Saving Lives with Technology:
How Highline School District Handles Student Self-Harm

It's the middle of the night. Mark Finstrom—CTO for Washington State's Highline School District—hears a loud "ping" from his iPad. Bleary, he notices that it's an email from Gaggle—a student safety solution—and that if he doesn't respond, he will soon be getting a phone call. It's an alert regarding a case of possible student self-harm. Based on the information provided, Mark has to decide right now, in the dark, whether or not to act.

"Self-harm is obviously is an interpretable condition," Mark explains from his home office. "You often have students doing research on suicide for a health class, for example, or looking at information related to life and death. But it's pretty easy when you use tools to discern the intent behind a search, because a search will come back with very refined data. If a student just types in 'suicide number', really what they are looking for is the suicide hotline. It may not mean the student is having suicidal ideation, but we want to have that documented for the future. And it's a challenge: students have no filters anymore. Social media has become the norm, and they aren't afraid to talk about everything, whether it's tales of molestation, or getting beaten up when they go

home…whatever it is, when this information surfaces, you as an educational professional, have a call to make: is this a crisis or hyperbole?"

The Process of Prevention

Mark's journey with technological interventions to protect students began six years ago when Highline School District started sending Chromebooks home with students. With the district being bound by CIPA (The Children's Internet Protection Act), he knew he would have to filter what the students were able to look at while at home. This led him to

> Highline School District: Just under 20,000-student school district with 33 schools. Serves five cities in non-incorporated King County. A 70% free or reduced lunch program district. Accommodates 75 languages stated to the public, but in reality has about 120-130 with dialects.

GoGuardian—a data monitoring and management solution—and the district signed on as one of the company's first clients.

"As time went on, I met with GoGuardian several times and said 'You guys have actually saved a couple of kids lives by providing me alerts,'" Mark says. "So they built Smart Alerts, a suicide tracking package, based on our conversations. These were initially designed for routing traffic to counselors, principals, etc. and would prioritize traffic by a low-level threats, mid-level threats, and threats of immediate concern."

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Mark began having conversation with another student safety solution, Gaggle, after the CEO reached out to the district two years ago, offering to review their network at no cost. Gaggle ended up finding traffic that GoGuardian didn't see and that Highline's firewall wasn't blocking. After investigating, Mark found that the traffic was predominantly regarding student welfare.

"Kids were chatting about how they wanted to kill themselves, how they've tried cutting, how no one understands them…So I realized I had an obligation to do something about it," Mark explains. "So we developed a detailed process for analyzing these different alerts. If an alert comes through that has to do with suicidal ideation, I'm going to forward it to the student's principal, because they're going to know whether or not the student is vulnerable. How? Well, one of the commitments that we have as a school

district is to know every student by name, strength, and need; and to prepare them for the future they choose. So if you are a principal at a school with 600 students, you had better know all 600 students' names. And while you may not know them intimately, you will know enough about them to know if their intentions are 'true' or if they're just for attention… which, in and of itself, could be a precursor to something more serious."

In the past six years, Mark estimates that—based on his alerts—he's had over two dozen conversations with parents saying, "Your child is just about ready to commit suicide."

Collection and Correction

While sensitive student data is captured, students are not literally observed. Web traffic is collected, but Highline only collects traffic based on the criterion that Mark has provided.

"If it's a simple violation, I want that web traffic," Mark explains. "If it's an at-risk situation, yes: I want that web traffic. If it's a violation…I don't care if a student is swearing, but I want data that shows gradual escalation if it indicates that at some point they might explode, which could result in them coming into the school with a gun, for instance."

In addition to CTO, Mark is also Highline's District Emergency Response Team Leader, with a team of individuals across all support services reporting to him. The team routinely talks about emergencies and possible tactics, with this information feeding BERT

> Highline uses three domains: a G-Suite domain, a Microsoft Teams-based domain, and a Highline Schools-specific domain. Utilizing multiple accounts allows a redundancy so that if any account is attacked, operation can still resume.

teams (Building Emergency Response Teams). The District Emergency Response Team decided to merge the district's suicide prevention efforts with their own to become even more vigilant.

"Before Gaggle, I was getting nearly 100 messages a day," Mark says. " If something comes through as QCON (Questionable Content), it all needs to be captured so that if there are other violations associated with that student, we can go, 'OK, I can see that about three weeks ago they started to escalate. You need to check in with the student.' But the alerts can be any sort of questionable content, such as access to sexually explicit videos. I had an alert regarding that type of incident just last night. Now an email is sent directly to the school on questionable content."

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All Together Now

Technology is useless if there isn't a strategy and structure behind it. Mark realized early on that the way that people work together is critical for success with any of these student safety applications.

"You can roll out these applications, but if you don't have the process and a common language surrounding them, then what you've introduced is now a variable," Mark says. "For example, you'll have a school say they are going to do something differently than what the district said. You are not allowed to do that! So that results in a retraining, as well additional professional development to make sure our educators

and administrators truly understand the protocols and process. You can't have ambiguity. There is far too much at stake."

Managed Services

To help mitigate misuse while outside of school, Highline controls when certain classifications of students can be on the devices when at home. Regarding teachers, Mark and his team surveyed teachers to determine their internet bandwidth at home, and to confirm that the device that we gave them is operating correctly, while setting them up with remote learning tools.

Highline uses a product called Learn Platform which analyzes educational applications and provides feedback to see if that product meets state requirements for FERPA (Family Educational Rights and Privacy Act) and CIPA, for instance, and to see if the company has suffered any breaches. Applications are then vetted through a digital tools teams, and if there are any issues—such as a need to decouple chat, for instance—that team works with the vendor on those issues.

"All of our processes are built around making sure that we have a set of criterion and curriculum that teachers can use based upon grade level and subject area, and are a guaranteed and viable curriculum for students," Mark explains. "As long as they are aligned and vetted correctly, we say you can use these tools. Sometimes teachers don't fully understand that they could be putting student data at risk, as there are just so many features within these products that teachers don't consider. Right now, we are going to learn how well students function remotely, and how our teaching staff functions in that world as well. All of this remote learning is providing exposure into students' lives that we no longer see on a daily basis, but that we still have to track."

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Other Security Measures

Highline is in the process of deploying Readyop—a management tool for emergencies that utilizes microphones— that only activates during certain audio events, such as gunshots or earthquakes. The tool collects "abnormal" sounds, and alerts security to investigate. Mark's team is also running HVAC systems, lights, electronic doors on every classroom and the exteriors of buildings for badge-enabled entry, and even "vape" sensors in the bathrooms.

"Our lights, our security system, our HVAC…they are all IOT (Internet of Things) now," Mark says. "I've got Raspberry Pi devices that are running a couple million dollars HVAC systems in a school. Those tiny little computers! But it's an exposure, because it has an IP address, and that device is basically residing on a network, so once it's residing on a network, if that device is not secure, someone can tunnel into that device and then get into another device."

By Name, By Strength, By Need

It's a strange world that we live in. The opportunity for a "bad actor" to break into a system is increasing exponentially. If a school is unprepared or lacks the capacity to handle today's sophisticated security breaches, then they become easy targets. This is why Mark works with several different security firms; meeting regularly to discuss the vulnerabilities for the network and the vulnerabilities for users.

"It's not just teachers and learners: It's communications, technology, business services, HR, even our vendors…all of us working together and developing processes and procedures around these things," Mark says. "The whole variety of who uses what tools where and when, and the strategies we deploy all come back to our strategic plan—knowing every student by name, by strength, and by need— and supporting them as they move into the future that they choose. We want them to have control over their lives as they transition to adulthood. But it's hard. It's a cliché, but like most clichés, it's often true: It really *does* take a village to raise a child."