CASE STUDY: ORBIS

A modernized education management platform connecting students to employers

Partner information:

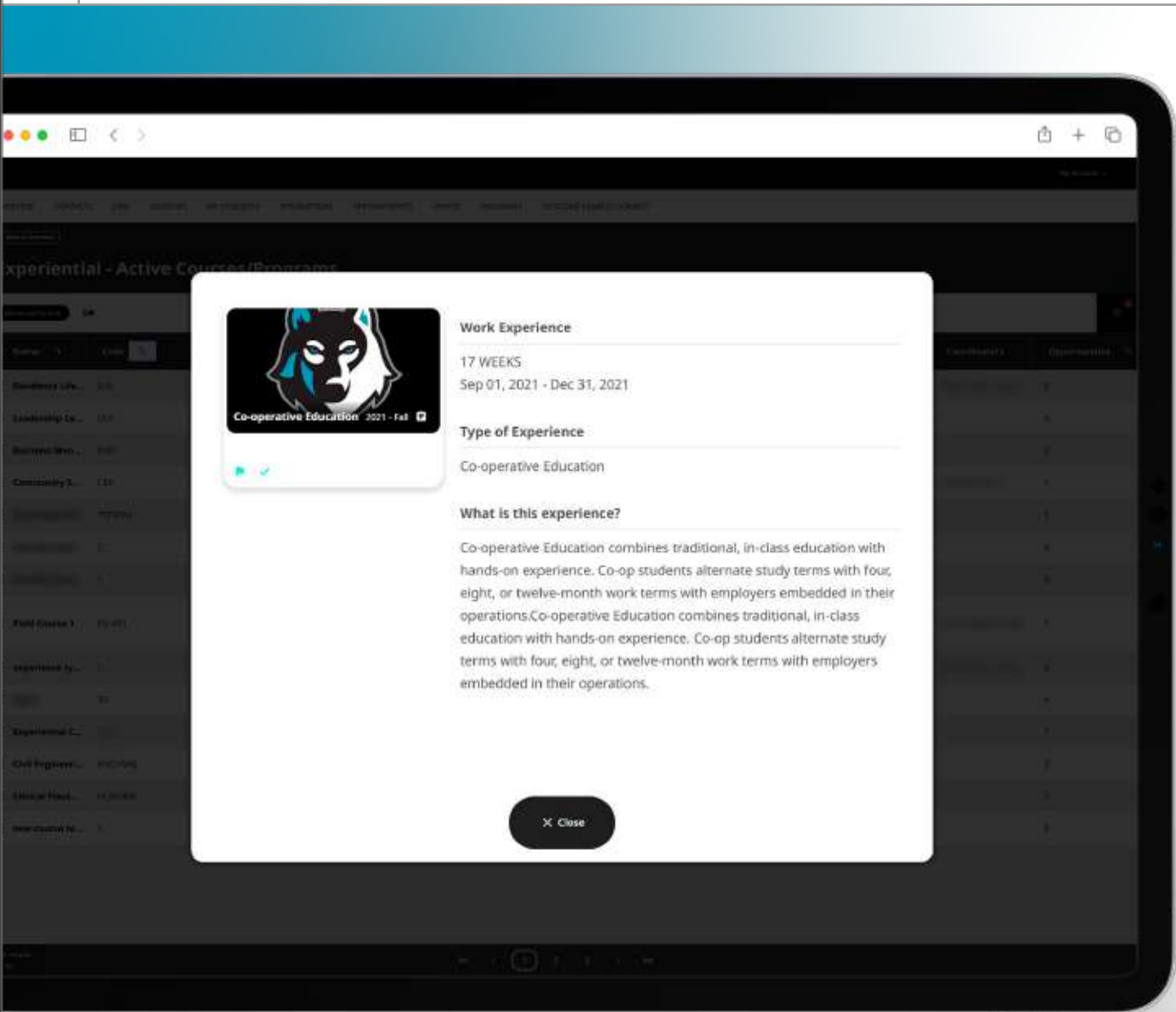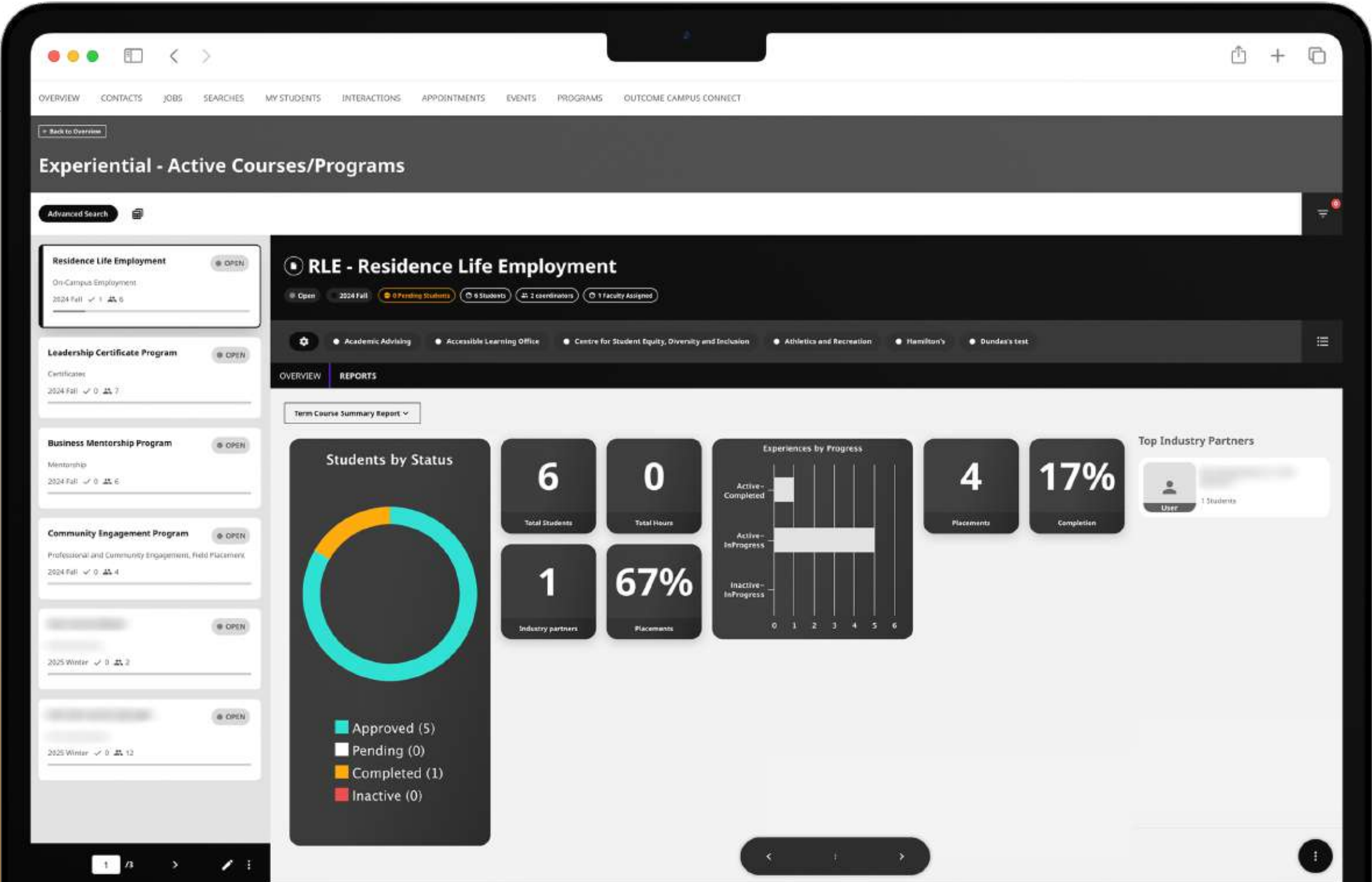Partner: **Orbis**

Company size: **11-50**

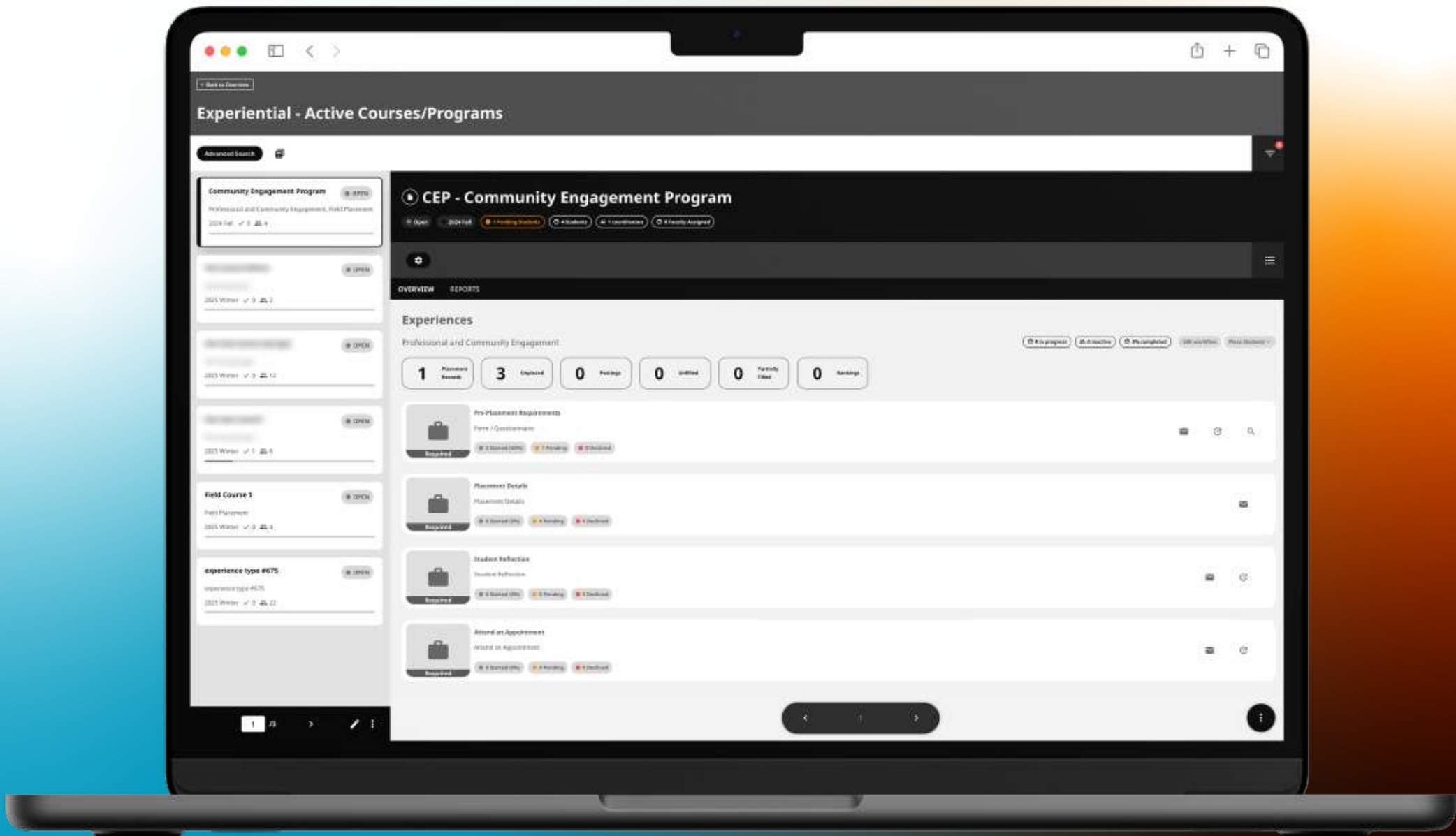Headquarters: **Canada**

Team size:

Full-stack developers: 3
Frontend developers: 2

PROJECT OVERVIEW

Orbis is an edtech company providing experiential-learning management platforms for Canadian colleges and universities.

Their flagship platform supports course management, academic performance tracking, student-employer matching and competency verification. But after nearly two decades of growth, their codebase had become highly complex, and legacy frameworks limited new feature delivery and integrations for their expanding client base. To modernize their platform and tackle market demand, Orbis needed a modern development strategy.

Our team joined as long-term development partners to modernize the backend, upgrade the frontend and consult on IT decisions shaping the platform's future. Over four years of collaboration later, our work has included framework migration, building reusable UI components, developing advanced student-employer matching capabilities and introducing AI-assisted development workflows.

Today, we continue to work together with Orbis, expanding features and catering to the evolving needs of Canadian educational institutions.
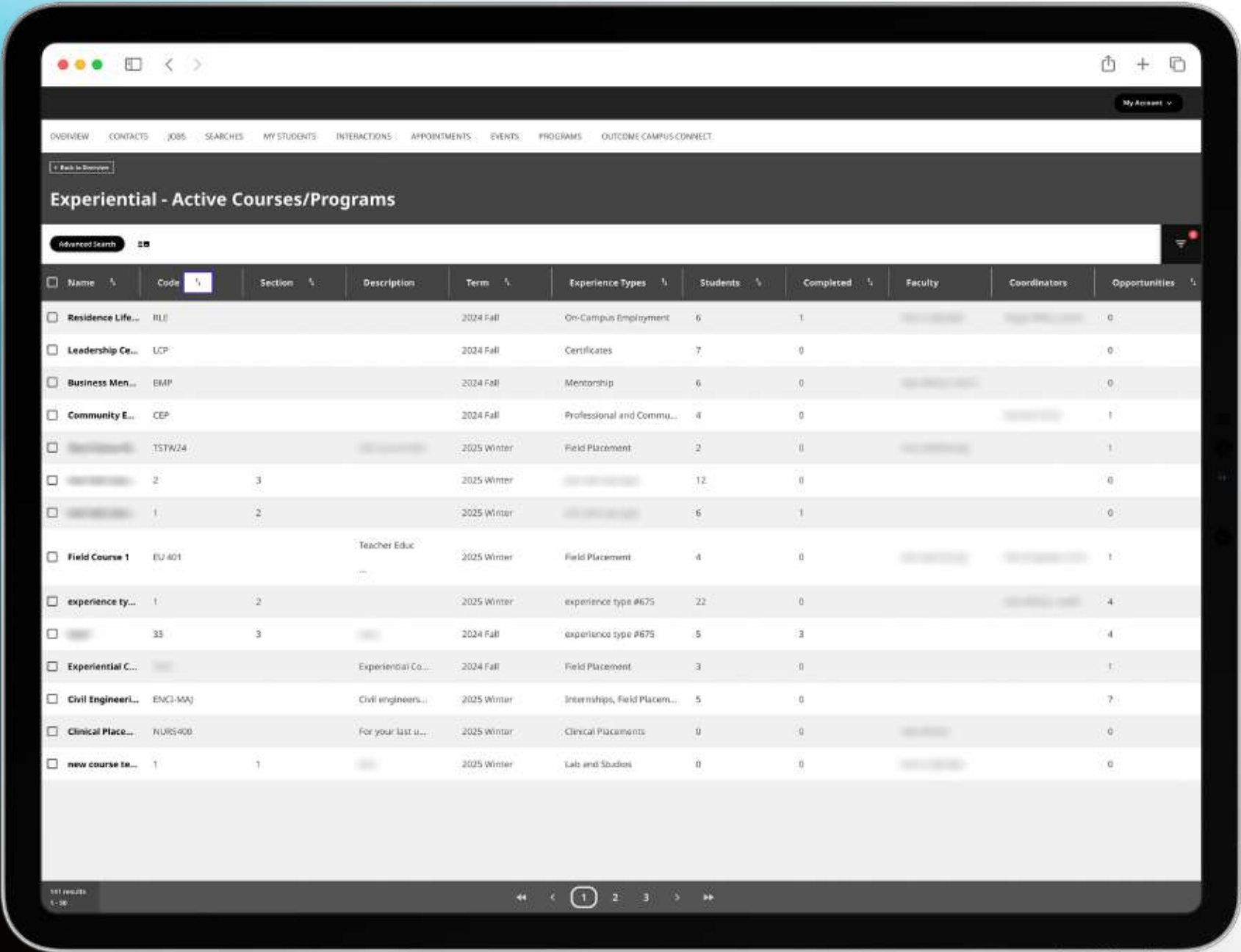
SERVICES & TECHNOLOGY STACK

Provided services

- Backend development
- Frontend development
- Complex bug fixing and refactoring

Technologies & tools

- **Frontend:** jQuery, Vue.js
- **Backend:** Java 17, Apache Tomcat, Spring 6, Spring MVC, Hibernate 6, Apache Log4j
- **Third-party tools:** CKFinder, CKEditor, TokBox
- **Other tools:** MS SQL Server, Apache Subversion, IntelliJ IDEA, GitHub, Jira, Microsoft Teams

REQUIREMENTS & CHALLENGES

When they first approached us, Orbis needed a team capable of navigating a mature, highly interconnected codebase while preparing it for future growth.

Over nineteen years of continuous development, their technology stack was now in need of modernization, making it hard to add new features, maintain stability and integrate new development tools. Architectural complexity required developers with strong analytical skills, who could make improvements without disrupting the platform's daily operations. Every change—whether a small bug fix or a major upgrade—had to preserve compatibility with existing modules and data structures used by various institutions.

In parallel, Orbis wanted to improve the platform's accessibility, modernize the user interface, and introduce new functionality to strengthen the link between education and employment.

These were the initial requirements, but new needs continue to arise as our partnership continues:

Migrating legacy frameworks

Upgrade from Spring 2 and Hibernate 2 to current versions. Replace jQuery components with Vue.js for better maintainability, performance and compatibility with modern libraries.

Developing a modular features

Build reusable, accessible Vue.js components to make Orbis's platform modular, so universities can mix and match the educational management features.

Ensuring accessibility compliance

Provide screen reader support, high contrast design options and keyboard navigation for students with disabilities.
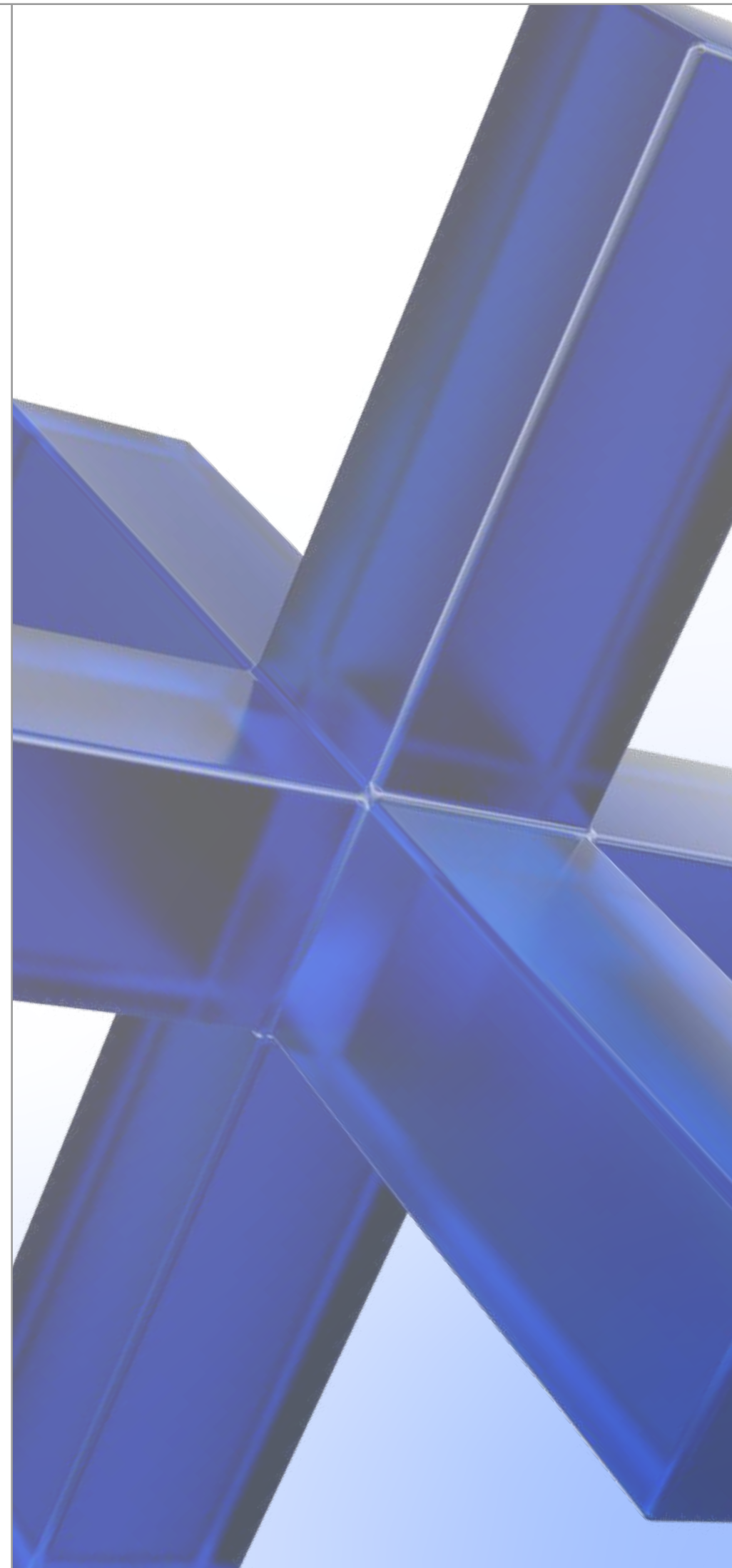
Creating a competency-based s tudent-employer matching system

Aggregate verified student competencies and experiences into searchable profiles, letting potential employers filter candidates and send interview invitations within the platform.

Introducing AI-assisted development

Evaluate and pilot tools like GitHub Copilot and OpenAI Codex to automate routine internal coding tasks, freeing Orbis's developers to focus on building new platform features and functionality.

HOW WE WORK

Collaboration approach & process

We joined our partner's project as embedded team members, **integrating directly into their existing development units** rather than working as an external vendor.

This close teamwork meant our developers could make decisions alongside Orbis's team rather than waiting for external direction, which sped up feedback loops and kept communication open. Today, daily standups and weekly retrospectives **align efforts across time zones,** while Kanban, a lean development framework, makes it easy to adapt to changing priorities.

Our developers participate in code reviews and decision-making alongside our partner's team leads and product managers, **contributing ideas on architecture, technology choices and feature planning.** This collaborative, mutually respectful approach continues to drive and strengthen their platform's ongoing growth.

PARTNER TESTIMONIAL

"Aimprosoft has proven time and time again to be a valuable partner for us - a vendor relationship, but built on a strong foundation of communication, trust, and strong deliverables. Our team is not just supported by their development resources, but with a full business planning approach: offering us value, insights and advice on how to approach our different technology needs."

Emily Eley,
Vice President, Operations & People

STEP-BY-STEP PROJECT FLOW

Stage 1: Assessment and selection

Orbis tested our developers with complex code samples, asking them to reverse-engineer their platform's underlying database architecture. We mapped the full structure and data relationships, successfully demonstrating the depth of expertise needed to improve their platform. The strong technical fit led to our immediate selection.

Stage 2: System stabilization and updates

Our team began by analyzing Orbis's existing codebase, identifying recurring issues, and delivering steady bug fixes along with minor feature updates to improve stability. At this stage, we also fine-tuned SQL performance to improve platform responsiveness when handling large datasets.

Once it was stable, we upgraded Spring 2 and Hibernate 2 to Spring 6 and Hibernate 6. This migration simplified ongoing maintenance, enabled the use of contemporary libraries and created a foundation for faster, more reliable development.

Stage 3: Frontend upgrade and component development

Working with Orbis's in-house designers, we created a modern design component library that brought a consistent look and user experience to all of their platform's modules and sped up future development. By introducing reusable Vue.js components, we helped their team roll out updates faster, unify user experience across modules, and modernize older functionality without interrupting the institutions that rely on the platform.

STEP-BY-STEP PROJECT FLOW
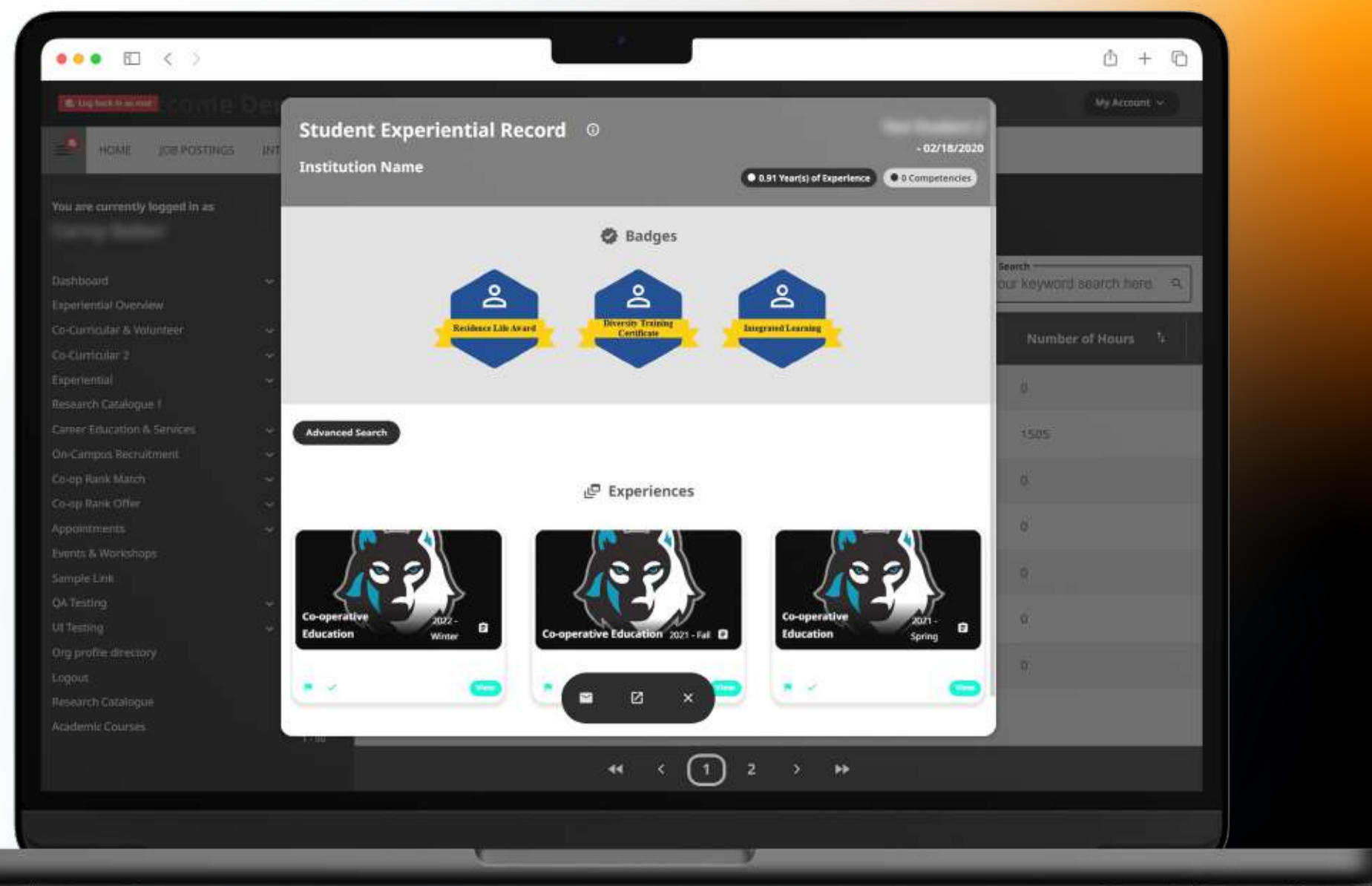
Stage 4: New module development

As part of the platform's growth strategy, we built the Experience Record module—an aggregator that collects students' skills, competencies and practical experience. The aggregator compiles this verified data—validated automatically with official documentation, or by supervisors, or instructors—into a profile resembling a resume, which students can choose to make visible to potential employers. Filters let potential employers search students by experience criteria, then invite suitable candidates to interview directly on the platform.

But because this aggregator pulls data from nearly all of the platform's modules—each with various data structures—SQL queries became complex and slow with large datasets. Recognizing this bottleneck and quickly analyzing data flow, our team proposed and implemented optimization strategies, including temporary table caching. And to identify and resolve data processing issues and ensure system stability, we also added error logging and standard Java error handling.

Stage 5: AI-driven SDLC support

Our team collaborated with Orbis to add AI-assisted development workflows to improve productivity. Through comprehensive demos and proposals, we showcased practical use cases and best practices for the tools we use, like OpenAI Codex and other AI assistants. Our expertise helped shape Orbis's AI adoption, and their developers now use AI primarily to accelerate small, well-defined tasks, leaving more space to focus on strategy.

DELIVERED PRODUCTS & FUNCTIONALITY

- **Skills and competency management (Experience Record feature):** Developed a feature that can track student competencies, verify them, and aggregate those skills and experiences in a single profile—Orbis can now offer colleges and universities a feature that improves student career outcomes. It automatically compiles and validates student experience and lets employers filter candidates and invite them to interview directly on the platform.

- **Technology updates and upgrades:** Migrated the backend from Spring 2 and Hibernate 2 to versions 6, replaced jQuery with Vue.js and improved code structure—creating a faster, more reliable platform for students, staff and employers.

- **Accessible, responsive UI components:** Added screen reader support, high contrast modes and responsive layouts—ensuring students with disabilities can use the platform easily.

- **Ongoing platform maintenance and support:** Delivered continuous bug fixing, targeted refactoring and performance improvements, along with selected third-party services integrations—keeping the system stable and fully functional for all users.

- **Module-by-module modernization:** Gradually upgraded their platform's key resources—including work-placement management, internship matching, and competency-tracking—replacing outdated UI with reusable Vue.js components. This unified design, improved accessibility features and reduced maintenance effort across the platform.

- **AI-assisted development workflows:** Piloted OpenAI Codex on selected coding tasks, helping Orbis speed up routine updates and free their developers to focus on more complex improvements. By offloading repetitive work to AI, their team delivers new features faster without increasing overhead by expanding headcount or extending delivery timelines.

PROJECT OUTCOMES

Consistent delivery in a complex legacy system

Orbis was able to add new features and deploy fixes without downtime, keeping their platform running smoothly while improving the experience for thousands of users across Canadian colleges, universities and potential employers.

Resolved performance bottlenecks

By fixing table loading issues, we reduced query times and cut down on support requests from universities, enabling Orbis to deliver a faster, more reliable platform for students and university staff.

Better inclusivity

Implemented screen reader support, high contrast UI modes, and responsive layouts across new user components like tables, forms and dashboards, improving Orbis's ability to serve students with diverse accessibility needs.

Stronger competitive edge

Delivered an automated feature for verifying and compiling student competencies, and then reliably matching them to potential employers —differentiating Orbis's platform from competitors still relying on unverified data and manual resume-building systems.

Technology stack upgrade

Migrated from Spring 2 and Hibernate 2 to current versions, letting Orbis's development team integrate security patches, use current Java libraries, and build features that weren't possible with 15-year-old frameworks.

Reliable delivery with a long-term IT partnership

An ongoing four-year collaboration with the same team lets Orbis expand their platform with consistent quality and reliability, while avoiding the delays and knowledge gaps that come with rotating contractors.

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