language
Preferred Language: English (US) – English (US)

Parent Contact Information
Provide your daytime phone and an email address that you control and check regularly. Your email address will be used to help reset your student's password should they ever forget it, and to deliver important notices about the account.

Parent Email: jsmillie@gatewayk12.org

Confirm Email: jsmillie@gatewayk12.org

Daytime Phone:

Terms & Conditions
By creating this account, you agree to be bound by the following terms and conditions. Please read them carefully.

[iOS Terms and Conditions](#)

[iCloud Terms and Conditions](#)

[Game Center Terms and Conditions](#)

[iTunes Store Terms and Conditions](#)

[Privacy Policy](#)

[Apple Limited Warranty](#)

I agree to the iOS, iCloud, Game Center, and iTunes Store terms and conditions, and the Privacy Policy.

Parent or Guardian Consent
You must give your consent for the student to enroll in this program.

Scroll and read the Consent form to continue:

PARENT PRIVACY DISCLOSURE AND CONSENT

As part of the process of creating your student's Apple ID we have asked you to register your student by providing us with your student's full name, birthdate, and your mailing address. We have also requested your preferred email address for future contact with you about your student's account, to notify you of changes to our policies, or to reset your student's password. Your consent to Apple's Privacy Policy and this Parent Privacy Disclosure and Consent is required before Apple may collect, use, or disclose any of your student's personal information as described below. If there is a conflict between Apple's Privacy Policy and this Parent Privacy Disclosure and Consent, the terms of this Parent Privacy Disclosure and Consent shall take precedence. We will not collect, use, or disclose any personal information from your student if you do not provide

I have read and agree to the terms of Apple's Parent Privacy Disclosure and Consent.

Create Apple ID

iPad Moodle Course

- ❖ General care and feeding stuff
- ❖ Quiz at the end
- ❖ 100% score to pass
- ❖ Only get iPad if you pass

GSD

Student iPad Assignment Course

Home > Miscellaneous > iPad Assignment

NAVIGATION

- Home
 - > Dashboard
 - > Site pages
 - > Current course
 - > iPad Assignment
 - > Participants
 - > Badges
 - > General
 - > iPad 1 to 1 Drivers Manual
 - > How to Setup Your iPad
 - > Distribution Procedures
 - > I got my iPad now what?
 - > My courses

News forum

iPad 1 to 1 Drivers Manual

This assignment will take students through what they need to know in order to receive a 1 to 1 iPad.

- iPad Users Guide
- iPad Do's and Don'ts
- iPad Tips and Tricks
- iPad Quick Fix Guide
- iPad Support (Seeking Help)

How to Setup Your iPad

What you will need to do the day you receive your iPad

- What you will Receive
- Initial Setup Steps
- Adding Apple Offered Free Apps
- Adding District Offered Apps
- Adding District Offered eBooks

Distribution Procedures

- iPad Quiz
- You must retake the iPad Quiz

Your must get a perfect score on the iPad Quiz

Not available unless: You get an appropriate score in iPad Quiz (hidden otherwise)

Has permission form turned in

I got my iPad now what?

- Setting up my iPad
- Settings and iBooks

GSD Self-Insurance Program

- ❖ \$45 per iPad per year—nonrefundable—only covers iPad
- ❖ Lost/stolen not covered
- ❖ Accessories (case, charger, cable) also not covered
- ❖ No limit put on incidents
- ❖ If student did not opt in and issue was not a factory defect, student was invoiced.
- ❖ All repairs handled by MacDoctors of Pittsburgh

GMS: Year 1 Deployment 2014-15

Open House 9/16/2014, 6 pm-8 pm

- ❖ Four lines in auditorium divided alphabetically by last name
- ❖ Lab open to do Moodle course, Apple ID, and print paperwork
- ❖ Had to have paperwork, confirmed Moodle course pass, and Apple ID to get into the auditorium
- ❖ DEP doesn't always work so IT staff have to manually enroll some.
- ❖ 70 people get done that night.

Apple ID portal goes down sometime
9/17/2014 until 9/19/2014, 11 pm

Great timing, right?

Hand Out 9/20/2014 (Saturday)

8 am-noon

- ❖ Help Desk added just down the hall for anyone who didn't meet the requirements or needed help.
- ❖ 128 iPads processed.

Hand Out 9/24/2014 After School

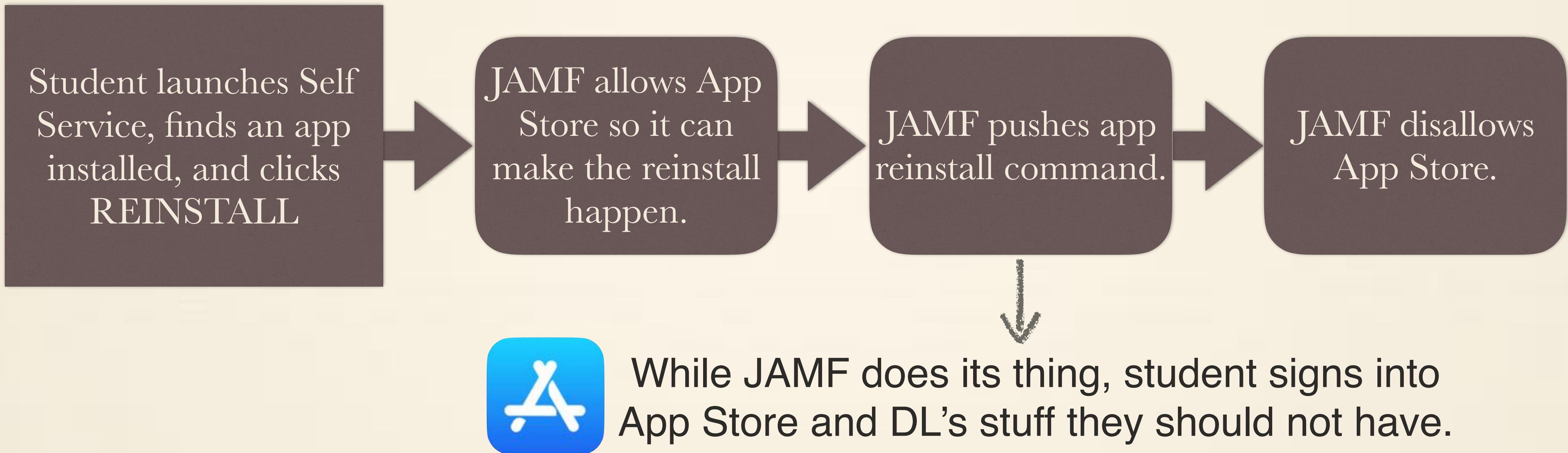
3 pm-6 pm

- ❖ Same setup as Saturday with Help Desk
- ❖ 70 iPads processed
- ❖ Any remaining stragglers handled by Principal

Common Problems Faced Year 1

- ❖ Students who had iPads that didn't go through DEP liked to remove the MDM profiles.
- ❖ Students rolled back date/time, installed 3rd party profiles, so they could access cracked apps (through vShare.)
- ❖ Students restored backup of non-managed device to make our iPad unsupervised.
- ❖ Students exploit JAMF Self Service App reinstall feature to utilize App Store and grab things they shouldn't have while the window is open.

Exploiting iOS and Self Service for Restricted Apps



End of the School Year

- ❖ Mass OTA device wipe commands sent.
- ❖ Classes come to LGI by homeroom to turn in hardware.
- ❖ Student is invoiced for any missing parts to their iPad.
- ❖ 41 iPads are broken all school year—cracked glass in most cases.

GMS: Year 2 Deployment 2015-16

Preparation

- ❖ All iPads are factory restored to iOS 8.4.1.
- ❖ GSD Self-Insurance Program still in play. Same cost and arrangement of prior year and paid by check.
- ❖ Moodle course and Apple ID process still in play from prior year.
- ❖ Hand-out process receives major revamp.
- ❖ STM cases with front cover purchased with remaining balance of insurance fund to replace silicon wraps-hoping better case would help with glass breakage.
- ❖ All paperwork done through Skyward (SIS) electronically.

GMS Stationed Handout in Year 2



1. Initial Paperwork TurnIn
2. AppleID Confirmation
3. Receive iPad
4. Mass Setup of iPad
5. Receive new STM Case
6. Receive Charging Cable and power pack.

This Sounds Great, Right?

MDM certs expire during day 1 deployment!

2 hours of productivity lost

Causing major backups and stress

Even still 175 units get processed this day

AND... DEP works flawlessly!

Common Problems Faced Year 2

- ❖ Students who had iPads that did not go through DEP liked to remove the MDM profiles.
- ❖ Students rolled back date/time, installed 3rd party profiles, so they could access cracked apps (through vShare).
- ❖ Students restored backup of non-managed device to make our iPad unsupervised.
- ❖ Students exploit JAMF Self Service App reinstall feature to utilize App Store and grab things they should not have while the window is open.

iOS9 Drops Oct 15' and Addresses this!

Spring Break 2016

- ❖ GMS decides it longer wants to be a 1:1 building
- ❖ Discipline issues of student take home is taking up too much classroom time and creating too much administrator overhead.

End of the School Year

- ❖ Mass OTA device wipe commands sent.
- ❖ Classes come to LGI by homeroom to turn in hardware.
- ❖ Student is invoiced for any missing parts to their iPad.
- ❖ 34 iPads are broken all school year—cracked glass in most cases.

Summer 2016

- ❖ iPads are wiped again to iOS 9.3.5.
- ❖ Setup in sort of an ad hoc shared way
- ❖ 20-30 per classroom and stored in TripLite Enclosures

GMS iPads Today



Summer 2016 MDM Rebuild

- ❖ Phase out Xserve Hardware
- ❖ Change how sites are utilized
- ❖ Proper scoping
- ❖ Layering of configuration profiles vs. master profiling
- ❖ Tons of apps that no one used anymore can go
- ❖ iPads existing in two places, so lets merge:
 - ❖ Original MDM for Macs and K-6 iPads.
 - ❖ GMS-only server

Virtualized MDMs

- ❖ x2 virtual servers running on HyperV
 - ❖ MDMmac <—All District Macs
 - ❖ MDMipad <—All District iPads
- ❖ CentOS7
- ❖ MariaDB instead of MySQL

- ❖ Full wipe of all remaining class use iPads District-wide.
 - ▶ Personal Apple IDs used to install Apps
 - ▶ No regard for licensing or allowed use
 - ▶ Staff sharing Apple IDs to get certain apps on their iPads

**Basically imagine the Wild Wild West
of App Distribution!**

*My Holiday/
Summer Crew*

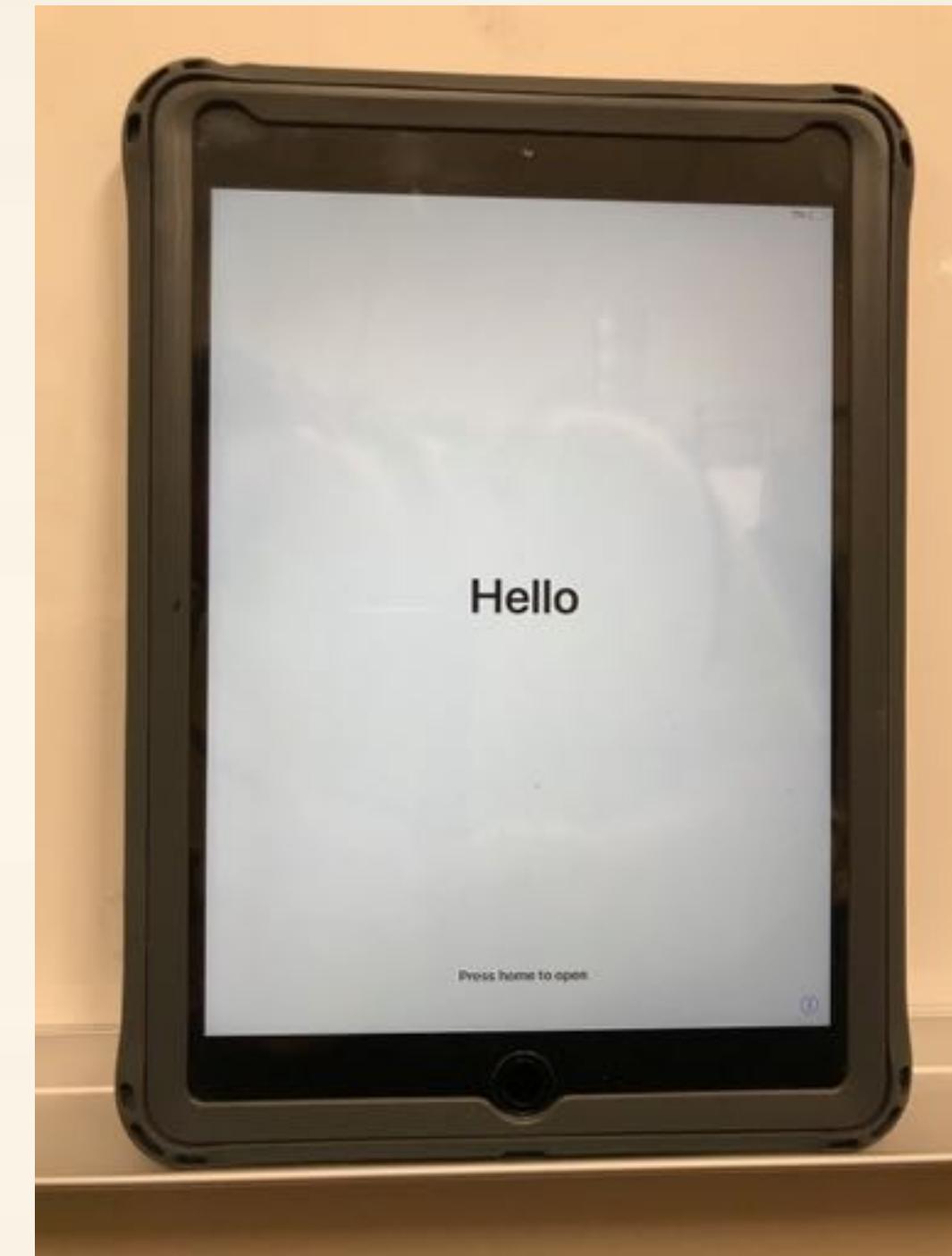


Our 2nd Try at 1:1->MSMS

Year 1, 2017-18

Summer 2017

- ❖ 650 iPads (5th Gen) 128 GB Wi-Fi units for 5th & 6th graders, as well as all teachers
- ❖ iOS 10.3.3
- ❖ Brenthaven open-face cases are used
- ❖ Provided through AGiRepair warranty program.



Deployment Plans

- ❖ No plans to use books; only apps which are device-assignable; no Apple ID setup
- ❖ G-Suite will be utilized; relevant parent FYI info sent home.
- ❖ Apply what we learned from GMS 1:1 and grow from it
- ❖ Go with AGiRepair for AGiProtect coverage on all Units

Changes to the Formula

iPads Don't Go Home

- ❖ TripLite enclosure purchased for each classroom for iPads to charge over night. Regular 6-device USB chargers installed in back of the rack to charge. No sync required.
- ❖ Students pickup in homeroom first thing
- ❖ Schedule modified so students return to homeroom at the end of the day to charge again
- ❖ Apps/Updates pushed out after hours.





iPad Handout Routine

- ❖ iPads are in the classroom racks day one.
- ❖ iPads are preassigned to students via Skyward (SIS)
- ❖ Class comes to the lab with their assigned iPad.
- ❖ Mr. Ulewicz walks class through initial setup.
- ❖ Base apps install at this time.
- ❖ When we hit 60% deployment, additional apps were added.

Apple School Manager

- ❖ Replaces all of the *Apple IDs for Students* business of years past with *Managed Apple IDs* for students and faculty.
- ❖ Data comes into ASM through a Skyward (our SIS) import. Syncs so as students come and go, so do their Apple IDs.
- ❖ Brings users and classes into JAMF to tie into Apple Classroom App.
 - ❖ We sync existing users in JAMF Pro based on a User Extension that holds:
 - ❖ Student ID number
 - ❖ Staff state ID number

End of Year

- ❖ iPads are inventoried and returned to the classroom storage areas.
- ❖ OTA wipe commands are sent to all student iPads.
- ❖ “Lost iPad” is the most IT ticketed issue all year—55 times.
- ❖ 13 iPads are broken this year—cracked glass in most cases.

MSMS Year 2-> 2018-19

Summer 2018

- ❖ All Moss Side Middle iPads (iPad5) are redistributed to elementary classrooms.
- ❖ 600 new iPads (6th Gen) 32 GB Wi-Fi are purchased for 5th & 6th grade students.
- ❖ AGiRepair comes in to *white glove* the new iPads. Unbox, inventory, tag, & case.

Improvements Over Prior Year

- ❖ Each iPad has a label printed and applied to the back by building Secretary with student's email address. Barcode also includes their student ID number.
- ❖ iPads now labeled and already assigned in Skyward are taken to the proper homeroom.

iPad Handout Routine

- ❖ iPads are in the classroom racks day one.
- ❖ Class comes to the lab with an iPad.
- ❖ Mr. Ulewicz walks class through initial setup.
- ❖ All needed apps start to come down.

Managed AppleIDs are Needed

- ❖ Mid year in the second year the Clips app was wanted at MSMS. Clips needs iCloud.
- ❖ 5th Graders were easy as when they were 4th graders they had access to Shared iPads and the Elementary Librarians.



Lost/Misplaced iPads Continues to Trend!

- ❖ 55 IT tickets in Year 1/76 IT tickets in Year 2
- ❖ Time to put the power to find these things in the hands of the locals

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GSD Lost iPad Recovery System

GSD Tag Number:

Enable Lost Mode

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GSD Lost iPad Recovery System

GSD Tag Number:

Enable Lost Mode

Setting location:

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Bash Script Running on Linux Web Server

- ❖ Takes GSD Tag #
- ❖ Queries inventory by tag to get serial
- ❖ Queries JAMF Pro for device ID by serial
- ❖ Sends command requested to that ID: enable, sound, disable

Called by simple PHP page through DocuWiki only accessible by secretaries

End of Year

- ❖ iPads are inventoried and returned to the classroom storage areas.
- ❖ iPads are only wiped for 6th graders.
- ❖ 17 iPads are broken this year—cracked glass in most cases.

Shared iPads and the Elementary Schools

Elementary Hardware Summer 2017

Across four buildings:

Ramsey, Evergreen, University Park, Dr. Cleveland Steward

- ❖ iPad2 16 GB (x220) in Special Ed
- ❖ iPad2 32 GB (x130) in K-4 libraries
- ❖ iPad2 16 GB (x300) in Shared Carts (x2 per Building & x1 in MSMS)
- ❖ Deployed in sort of ad hoc shared mode

Year 1 Deployment 2017-18: K-4 Libraries

The Librarians

Pilot Shared iPad Mode

Mr. Krestar

University Park
Elementary

Mrs. Bender

Ramsey Elementary

Dr. Cleveland Steward
Elementary

Evergreen Elementary

Reasons to Embrace Shared Mode

- ❖ Avoid Google single sign-on pitfalls (sign into one app and all Google apps are now signed in)
- ❖ Create individualized experiences
- ❖ Ensure student work is available every session
- ❖ Avoid mischief between students
- ❖ Student can use any iPad and work follows
- ❖ Apple Classroom —Previously described adHoc mode not compatible with this..

MDM Setup

- ❖ Shared-mode pictures setup so students could easily identify their accounts
- ❖ Static device group for each building
- ❖ Classes manually attributed to device group so only library classes for the right building appears on those devices

Hardware

- ❖ iPad2 (32 GB) out and iPad5 (128 GB) in
- ❖ Configurator2 updates all new iPads to latest available iOS
- ❖ Configurator2 prepares the iPad—avoids the help screens and drop a Wi-Fi profile on to the device.
- ❖ MDM takes over from there.

Librarian Setup Side

- ❖ Starting with 4th grade, librarians walk students through initial setup. Default passcode set for all initially and students change it to a predetermined password.
- ❖ Follow up with 3rd and 2nd grade
- ❖ January, 1st graders are setup. Kindergarten does not use the iPads.
- ❖ I setup default passcodes initially, but by October librarians took over.

So its working great....

and then

Its not!

April 2018...Changes in the Apple ecosystem break logins of random students. Student has to be reset in Apple School Manager to be able to login again.

Eventually tracked down to prohibited locational data syncing back to the cloud on log off. Account reset clears that data.

Problem fixed in iOS 11.4.1, but only if you factory wipe the iPad first!!!!

Year 2 Deployment 2018-19: K-4 Classrooms

Hardware

- ❖ iPad2 (16 GB) out and iPad5 (128 GB) from MSMS year 1 in
- ❖ Configurator2 used again to update and prepare all units

Classroom Setup Side

- ❖ Librarians are making sure students know how to login to shared mode and know their passcode. Refresher early in the year for 2nd, 3rd, and 4th graders. 1st graders go through setup process.
- ❖ iPads are deployed in sets of 5 per classroom. Classroom iPads are grouped in MDM by grade level so all grade level classes are across those iPads.
- ❖ Single shared cart per building of 30 for whole class experiences
- ❖ Because a class can be attributed to multiple device groups I write an API script which will do some of that leg work for me.

Classroom Crates

- ▶ Simple Cheap Solution - Milk Crates
- ▶ Holds up to 6 iPads
- ▶ 6 port USB Charger from Amazon
- ▶ Bulk bungy cords from Amazon
- ▶ Uses charging cables that came with iPads



Cost

- ▶ Milk Crate Online \$6.00
 - ▶ Multiport Charger \$25.00
 - ▶ Bungy Cord \$2.50
 - ▶ x6 Charging Cords \$0.00
 - ▶ Velcro for cables \$1.50
-
- \$35.00**

So its working great again right?

Nope. New bug introduced in iOS 11.4 almost axes the whole project!

iOS 11.4 through iOS 12.1.2

When max cached users is hit, next user who tries to login will crash the login process.

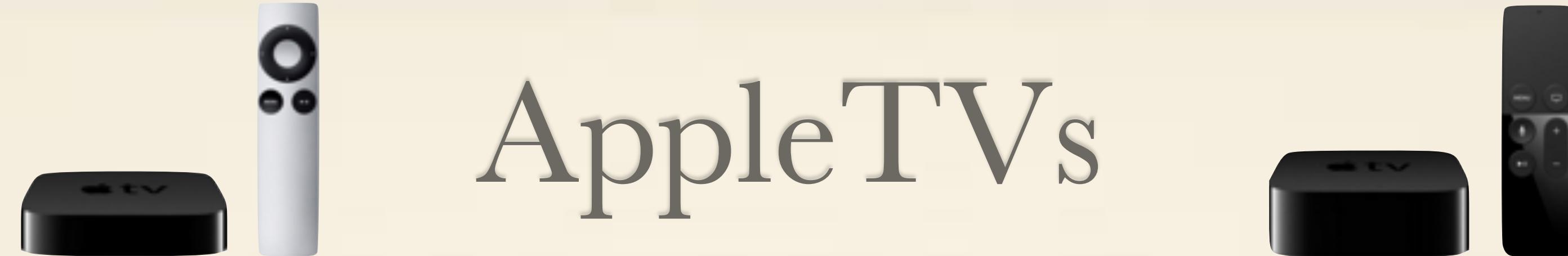
Happens easily 60% of the time and it was replicable.

Restart iPad and try again—user gets in, but problem repeats for the next person who is not already cached.

Released early January—> Problem fixed in iOS 12.1.3

January 19' on we've been golden!

AppleTV Deployment Strategies



- ❖ We have about 100 AppleTV Gen3 deployed. They are not in MDM.
- ❖ We have about 150 AppleTV Gen4 deployed. These are all in MDM.
- ❖ All District AppleTVs are on the Wi-Fi network, but a dedicated VLAN for AppleTVs only forcing Bluetooth discovery. Multicast is also blocked.
- ❖ We have found the AppleTVs are more reliable for AirPlay when we reboot them every night.
- ❖ API Script connects to JAMF Pro to see what ATVs have inventoried in the last 48 hours and tells them to reboot. Runs at 11 pm nightly.

iPad Repair Process

Broken Devices

	Model	# Purchased	Broken	Applecare Covered
2014-2015 GMS 1:1	iPad4	300	41	5
2015-2016 GMS 1:1	iPad4	0	34	0
2017-2018 MSMS 1:1	iPad5	600	13	3
2018-2019 MSMS 1:1	iPad6	600	17	3

Applecare covered means device had a factory defect in year 1 of its purchase

We Do Not Buy AppleCare

- ❖ In 2014, Applecare+ was \$79 per for 2 additional years (x3 total years), and you get x2 accidents at an additional \$49 cost per.
- ❖ In 2017, Applecare+ was \$50 per in a multipack for 2 additional years (x3 total years), and you get x2 accidents at an additional \$49 cost per.
- ❖ Applecare does not repair iPads or at least not in real time to return to you. They take what you give them, confirm the issue, and send a replacement. This means updating your inventory and removing devices from DEP too!

Life without AppleCare in 2014

- ❖ Worked with MacDoctors of Pittsburgh to handle out of warranty/accident repairs
- ❖ Average repair \$150 for broken glass
- ❖ This year, 41 breaks outside of factory problems. \$6,150 paid out of student insurance program.
- ❖ Same setup if Applecare? Using 2014 prices, ($\$79 \times 300$) \$23,700 for coverage and ($\$49 \times 41$) \$2,009 in per incident charges
 - ❖ Incidents would have been charged back to student insurance program as well, and yes, AppleCare would be a multi-year investment. Even so, it would be more money out of the district up front.

Life without AppleCare in 2017

- ❖ Worked with AGiRepair out of warranty/accident repairs. Each iPad is covered under AGiRepair warranty at \$49 for x2 years, and that includes a Brenthaven case for each unit worth about \$50 on its own.
- ❖ Average repair cost \$0. That is broken LCD, broken glass, headphones broken off in audio port, etc.
- ❖ This year 13 breaks outside of factory problems. \$0 paid by the district.
- ❖ Same setup if Applecare? Using 2017 prices, (\$50 per when in 10 pack x 600) \$30,000 for coverage and (\$49x13) \$637 in per incident charges. And we would still need to purchase cases.

We've all seen broken glass...

But have you seen an iPad bent on both axis?

Before:



March 2019–GSD_iPad_23737

After:



Repair Cost?

\$0



AGiREPAIR
Repair. Replenish. Reclaim. Refurbish. Resurface.

March 2019' - GSD_iPad_23737

Some iPads can't be fixed. Deep Logic board failures or structural damage to the case are a show stopper.



AGiREPAIR
Repair. Replenish. Reclaim. Refurbish. Resurface.

June 2019' - GSD_iPad_23738

Are you worried dealing with a 3rd-party repair depot?

- ❖ No.
- ❖ There have been repairs that cannot be done when the issue is a deep logic board problem or cracks in the case and at that point the unit is written off as unrepairable, but its rare.
- ❖ We have been sending iPads, MacBook Airs (2013), and MacBook Pros to AGiRepair since Summer 2016, and so far so good.

Just when you think you
are square and all is well....

It is not!

Ever Evolving to Support New Things

- ❖ Remember I mentioned having two MDM servers? All Macs must be on the same server as the iPads to support Apple Classroom on Mac.
- ❖ Apple School Manager sync to JAMF has been problematic all school year. It freezes and then can only be fixed by completely gutting the classes and the sync, then setting up all over again.

Crazy Changes just in May 2019

- ❖ Change to all JAMF usernames. Dropping the @gatewayk12.org/net because for Macs to get EDU profile, JAMF username, local username, and MDM user must all match!
- ❖ Making ASM sync more reliable:
 - ❖ Rename student pictures to email addresses instead of their student ID.
 - ❖ Change ASM sync to match on email address.
 - ❖ Completely drop Extended User field for Student ID number from the DB.

As of July 11, 2019 the JAMF Administrator's Guide does say:

Integrating with Apple School Manager

*It is recommended that you match "Source System Identifier" from Apple School Manager with the student ID number in Jamf Pro. One way to do this is to create a user extension attribute that collects the student ID number in Jamf Pro.

We were this way, and it was most likely the source of most of our ASM problems.

PI-004407 more or less tells you using this is bad idea.

- ❖ As more Macs move to MDMiPad so they can use Apple Classroom for Mac to interact with the student iPads, we are seeing performance issues and there is still 750 machines to migrate.
- ❖ Ditched MariaDB and moved database operations off to a standalone server running MySQL.
- ❖ Thinking about clustering Tomcat, but we are not there yet.

So how about 2019-20

- ❖ Summer time migration of all shared cart Macs to singular MDM server
- ❖ Continue the migration of staff to a singular MDM server and MacOS 10.14.
- ❖ Federation of all Student Managed AppleIDs
- ❖ Based on things teachers learned at a recent Apple Education Service training they want:
 - ❖ Student iPads to be renamed after the student's username
 - ❖ STAFF ONLY-> Change their own machine names so they can identify each other better for AirDrops

Shared iPads coming to GHS

- ❖ Replacing existing iPad4 units in Family Consumer Science with iPad6 128 GB units—In shared iPad mode
- ❖ Will be managed with Mosyle Manger.



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Thank You Dawn for the Support all these years



Questions?

GitHub Resources Noted:

https://github.com/JCSmillie/PSUMacAdmins2019_iPadEvolutionsGSD

Please leave Feedback!

<https://bit.ly/psumac2019-389>

Thank you Michelle for Editing