

How We Improved Security and Learning Efficiency for Enterprises with LXP-LMS Integration

Project Overview

The client is a learning experience provider from the e-learning industry offering personalized course deliveries to its audience through a custom Learning Experience Platform (LXP). It helps learners access courses, assessments, and educational resources while catering to different enterprise clients with microsites.

Key Objectives



The project focused on developing a smooth and strong connection between the client's LXP and the Open edX LMS so users can easily access assessments, track course progress, and join classrooms of recorded sessions. Some of its objectives included:

Direct course access

A secure login system with access levels available for super admins and city-specific admins.

Smooth SSO

Admin panels were built for every city (Bangalore, Chennai, Hyderabad, and Pune only) to manage local content, contacts, events, and articles.

Progress synchronization

Create a listing page for water-based service providers, with information like contact details and the solutions they provide.

Client microsites

Create a listing page for water-based service providers, with information like contact details and the solutions they provide.

Simple course creation

Create a listing page for water-based service providers, with information like contact details and the solutions they provide.

Key Challenges

Some of the challenges that we faced while integrating the platforms include:



Building authentication

The main challenge was to integrate Single-Sign-On and OAuth while maintaining a smooth user experience.



Microsite management

Handling 300+ client microsites with consistent data accuracy and domain routing across all sites.



Fusion Auth integration

Updating the system from a standard OAuth to Fusion Auth without disrupting any data.



Improved architecture

Managing system stability and performance across different enterprise clients while supporting cross-platform access.

Solutions Provided

We provided a sophisticated LXP-LMS integration, considering the client's requirements with different solutions. Let us take a look at them:

LXP-LMS Integration

- ✓ We allowed users to navigate from the LXP dashboard directly to the Open edX LMS platform so they can learn and read conveniently without interruption.
- ✓ We used Django and Python for backend development with the Open edX framework to ensure smooth course execution.

Security Authentication

- ✓ To eliminate multiple logins, we provided Single Sign-On so users registering on the LXP can automatically be linked to accounts on LMS.
- ✓ We used Fusion Auth integrated with Django, offering secure authentication for all enterprise clients.

APIs for Data Sync

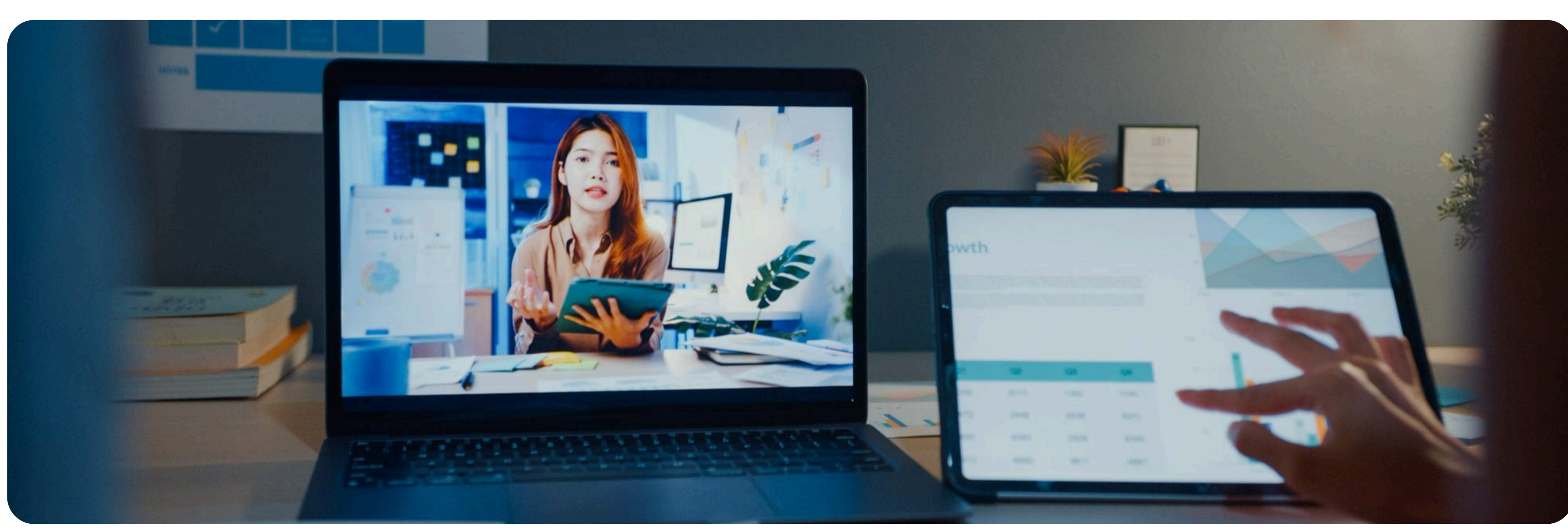
- ✓ We built custom APIs to synchronize user activity, data enrollments, and course progress in real-time for accurate reporting on the LXP dashboard.
- ✓ Python libraries and Django were used to build these APIs, and MySQL handled LMS data while MongoDB handled course data.

Microsite Configuration

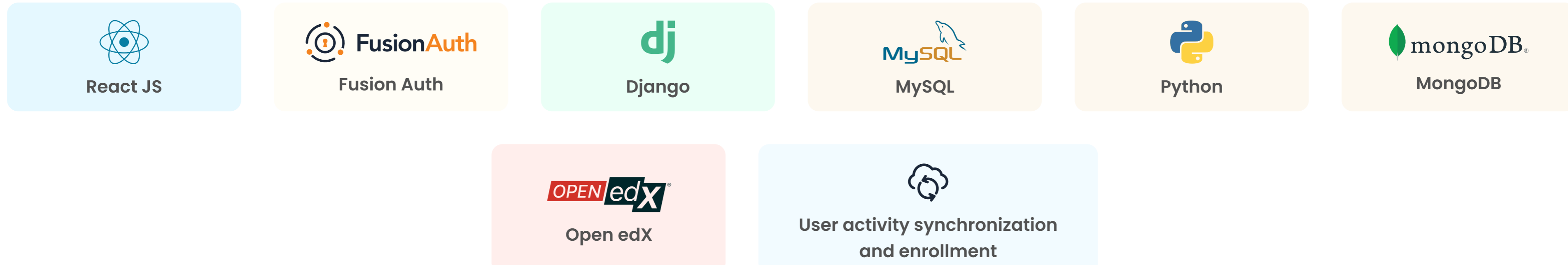
- ✓ We set up 300+ microsites for different users, and each one represented the client's branding in the URL prefix with consistent routing and data accuracy.
- ✓ The front-end was built with React, and Django was used for domain configurations.

Simplified course creation

- ✓ For consistent content management, we also built a single-step course creation form with four categories: Domain, Sub-Domain, Difficulty Level, and Course Type.
- ✓ This form was built with React for an interactive interface, and Python and Django carried the backend logic for storing and categorization courses.



Tech Stack



Business Impact

The learning experience platform was beneficial to our client because:

The LXP-LMS integration developed a unified learning environment, which improved both learner experience and efficiency. The platform became much more convenient for 300+ users of the client.

The real-time data synchronization with custom APIs made the course progression visible on the dashboard, which helped in improving course management and engagement across all microsites.

The personalized microsite setup improved the client's brand presence for each enterprise user, reducing the maintenance overhead.

The single-step course creation form allowed teams to set up courses conveniently without hindering categorization or data accuracy.

Conclusion

By integrating LXP with Open edX LMS, we established a smooth and secure learning environment for our client. With this implementation, a frictionless learning experience was experienced by hundreds of users, which helped the client expand their brand reach even further. Besides learner engagement and operational performance, we helped in developing a technology-based framework that aligns the client for future growth and expansion in digital learning.