



November 13, 2022

Dr. Cynthia Pope
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239 H.B. Crouse Hall
Syracuse, New York 13244

Dear Dr. Pope,

Enclosed is research I have been eager to share with you regarding Syracuse University's current E-learning infrastructure and partnership with BlackBoard. This report discusses some insights that I have come to realize, as well as the research that led me to these newfound conclusions. I hope to address many of the current pain points that students, faculty, and staff face while using BlackBoard, as well as some proposed solutions that Syracuse could use as a remedy.

This research is impactful to me, and hopefully you as well, due to our affiliation with Syracuse University, and therefore our compulsion to interact with BlackBoard and MySlice on an almost daily basis. Many of my peers and professors have expressed their frustration with MySlice and BlackBoard to me over the years, and it seems to only be getting worse day by day, with the most recent update giving me errors almost every day since last year!

Again, I am eager for you to review my research and hope that you provide candid feedback. Thank you for providing me the opportunity to share this research with you, and for taking the time to review it. Please contact me at ncmitran@syr.edu with any questions or concerns.

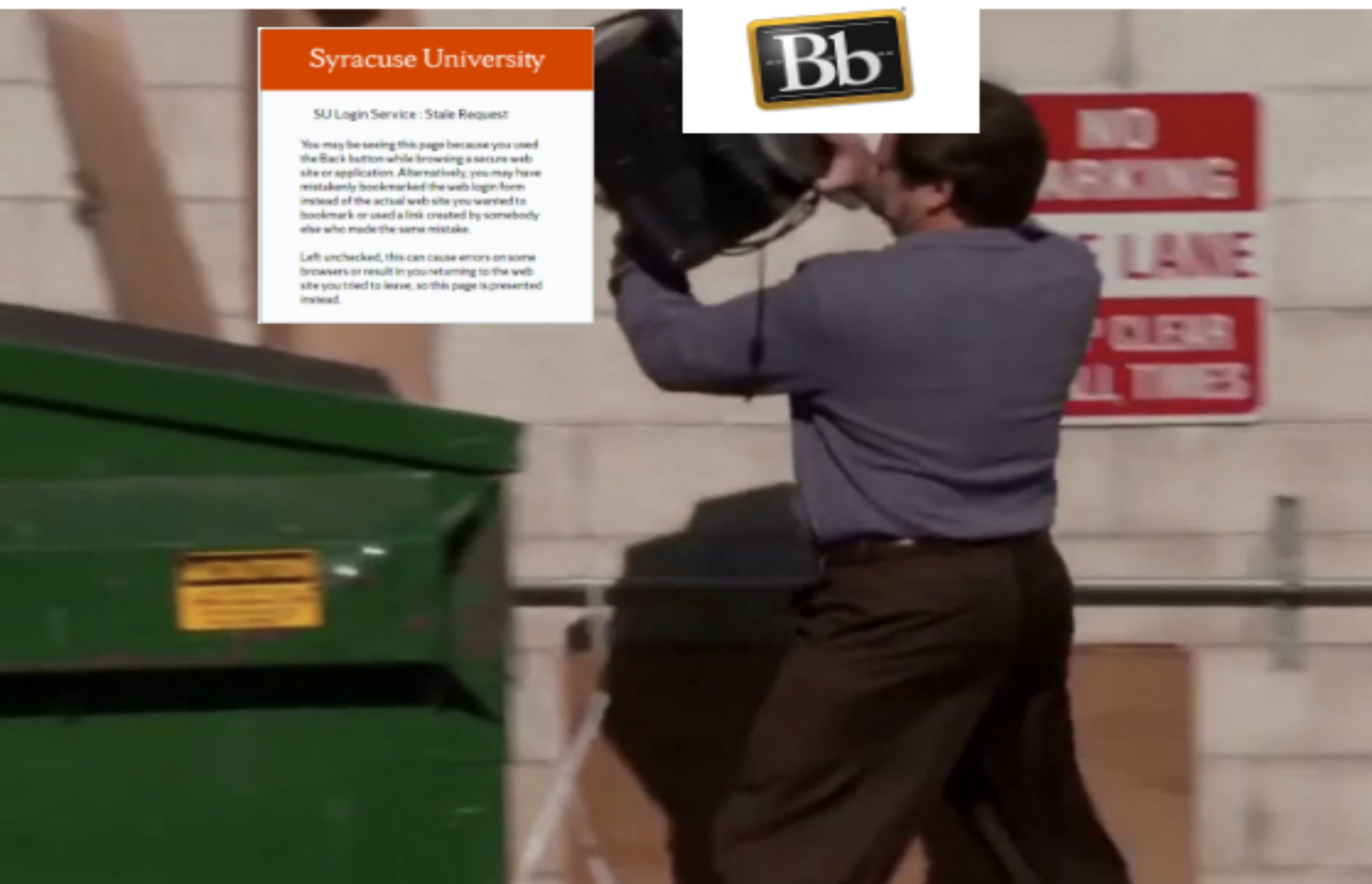
Sincerely,

A handwritten signature in black ink, appearing to read 'Nicolas Mitrano'.

Nicolas Mitrano

Syracuse University, iSchool

Out With the Old and in With the New: It's Time for BlackBoard and MySlice to Go!



Nicolas Mitrano

WRT 307

November 13, 2022

ABSTRACT:

The purpose of this report is to identify pain points and propose solutions to Syracuse University regarding their current use of BlackBoard and MySlice as their E-learning infrastructure. A compilation of external articles, research studies, Daily Orange newspaper articles, two interviews with Syracuse IT staff, and an in-house survey were used to research and deduce recommendations and pain points for Syracuse regarding BlackBoard and MySlice. From this research, several apparent takeaways were established: Syracuse University students, faculty, and staff all experience near daily issues with MySlice and BlackBoard, with publicly documented discontent amongst the Syracuse student body documented as far back as seven years ago. Syracuse University has acknowledged the issues and outcry, and has chosen to sit tight and wait until it is absolutely necessary to abandon ship and change software providers away from BlackBoard. The conclusion reached from all of the aforementioned research methods is that Syracuse should switch to another software provider. It is recommended that Syracuse abandon MySlice and their partnership with BlackBoard, and move to a new SAAS provider.

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INTRODUCTION:

For anyone who has used BlackBoard and MySlice, they know of the great uphill battle one must endure to simply use the services as they were intended to be used. Over 85% of students sampled had an issue with BlackBoard or MySlice within the past week(Mitrano Figure 1). These issues are not a surprise to anyone who isn't an incoming freshman at Syracuse, but it has become so commonplace that many seem to just accept it as a necessary struggle. Sadly, things do not need to be this way, nor should they be considering how high tuition is for many of the students that attend school at Syracuse University.

Research indicates that the E-learning infrastructure market is going to grow at an exponential rate for the foreseeable future. Syracuse, like over 7000 other schools in the country, use BlackBoard as a core foundation of their E-learning infrastructure(Anthology 2022). Just recently a massive move within the ecosystem already took place, with Finals site acquiring the BlackBoard division of Anthology. With an increasing amount of competition and projected growth within the industry, it is important that Syracuse continues to distinguish itself as a leading, top institution by staying ahead of the curve and acquiring the best technology solutions for their students.

BlackBoard and MySlice need to go, and with so much competition in the ecosystem, it is vital that Syracuse takes advantage and procures the best SAAS solution for their community. After extensive research through in person interviews with Syracuse IT staff and online sources, it is clear that the solution to the existing problems plaguing students at Syracuse would be solved by switching software providers to a more reputable and technologically capable brand like Canvas. Syracuse can alleviate the headache that both students and faculty endure every day by contracting Canvas' all in one E-learning solution.

METHODS:

Several different research methods were employed during the undertaking of this research project. The primary means of background data were mainly gathered from two research articles, the first being an article from Anthology.com, and the second from ReleaseWire on digitaljournal.com. Both of these sources provide relevant background information on BlackBoard as a company and service, the logistics of the e-learning infrastructure market as a whole, and general market sentiment. Further public sentiment analysis was done via analysis of two daily orange articles published in 2015 and 2022; these articles provided insight to actual Syracuse student's experiences with MySlice and BlackBoard. Finally, possible solutions, as well as further insight, was researched in the form of two in person interviews conducted with Syracuse IT workers. These interviews proved to be indispensable to this papers research and final recommendations, as the interviewees have an ongoing, intimate relationship with BlackBoard, MySlice, and all of the associated issues the Syracuse community has with them on a daily basis.

RESULTS:

To begin, it is important to understand the e-learning market and the key players involved. In order to gain a good insight into the issues behind BlackBoard and MySlice, it is important to understand the e-learning market, the key players, the dynamics between large players, and public industry sentiment. Public sentiment is important in establishing a problem with the current system, but industry sentiment is important in understanding the reasons behind the many problems that the public faces. First, it is important to note that there is a reason to believe that the developers and owners of BlackBoard recognized a problem with their system,

as they sold the entire division responsible for managing it to another company. Finalsite acquired the entire BlackBoard K-12 Community Engagement division from Anthology; with this acquisition, they acquired BlackBoard's clientele of over 7000 school districts across 115 countries. Finalsite's Founder and CEO, Jon Moser, went on to say that, “‘This acquisition brings together the brightest minds in K-12 edtech, accelerating transformative improvements in everything from our product development to our customer service. Together, we will elevate school-to-home engagement and improve outcomes for schools – and learners – globally’”(Anthology 2022). From this statement alone it is clear that Finalsite saw this as an opportunity to utilize their resources to improve and innovate BlackBoards existing technology.

This aforementioned acquisition of BlackBoard may have taken place in 2022, but there has been a long-lasting, established account of BlackBoard's troubles. The first notable example used in this paper is a Daily Orange article written by Matt Feldman, who was once a student himself. In this article, which dates back over 7 years ago, Feldman went on to explain his discontent with the e-learning software solution that the University is contracted with. He noted that, “High profile clients, such as Duke University and the University of Texas at Austin, have opted for newer programs, like Canvas and Sakai. There have been complaints that BlackBoard's interface can be ‘clunky and inconvenient,’ according to an Aug. 22 Washington Post article”(Feldman 2015). For years people across the country, and notably many Syracuse University students, have voiced their discontent with the obvious slew of issues they have to face on a daily basis while using BlackBoard. Many students, including myself, can all personally attest to the fact that many of their friends at other Universities, and even highschools, are using much more updated software like Canvas to interface with their learning institutions. Benefits include functionality of the program, consistency, and less room for students to cheat on

exams due to better monitoring technology. The market data goes on to further support the assertion that BlackBoard is outdated and lacking technology, with 90 percent of the industry market using BlackBoard in 2006 falling to only 44 percent in 2015(Feldman 2015). Seven years later today, “Canvas leads with 34% of US & Canadian higher ed institutions, followed by Moodle at 21%, [and] BlackBoard at 20%”(Hill 2022). These stats on their own paint a very vivid picture to anyone who is economically literate: BlackBoard, in its current form, is not a viable product and is therefore not able to compete in the market.

If BlackBoard cannot function up to many people's standards for what a modern online learning portal should look like, then it is no wonder that MySlice doesn't fall much further behind. Unlike BlackBoard, which is a software solution that is contracted and bought from another provider, MySlice is coded and built in-house. It is the job of Syracuse University and their developers to ensure that MySlice is interoperable with BlackBoard. Ideally, MySlice should be seamlessly integrated with BlackBoard, with records of all student data, such as grades, names, ids, etc, upholding consistent integrity across all servers. This is obviously not the case, which can be deduced simply by using the front-end, or the user facing side of MySlice and BlackBoard, let alone the back-end, which is what developers can see. Students can easily notice many flaws, such as old classes showing up in BlackBoard, incorrect grades showing up, inconsistencies between grades in BlackBoard and DegreeWorks, which is a part of MySlice, and many more flaws. There are many more concerns that appear minor when juxtaposed to the aforementioned data flaws, such as a super convoluted website layout, lacking website functionality, and counterintuitive web design.

Just this year, MySlice saw its first update in my entire four years of attending Syracuse, and it was a major disappointment; the layout was indeed changed, however it was not a

productive change. The new layout was just as confusing, and brought in an entire array of newfound problems that students began experiencing on day one. In a 2022 Daily Orange article, a student noted that, “The update made it even more difficult for students to access the website. After the update, MySlice would say “stale request” when students tried to login. In order to fix this, people had to clear their cache and cookies on their browser. Even once the cache is cleared and students open the website, the only things visible are the headers of the old website, not anything underneath those headers”(Wilder 2022). My two interviewees and I can all attest to the fact that the new MySlice was a disaster of an update based off of our experience working in a Syracuse IT setting. Student and faculty complaints regarding stale login requests and errors loading MySlice came in at a near constant rate all day.

It is also important to note that a month following Finals site’s acquisition of BlackBoard, a new study by AMA Research shows that the E-learning infrastructure market is going to see explosive growth in the coming decade. The research shows that companies like BlackBoard, which have been falling behind, are going to see ever-more increasing competition amongst each other in order to fight for a slice of the new market. E-learning software will see its largest growth from developing countries in Africa and the Middle-East, however there is still a huge market for growth in America (ReleaseWire 2022). The growth in countries with an already healthy and established E-learning market comes from a lack of functionality or innovation in existing software, which will be illustrated shortly with further research into BlackBoard and its many flaws. Because of this growing and increasingly competitive market, it is important to note that there are no monopolies or situations in which an institution is forced to use sub-standard software, especially a private institution with no lack of funding like Syracuse. This newfound projection of growth in the industry establishes two things: 1) There are a lot of perceived flaws

in the market that must be improved upon, and 2) Syracuse University is not backed into a corner, and has many available avenues for improvement in terms of BlackBoard and MySlice.

All of the aforementioned issues with MySlice, which was just updated, coupled with the long lasting issues surrounding BlackBoard as a platform, contribute towards and embolden a negative public sentiment towards Syracuse University. Wilder explained in her article that it did not sit well with her how out of date BlackBoard looked, especially since she was majoring in Information Technology, like myself. I too had that exact same perception entering Syracuse University; I often questioned why I was paying so much money to attend a technology program that is built on a laggy, out of date, non-cohesive infrastructure. Based on personal experience, experience of many of my peers, two Daily Orange articles, and further analysis of public sentiment through an aforementioned survey all support a case for negative public perception towards the University, specifically towards the IT department.

After speaking with two IT professionals working at Syracuse University, the solution to the problem became much more clear, as many of the problem sources were exposed to me. One of the main takeaways from the interviews was that Syracuse, like many complex organizations, does not want to take the time to rip-up and re-establish their entire E-learning infrastructure. Not only would it prove to be costly, in both a time and monetary sense, but it would also be a challenge to re-acclimate students, faculty, and staff to the new software solution. Funnily enough, the administration has remained consistent in their slightly erroneous stance for over 7 years, with the Associate Chief Information Security Officer Jeremy Gluck stating, ““Once the overall pros outweigh the cons, we will consider the move to a new system. So far, that has not occurred,”” in 2015(Feldman 2015). Although not fundamentally incorrect, it is important to

reiterate the obvious sentiment of discontent amongst the student body, who did in fact express that the cons currently outweigh the pros.

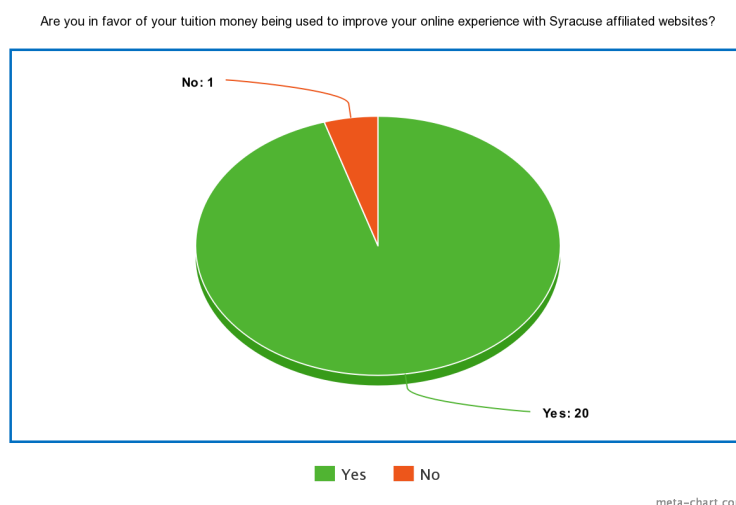
When brainstorming possible solutions, the main takeaway was that Syracuse should simply contract a better SAAS, or software-as-a-solution, like Canvas. Canvas has the ability to monitor students' computers during tests, something BlackBoard does not currently support. Joshua Keating, the Academic Technology Support Specialist at Syracuse's Whitman School of Management's IT department, said that, "It's more important now than ever before to be able to monitor and literally lockdown student's browsers while taking tests since COVID moved most classrooms online or hybrid." After speaking with more students and peers, the trend of hybrid learning since covid has become super apparent. Many students take most of their exams online at Syracuse, and have virtually no safeguards against using other browsers or tabs to google answers.

I have personally seen the capabilities of the lockdown browser, and they are far more advanced than anything BlackBoard could offer the Syracuse community. Me and my boss actually had a conversation post interview about the capabilities and associated drawbacks of those capabilities. Canvas provides such a secure testing environment in terms of academic integrity that it is actually considered by many to be an IT threat; it is not a threat in the sense that the company is malicious, rather it is more so the principle of allowing any software that much access into your system. In layman's terms, Canvas is so good at preventing cheating that it actually behaves very similarly to spyware. All in all, if its cheating prevention capabilities are so advanced, much more simple tasks like displaying proper classes and grades are no problem for a SAAS like Canvas.

All in all, many different avenues the University could take were explored in my two in person interviews. Prior to the interviews, research was done to better understand what the E-learning infrastructure market is, current trends, how it works, and how its major players were performing. Public sentiment of how Syracuse University performs digitally was assessed through a survey, which gathered that most students face problems on a daily basis, and an even more overwhelming majority of students would be happy to spend money to fix the problem.

Figure 1. Support for upgrading.

Survey results of how many students would be in favor of using their tuition to improve their web experience with Syracuse University affiliated websites. 95% of students felt strongly enough about BlackBoard and MySlice issues that they supported their tuition dollars to go towards improving it.



Students who have had an issue with Blackboard or MySlice in the past week

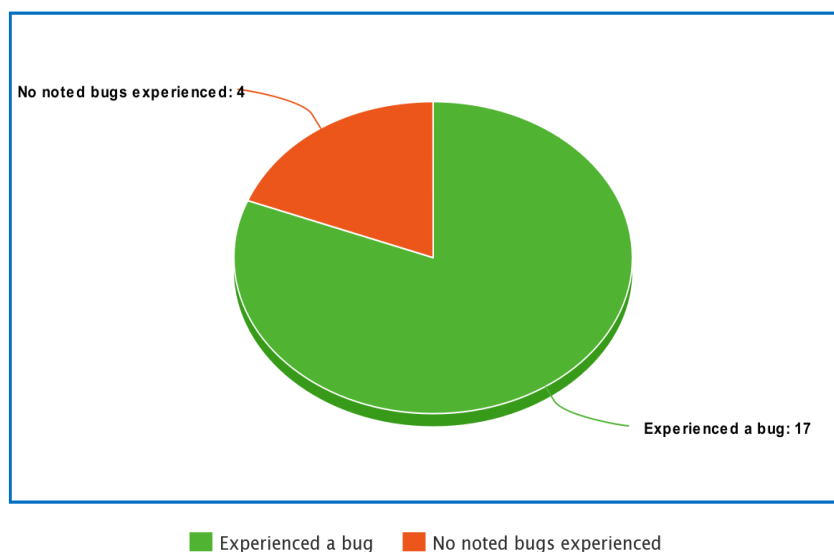


Figure 2. Frequency of bugs. Survey

polls how many students have experienced a bug/issue with MySlice or BlackBoard within one week of survey. 81% of students polled experienced a bug just this past week.

DISCUSSION:

I personally think that BlackBoard and MySlice are terrible websites. MySlice has always reminded me of the 2010 version of Roblox's website, a popular online kids video game. It was essentially the same exact level of coding, with blue text links to move to different categories that you can highlight over, except MySlice was being presented to me in 2020. Now with the new MySlice update, the website is only slightly less confusing, except it has way more bugs. The title report of this presentation contains a screenshot of a MySlice stale login request error, which I only used because MySlice gave me that error as I tried to login to take a screenshot of the MySlice logo. The websites are atrocious, and give a terrible image to new students coming to the school for anything technology related, which was also noted by Melanie Wilder in her Daily Orange article.

Both of my interviews, along with my personal experiences and thoughts, have led to the final recommendation that the University simply contracts with another company rather than try to fix the problem on their own. I think that it would make more sense for the University to simply get rid of both their own website, MySlice, as well as their contracted E-learning SAAS providers, BlackBoard and DegreeWorks. Rather than try and fight an uphill development battle, it is most likely easier to simply buy an all-in-one solution like Canvas.

To illustrate the reasoning behind why it would be easier to simply replace our E-learning infrastructure rather than fix it, we are going to focus on another impactful third-party provider that MySlice communicates with. During one of my interviews we discussed how other SAASs besides BlackBoard are causing other unique problems, and how it's important to not forget that they can be individually exchanged to fix other problems. The most notable minor SAAS contract the University has is DegreeWorks. DegreeWorks is a source for many problems

because it is also a third party software solution that must be interoperable with MySlice, which becomes outdated with MySlice's custom code. The issue is that MySlice is outdated, and so is the software it is being coded to communicate with, so year after year more band aids are added to form temporary solutions. Rather than fix the root cause, many organizations with complex software will simply code short term band aid fixes with no long term plan in sight. These short term fixes begin to layer year after year, as they are only meant to be temporary, but then are built on top of, leading to a spider's web of bad, glitchy code. This is why it is often better to either gut the SAASs, like DegreeWorks and BlackBoard, or gut the in-house solution, which is MySlice. Better yet, this is why the overwhelming recommendation that I recommend is to gut everything and replace it with an all-in-one software solution like Canvas.

Canvas takes care of grades, transcripts, teaching, learning, video chats, communication, exams, homework, and more; it is essentially a combination of BlackBoard, MySlice, DegreeWorks, and other parts of the Syracuse online ecosystem, like the Barnes Center or Housing Portals. Huge coding budgets and project scopes can be avoided by simply replacing all of that time and effort with a tried and tested software solution.

CONCLUSION AND RECOMMENDATIONS:

All in all, BlackBoard is an aging SAAS that has been steadily falling out of favor for decades. The aforementioned results of BlackBoard falling from a market share of 90 percent in 2006, to 44 percent in 2015, to now only 20 percent, coupled with the public sentiment analysis conducted via surveys, personal experience, two Daily Orange articles, and two interviews with IT staff, leads me to conclude that there is an urgent imperative for Syracuse to update its

E-learning infrastructure. It is recommended that Syracuse replace their existing infrastructure with an all-in-one SAAS, software as a solution. The current solutions being implemented have proven to fall short of basic expectations, dating as far back as 2015, and only becoming more exasperated with the most recent of updates. All in all, it is recommended that Syracuse explore other solutions, such as Canvas, to handle their back-end e-infrastructure, as their existing solution of BlackBoard and Myslice has proven to be insufficient; with the e-learning infrastructure market projected to become more competitive, it makes sense that Syracuse upgrade in order to remain competitive given rising tuition prices.

WORKS CITED:

ByReleaseWire. "E-Learning Infrastructure Market to See Huge Growth by 2027 : Cisco Systems, Oracle, Jenzabar, Fujitsu." Digital Journal, 13 Oct. 2022, <https://www.digitaljournal.com/pr/e-learning-infrastructure-market-to-see-huge-growth-by-2027-cisco-systems-oracle-jenzabar-fujitsu>.

Gives background on the industry, current standards, and future projections. Illustrates an opportunity for Syracuse to get ahead of the game and capitalize on the growing market and new technologies. It is important that we do not keep falling behind with old technology, especially while trying to brand itself as an institution that offers leading IT and computer science programs.

“Finalsite Acquires the BlackBoard K-12 Division of Anthology.” Anthology, 15 Sept. 2022, <https://www.anthology.com/news/finalsite-acquires-the-BlackBoard-k-12-division-of-anthology>.

Explains the Finalsight acquisition of the BlackBoard K-12 Community Engagement division from Anthology. Shows current market conditions, as this happened in September. Syracuse should look into future promises from this acquisition or look towards other leading providers or possible in-house solutions from our own IT teams.

Feldman, Matt. “SU Continues to Use BlackBoard amid Complaints, Drop in Popularity Nationally.” *The Daily Orange*, 2015, <https://dailyorange.com/2015/09/su-continues-to-use-BlackBoard-amid-complaints-drop-in-popularity-nationally/>. Accessed 17 Oct. 2022.

Demonstrates a public call for change as, in reference to BlackBoard, as far back as 2015, over 6 years ago.

Garza, Gabriel, Manager of Academic Technology. Interview through messenger, Upcoming

Hill, Phil. "State of Higher Ed LMS Market for US and Canada: Year-End 2021 Edition."

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<https://philonedtech.com/state-of-higher-ed-lms-market-for-us-and-canada-year-end-2021-edition/#:~:text=With%20the%20current%20data%2C%20Canvas,growth%20over%20the%20past%20decade>.

Keating, Josh, Academic Technology Support Specialist. Interview in person, 21 October 2022

Mitrano, Nicolas. BlackBoard and MySlice Overhaul. Syracuse, New York, 26 October 2022.

Unpublished Survey.

Wilder, Melanie. "Updating MySlice Was a Mistake." *The Daily Orange*, 2022,

<https://dailyorange.com/2022/02/updating-MySlice-mistake/>. Accessed 23 Oct. 2022.

Shows recent criticisms of MySlice, and elaborates on how recent efforts have fallen short of students' and faculty's expectations

Appendix 1 - Interview Questions:

1. Do you believe there is a problem with BlackBoard and MySlice as it is right now?
 - a. What do you think is the source of the problem?
2. Do you think BlackBoard is outdated?

3. What do you think about the recent update?
4. What do you think can be done about it?
5. What do you think about an alternative solution to MySlice?
6. What do you think about an all in-one-solution? Would that make more sense?

Appendix 2 - Survey Questions:

1. Are you in favor of having your tuition money used to improve
MySlice/BlackBoard/the Syracuse online web experience?
2. Have you had an issue with BlackBoard or Myslice within the past week?
- 3.

Appendix 3 - Glossary

SAAS - software as a solution

E-learning infrastructure - refers to BlackBoard, MySlice, and all other online tools that enable schools to function