

Australian Construction Company

A learning management system for a construction business



About the company

Our client has more than three decades of experience in the Australian construction industry. Thanks to their established processes for employee education, they've ensured the provision of top-notch services, as proven by the numerous awards their projects have won.

The company cares about the quality of their work, and having qualified employees is key to ensuring the best results.

The reputation our client has built over the course of many years has brought them billions in revenue.

Business challenges

The Australian construction company pays special attention to their workers' training and certifications. However, all corresponding processes were performed manually, which was inefficient and led to the following:

Poor data management

Information about employees' certifications could get lost, resulting in the need for employees to re-pass certifications unnecessarily.

Time-consuming candidate search

When a new project came, the managers needed to review hundreds of workers to find those with particular qualifications.

High cost of errors

Employee training requirements may be regulated by government agencies, and a missed or expired certification can lead to fines, lawsuits, and reputational damage.

Looking for a reliable vendor

Our client already had a set of software products, so they were acquainted with the development process. But they were still unsure about the exact solution they needed for managing their employees' qualifications.

They came to SysGears to resolve existing problems, find relevant software solutions, and prepare for development by defining a solution to cover all their business needs.

The business analysis stage became a kind of test drive, during which stakeholders got to see our approach, expertise, and services. After we formed a clear product vision and prepared documentation, the stakeholders decided that they wanted to continue development with SysGears.

What we offered

Service

Business analysis and design

Our business analyst started from the discovery phase by interviewing stakeholders, exploring current business flows, and creating diagrams to visualize operations. They helped to shape the feature set for the first release so employees could quickly master the new software. After the initial stages of business analysis were completed and a feature breakdown list was approved, our business analyst created wireframes for user flows and prepared documentation to facilitate further development.

Quality Assurance

The quality assurance engineer was onboarded to the project when the first substantial part of the scope was ready. They provided comprehensive test documentation that allows them to spend minimal effort on executing test cases and fully cover all functionality. Our QA's focus was on usability and integrations, as it was important for the client to be able to onboard the team to the software as soon as possible and provide a user experience consistent with existing products.

Development

Our software engineers started by designing the system architecture and modeling data. As the company works with Microsoft tools, our developers provided a single sign-on option that allows users to enter the system once with their Microsoft account and access all necessary services. Besides implementing the solution, our developers were responsible for its deployment to SharePoint so the client could manage all their products through one software platform.

Project Management

A project manager helped to organize teamwork following the Agile methodology and facilitated communication with stakeholders. Every two weeks, they held a demo meeting showing the client all functionality implemented and noted the client's feedback. If the client wanted to change the functionality a bit or adjust some features after the demo, the project manager refined the backlog and ensured development was aligned with business needs.

Technologies

As the company already had some software and wanted all of their solutions to be managed through the same infrastructure, we selected a technology stack that fit their requirements.

Design

[Figma](#) [Draw.io](#)

Frontend web

[TypeScript](#) [React](#) [Apollo Client \(GraphQL\)](#)

Deployment

[Microsoft Azure](#) [Docker](#) [Bitbucket](#)

Project management

[Jira](#) [Slack](#) [Google Workspace](#) [Whimsical](#) [Myro](#)

Backend

[Scala](#) [Play](#) [Caliban](#) [ZIO](#) [PostgreSQL](#)

[Microsoft Graph API](#)

Team

We chose an optimal team structure, adding specialists when needed, to fit within the client's monthly budget without compromising quality and ensure a smooth development flow without any idle time.



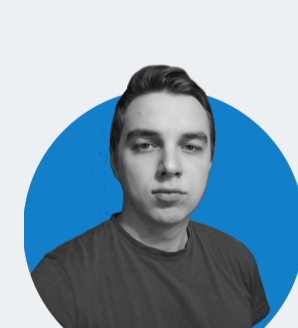
PM / Business analyst

Marima Abasova



Frontend developer

Pavel Honcharenko



Backend developer

Danylo Honcharenko



QA Engineer

Aleksandr Tesliuk

Solutions

Automated certification tracking

Now, each employee or manager can see all their certifications with current statuses: required, active, or expired. Moreover, each team member can request to re-pass a certification, and stakeholders are notified about such requests through various communication channels.

Leaderboard for motivation

To encourage managers to keep an eye on their teams' certifications, a leaderboard was implemented if the whole team has active certifications or if some team members have expired or required certifications. This gamification solution has helped to avoid missed expirations that can lead to fines or even lawsuits.

Suggested candidates for projects

Construction projects always require a team with a specific set of skills. Now, project managers can easily find employees that have corresponding training. This allows managers to reduce the time spent on gathering a team and ensure that all team members have appropriate qualifications.

Tasks as sets of certifications

Jobs often require more than one certification, and requesting employees to pass all of them manually is time-consuming. Tasks combine certifications necessary for particular jobs. Administrators can manage tasks, and when a task is selected, all necessary certifications for it are requested from the employee automatically. This is convenient for both administrators and employees.