The University of Illinois Advances Student Success by Turning Data Into Action

Key Challenges

Data was siloed and inaccessible to most staff, which delayed issue resolution and prevented staff members from identifying student challenges and measuring success.

Key Results

With expanded access to data, the university has improved classroom learning and student satisfaction through a better understanding of student performance and success.

I ILLINOIS

Industry: Higher Education

Solutions: Security, IT Operations, Business Analytics

The University of Illinois has a long legacy of innovation.

Since 1867, the University of Illinois has been fulfilling its mission to foster discovery through innovative research, tackling global problems and expanding the human experience. The university needed a way to turn disparate data into a better student and staff experience.

Scaling Student Success

With 200-plus buildings scattered across a three-square-mile campus, the University of Illinois resembles a small city. To ensure this sprawling campus feels like a home to its more than 50,000 students, the university uses data as a tool to connect the community.

"My core purpose for the university is to push us forward into new innovative methods, and data is the most glaring example of where we need that," says Nick Vance, who leads the data and technology innovation team. "We're using Splunk® to drive insights about our students, staff, faculty and researchers, so we can help students have a better experience and give researchers and faculty the tools they need."

Data is central to the new Student Success Initiative, which helps staff better understand what makes students successful. The team is investigating ways to use Splunk to combine data from management system logs, online courses, wireless access, databases and other sources, then build models that identify which students may be facing challenges. These insights will help the team collaborate with advisors to provide personalized care and academic help to at-risk students.

Bringing Data to the Playing Field, Dining Halls and Beyond

At University of Illinois, data is an integral part of every decision — from classroom learning to athletic performance. The women's soccer team wears biometric sensors during practices and regularly completes surveys that track the players' fatigue levels. By using Splunk to analyze this data, the IT team informed coaches what kind of impact each type of practice had on their players.

Turning Data Into Outcomes

- Optimized athletes' health and performance by tracking fatigue levels and other key health data

- Allowed students to focus on learning, not security breaches, by doubling the number of identified account compromises

- Reduced costs by migrating data to Splunk Cloud

In one instance, athletics officials contacted the IT department when an athlete caught a severe strain of the flu. By using Splunk to determine which other athletes had shared a public computer with the sick player, the university helped contain the illness and keep other student athletes healthy.

Soon, the university will release its own app, Rokwire, to connect students with opportunities unique to their interests. "Splunk will be the place we go to understand how our students, staff and faculty are interacting with our services," says Vance. "For example, if an engineering student likes sports and has shown interest in a certain hobby, we'll use machine learning to recommend a specific sporting event or advising session." With everything from event suggestions to mobile ordering using dining hall data, the app seeks to enrich each student's college experience from day one.

Expanded Data Access Fuels Research and Learning

When it first adopted Splunk in 2012, the university relied on Splunk solely for security operations. "We knew that Splunk wasn't just a security tool; we can use it for so many other things," says Joe Barnes, chief privacy and security officer. "It's now our primary data platform."

One way the university uses the Data-to-Everything Platform is to make it easier for students to work with, understand and analyze real-world data — while still protecting student privacy. Using Splunk Data Stream Processor (DSP), the university plans to liberate data to more students and researchers. "By using DSP to obfuscate and send data, our students, staff and app developers will be able to gain more insights about the university while still protecting the privacy of our students," says Vance.

Student Safety: A Top Priority

Before Splunk, identifying and investigating problems was a tedious process, taking days or weeks to understand a problem's cause and impact. With Splunk, the university drastically reduced this time to mere seconds or minutes, improving the team's ability to keep students safe across campus. On one occasion, security officers helped law enforcement apprehend a suspected criminal by quickly identifying his location based on the network IP address. Before Splunk, this type of data query would have taken hours or an entire day, giving the perpetrator time to flee.

When an incident arises, Splunk allows staff to quickly research and understand the problem, then brief leadership. "Splunk really helps in my conversations with leadership and decision makers because data brings trust to the conversation," says Barnes. "Being able to say, 'We know exactly what happened, based on the data,' is a much different conversation than, 'Something happened, and we're really not sure if we have it under control yet.'"

Splunk also helps university support staff understand normal account usage to proactively identify suspected account compromises. As a result, the number of compromises identified has more than doubled, while security incidents first reported by external entities are nearly non-existent. By focusing on all aspects of student security — from physical safety to account verification — the team helps students spend their time learning, not dealing with security incidents.

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> **Nick Vance,** Manager of Data and Technology, University of Illinois

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