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Update on itslearning LMS for HISD

Degraded performance caused by a combination of unusually high traffic, large courses and changes in site structure made during peak usage times.

Introduction

In the past few weeks, we have been preparing for Back to School and for a massive increase of users on our platform in Houston. These are unprecedented times for all of us in education and we understand how critical it is for you that the LMS platform is accessible for your teachers and students.

Even with a significant scaling up we have unfortunately seen some issues over the last two days affecting Houston This is not how we imagined the first week of school for Houston. We recognize this affects students, teachers and parents. Our engineers have been working around the clock to tackle the root cause and implement fixes, and we are putting in measures to ensure a stable user experience for the upcoming schooldays.

Situation

On Tuesday, 8th September:

- Houston experienced outages or degraded service between:
    - 8am-9am
    - 12pm-3pm
    - 3.30pm-5pm
- As the day progressed some users suffered temporary slowness and timeouts on our platform tools, including assignment and page elements.
- There was service outage later in the day which lasted several hours for some users.

On Wednesday, 9th September:

- Throughout the morning all services were running well with close to 80,000 concurrent users and servers responding well.
- There was an outage from 11:30am – 1pm when Houston was unavailable.
- 94,455 unique teachers and students accessed the LMS in the morning.
- 126,742 unique teachers and students accessed the LMS in the afternoon.
- 138,190 unique teachers and students accessed the LMS throughout the day.

General Actions Taken

We want to share with you the steps we have taken to mitigate the challenges:

- Before the start of the semester we increased:
  - The number of web servers for Houston specifically.
  - Houston Data Base size to the largest available on Amazon hosting (AWS).
  - Our global services - as a precaution.
- Ready for Tuesday 8th September, we set-up a dedicated HISD response team with our most senior engineers and developers to fix any issues, to continuously monitor the service and to quickly respond in the event of disruption.
- We have implemented several measures to limit impact across the platform and isolate components including:
  - Multiple code fixes and optimizations.
  - Configuring the customer environments.
- We are releasing code fixes to optimize performance on heavily used pages in the application.
- We have implemented a fallback solution to restrict certain user functions and reduce customer impact.

Root Causes of Issues on Tuesday and Wednesday

This week we have seen a huge increase in users across HISD. However, the increased usage/traffic was not the root cause of the outages. It was the combination of high traffic load, and creation of massive courses, changes in site structure and new user uploads during the busiest times, that caused a snowball effect that degraded performance. We have mitigated against these issues with changes made on Tuesday and Wednesday and are working with HISD to find ways for these site changes to be run outside school hours.

Summary

The past two days have been out of the ordinary. We have historically had 99.99% uptime and I'm happy to report that since taking steps on Wednesday lunchtime to resolve the issues, we have had consistent availability.

With all these measures implemented, we believe we have mitigated the potential risks and are confident that going forwards we can provide you a more reliable service than we have seen in the first few days of this semester. We are committed to proactively supporting HISD and being open and transparent about any problems we experience.

Thank you for your support and commitment to education. If you have any questions, please do not hesitate to contact us.

Sincerely,

Steve Tucker

CEO, itslearning