DRC SYSTEMS

TechAdmy Powers HPE's Next-Gen Learning:

How DRC Systems Built a Unified LXP for Global Workforce Upskilling with OPEN edX

Company Overview

Hewlett Packard Enterprise (HPE) is a global leader in edge-to-cloud computing solutions, serving enterprises across industries. With a vast workforce spread across multiple regions, HPE required a scalable, unified Learning Experience Platform (LXP) to streamline employee training, compliance, and upskilling.

The challenge was to consolidate multiple learning sources (internal courses, third-party providers like Udemy and Coursera, and certification programs) into a single, user-friendly platform while ensuring seamless tracking, reporting, and compliance management.

Key Objectives

The primary objective was to design and develop a comprehensive Learning Experience Platform (LXP) to support HPE's internal online training needs. The solution needed to be:

- Enterprise-grade, scalable, and intuitive.
- Globally accessible, accommodating both local and international employees.
- Integrated with third-party content providers.
- Capable of managing mandatory and advanced upskilling training.
- Equipped with robust reporting and assessment tools for compliance and performance tracking.
- Centralized system for all the trainings (self paced, instructor led, blended and offline training's)

Key Business Challenges

HPE faced several challenges in achieving its training objectives:

Fragmented Learning Ecosystem:

Training content was scattered across multiple platforms, making it difficult for employees to access and track progress in a unified manner.

Diverse Training Needs:

Catering to mandatory compliance training, advanced upskilling, and certifications required integration with various content providers and assessment tools.

Global Workforce:

Supporting a geographically dispersed workforce demanded a scalable platform with offline and online training capabilities.

Compliance and Reporting:

HPE needed automated compliance reporting and consolidated analytics to meet HR audit requirements and track learner progress across platforms.

Security and Proctoring:

Ensuring secure and credible assessments for certifications was critical, especially for technical and behavioral evaluations.

Solution We Offered

To address these challenges, the HPE LXP was built on Open edX, leveraging its open-source flexibility and robust feature set. Below are the key solutions implemented:

Unified Learning Portal on Open edX

- **Integrated Training Calendar:** Built on Open edX's scheduling module with a custom **React/JavaScript UI**, enabling users to view and enroll in ILT, VILT, and self-paced courses via a centralized calendar.
- **Offline Training Records:** A custom Open edX module allowed users to log offline session attendance, reconciled through **Python scripts** and stored in **PostgreSQL** for unified reporting.
- **Notifications & Reminders:** Automated via **Celery with Redis**, using **SMTP** for email alerts and **WebSocket-based** push notifications for in-platform reminders.
- **Session Management:** Admins manage sessions through a **Django Admin interface**, with attendance tracking via API integration with HPE's HR system.

Third-Party Course Integration

- **Udemy Integration:** Curated courses pulled into **Open edX** via **REST APIs**. SSO enabled through **OAuth 2.0**; real-time progress sync via **Webhook listeners.**
- **Coursera Integration:** Embedded via REST APIs with **JSON-based tracking** and deep linking for a seamless experience.
- **RPS Integration:** Certification content integrated through APIs and deep links, with metadata stored in **MongoDB** for catalog display.
- **Dynamic Catalog:** Unified catalog powered by **Elasticsearch** for fast filtering, personalized learning paths generated using Python-based recommendation logic.

Secure Assessments

- **Mettl Integration:** **RESTful APIs** and **Webhook listeners** synced assessment results to Open edX's **PostgreSQL** for tracking and certification.
- **Proctoring & AI Plagiarism:** Embedded via **Mettl's JavaScript SDKs** with custom Open edX **xassessment** modules for secure, monitored exams.
- **Consolidated Reporting:** ETL pipelines built with **Apache Airflow** pulled data into **Snowflake**, dashboards created in **Tableau** for detailed analytics.

API Integrations for Data Flow and Tracking

- **SSO Integration:** Unified login via **SAML 2.0** with HPE's Active Directory.
- **Custom APIs:** Built with **FastAPI** for seamless data exchange on enrollments, completions, and scores across Open edX, HR systems, and providers.
- **Webhook Listeners:** Node.js-based listeners enabled real-time sync of learner progress and compliance data.

Consolidated Reporting from All Platforms

- **Unified Reporting:** Data aggregated in **Snowflake** via **Apache Airflow** pipelines from **Open edX**, third-party platforms, and **Mettl**.
- **Dashboards:** Built with **React** and **D3.js** for interactive views on progress, training hours, and certifications.
- **Compliance Reports:** Generated and integrated with HPE's HR system for audits.

Business Impact and Benefits

The HPE LXP delivered significant value to the organization:

Improved Learner Experience

SSO and a unified course catalog reduced friction, increasing course enrollment by **35%.**

Enhanced Compliance

Automated compliance reporting reduced audit preparation time by **45%.**

Scalability

The API-driven architecture supported a **40%** increase in global users without performance degradation.

Cost Efficiency

Integration with third-party providers like Udemy and Coursera reduced content development costs by **25%.**

Combined Course Catalog

A consolidated course catalog from all the providers is shown to users so they can select the course of their choice easily.

Learning Path with courses from multiple providers

Multiple courses from multiple providers were brought together as a learning path.

Secure Assessments

Mettl's proctoring ensured credible certifications, with a **98%** pass rate for technical assessments.

Data-Driven Insights

Consolidated dashboards enabled data-driven decisions, improving training program effectiveness by **30%.**