

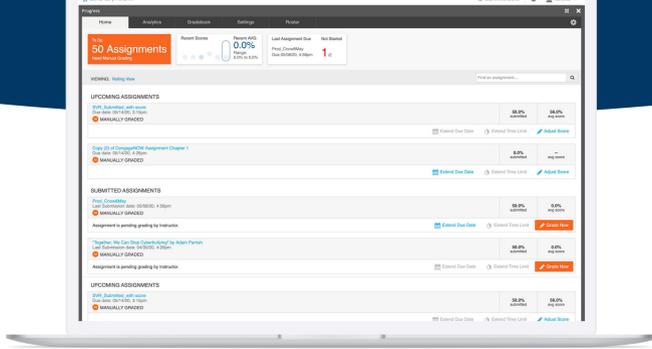
MINDTAP – E-LEARNING PLATFORM FOR ACCELERATING STUDENT PROGRESS

ABOUT CENGAGE

Cengage is a global education and technology company built for learners. The company operates in 20 countries, has employees in 38, and sells in more than 125 countries. Cengage products and services empower over one billion learners with innovative digital learning experience around the world.

PAVES THE WAY FOR DIGITAL EDUCATION

MindTap is a flagship product of Cengage, mainly purchased by universities and their departments all over the world. It's a platform for digital education that enriches the education process, with rich and customized content options, vast testing capabilities, and market-leading pedagogy methods. The MindTap platform, along with other products in the Cengage portfolio, offers powerful features such as analytics, assessment capabilities, and options for adaptive learning.



TEAM REINFORCEMENT

MindTap faced resource issues when they needed help developing and scaling their system. The US software engineering market is extremely competitive, and it's hard to hire competent engineers fast enough in the company's key locations. It is also a lot more expensive to use local resources. Cengage previously had experience with other engineering outsourcing companies, but experienced issues with low-quality talent and lack of effective team collaboration.

Conversely, NIX had been collaborating with Cengage for a few years and proved itself as a reliable outsourcing partner. One of Cengage's critical conditions was the ability to create collaborative teams consisting of domestic and offshore resources.

As a result of constructive teamwork, we were able to improve platform scaling and strengthen production support practices including triage and bug fixes.

CHALLENGE



FAST PROJECT ONBOARDING

The development process couldn't be interrupted, so we had to dive deep into the project and make an impact within a short period of time. We had to prove our reliability and competency in record time.



ESTABLISH EFFECTIVE COMMUNICATION THROUGH TIME ZONE DIFFERENCES

The team consisted of a QA team in India, the NIX development team in Ukraine, and the onsite development team in the USA. We had to cooperate with both sites effectively while taking into consideration significant time zone differences.



STREAMLINE THE UI PERFORMANCE

We needed to improve the frontend performance of the application, prevent memory leaks, and optimize data storage.

SOLUTION

FAST AND EFFICIENT

The work process began almost immediately, and the client's team was impressed by how fast NIX resources onboarded and became productive.

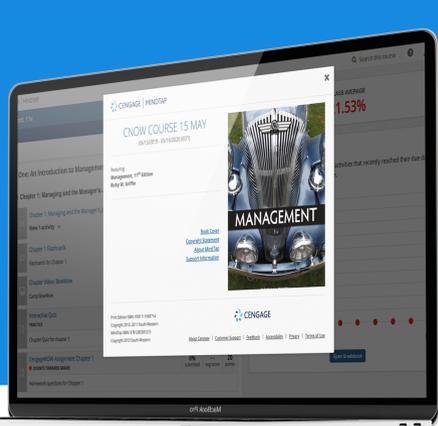
The NIX engineering team demonstrated superior tech skills and an ability to adjust to a new environment while providing quick results. The NIX team was able to create effective communication loops with both US and India based teammates and became an intermediary between the QA and the US-based engineering resources.

As for the tech side of the project, in order to streamline the UI performance, we used profiling, memory monitoring, and measurements of the web page speed.



I expected to see a ramp-up of at least 2-3 months, and they became fully productive and active members of the team only after 2-3 weeks.

Mentioned Steve Berardelli, Sr. Director of Engineering for MindTap.



KEY POINTS

DATA STORAGE OPTIMIZATION

The team eliminated duplicate sources and modified the data structure to ensure fast processing.

ENHANCED SYSTEM PERFORMANCE

Reduced the number of data-intensive loops and logic migration to the local state of components, which helped to avoid unnecessary re-drawings. Also, we ensured smart rendering that allowed displaying user required information only.

MEMORY LEAKS REMOVAL

The team detected problem areas in the codebase (data not collected by the garbage collector) and performed refactoring.

Moreover, we restructured our teams – instead of four distributed teams we formed separate squads within each team with their independent scope of work. It allowed us to enhance work efficiency and understand each team member's workload.

OUTCOME

ENHANCED PERFORMANCE & RAPID SCALING

According to the engineering director of MindTap, the NIX team raised the bar of quality for their US-based team and produced a high quality of code at a great speed.

Since the early beginning of our engagement with Cengage, we succeeded in gaining the client's trust by demonstrating our technical expertise and high performance. We also steadily trained new experts to be ready to join the project at any time.

Working side by side with the client's team, we proved that distributed teamwork could be efficient, fast, and fun for all. Here are some main outcomes of our joined work:

SIGNIFICANT PLATFORM EXTENSION

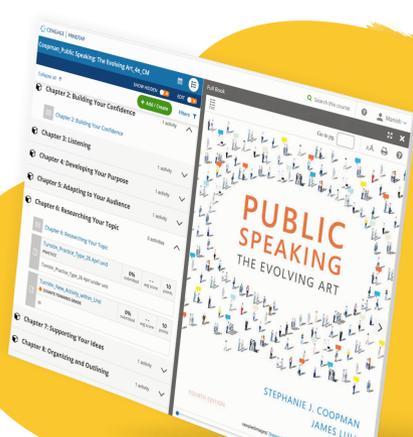
During our collaboration, the platform reached the highest figures – almost 200,000 users in a month, 1,106,603 unique sessions, and 20,845 courses.

CONTINUOUS DEVELOPMENT PROCESS

Due to our robust training and onboarding processes, the client experienced no loss of productivity or decreased velocity during introduction of new team members. NIX took ownership of getting all new team members through a learning curve seamlessly and timely.

STREAMLINED COMMUNICATION

We enhanced communication among three sides, such as our team in Ukraine, QA vendors in India, and the onshore resources in the US. Working closely together with the Indian QA team and facilitating communication between them and Cengage, we helped the client to set up a strong collaboration strategy, which optimized Cengage's involvement in multiple process steps.



Over the past year, the process of content development and course construction on the MindTap platform became simpler and more user-friendly and we are proud that the NIX team was a big part of this success. Now more than 50% of the MindTap development team are NIX employees. With NIX earning a reputation of a trusted partner Cengage engineering team was able to focus their resources on much more value add activities and priorities.