REMINDER!

ASSESSMENT DUE 5PM

REMINDER!

Human-centred digital transformation.

LIQUID

CQUniversity AUSTRALIA

SITECORE

Overview

Putting students at the centre of digital transformation

Liquid creates digital experiences that impact people's lives in positive ways. We specialise in delivering human-centred solutions for sustained behaviour change, and services that support users through complex journeys.

Putting people at the heart of digital transformation isn't merely a suggestion. It's an essential part of the problem-solving formula that can lead to sustainable and equitable outcomes.

This paper details the human-centred approach to delivering a user-centric, personalised, one-stop-shop that guides and supports students throughout their journey at CQUniversity Australia (CQU), from enrolment through to graduation.

CQU delivers more than 300 education and training offerings, from TAFE qualifications through to undergraduate, postgraduate and Research Higher Degrees. These opportunities span across five states, with 14 campuses and several study hubs. CQU is also a leader in distance education, with more than 40 years' experience in delivering to students studying off-campus, many of whom are based in rural and remote areas.

However, a major pain point surfaced from student feedback was that there were too many systems involved in their journey. Students had no single source of truth and were often uncertain of where to go to complete actions. This was echoed by support services, who were constantly receiving calls from students who were confused about their next steps.

It was clear that improving the overall student experience would require a much more guided, seamless experience across their digital landscape, assisted by centralising student information, content and handoffs to other systems. CQU collaborated with Liquid to create MyCQU.

Through a headless, cloud-based, Content Hub™ and ADFS-integrated Sitecore approach, we improved student satisfaction, ease of access to information, and effected positive behaviour changes such as higher uptake of self-service options and faster completion of critical enrolment processes.

This whitepaper is a Liquid publication.

Project Collaborators

Technology Platform

Awards

Sitecore Experience Awards 2021
Best Digital Experience

Education is invaluable.

It shapes individuals and our society. Education can make people healthier, more financially secure, more involved with their communities, and more environmentally conscious. Higher education and lifelong learning drives innovation and productivity, helping to boost the country's economic strength and competitiveness in the global arena. Put simply, education has the power to change the world.

But the higher-education sector is heavily influenced by events both local and global—government policy and funding changes, international events (what better example than COVID?) affecting travel and exchanges, just to name a few. To keep up, higher-education institutions need to adapt quickly and effectively. They need to show students that they can deliver a consistent, seamless experience, no matter what's going on in the background.
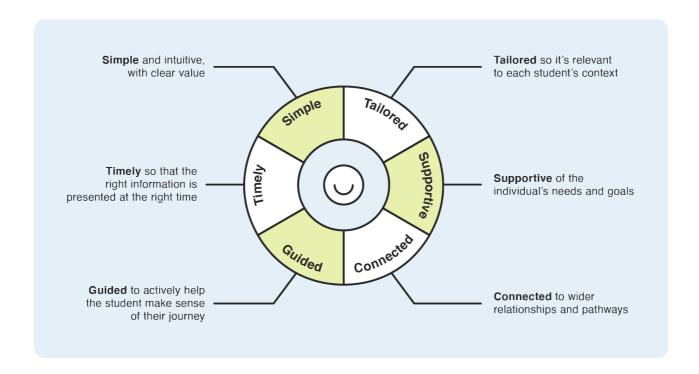
Students are more tech-savvy than ever; they spend a considerable part of their day-to-day interactions online. They know what a good digital experience is, and they expect the same from educational institutions as much as from any other organisation or platform. Investing in providing the best possible experience to students—both digitally and offline—isn't an option; it's a necessity.

The goal: Improving the student experience

There's a lot of information that students need to access daily—course and unit details, timetables, events, forms, campus information, etc. Not only does this information vary from student to student, but the content can change over time as details are updated or amended. Students' needs also change throughout their journeys, and this should be reflected in the content they are served.

Improving the student experience is necessary, but doing it effectively and consistently is easier said than done.

It's a challenge that requires the right team, the right technology, and the right strategy to bring it all together and turn ambition into reality.

Simple and intuitive, with clear value

Timely so that the right information is presented at the right time

Guided to actively help the student make sense of their journey

Tailored so it's relevant to each student's context

Supportive of the individual's needs and goals

Connected to wider relationships and pathways

Simple · Tailored · Supportive · Connected · Guided · Timely

It's no coincidence that these six pillars formed the UX design criteria for the MyCQU digital student experience. These were the common themes we extracted from prior research and project kick-off workshops, and have been our guiding principles for success.

The problem: Too many systems, no single source of truth

Before Liquid partnered with CQU, they had already commenced a program of initiatives to rethink the student experience; it considered every digital and offline touchpoint in helping students get prepared and stay organised. A major pain point they identified was that students were using over 50 disparate systems throughout their journey. There was no single source of truth and no clarity on where to go to complete actions.

It's understandable how a university can accumulate 50+ systems over time. As students' needs are uncovered or evolve, new technology is added to service those needs. But often, the side effect is an increasingly fragmented experience, which leads to confusion and a disjointed user experience.

The Student Support Services team was constantly receiving support requests from students who didn't know what their next step was, or where to find resources they needed. It was clear that improving the overall student experience would involve centralising student information and interactions.
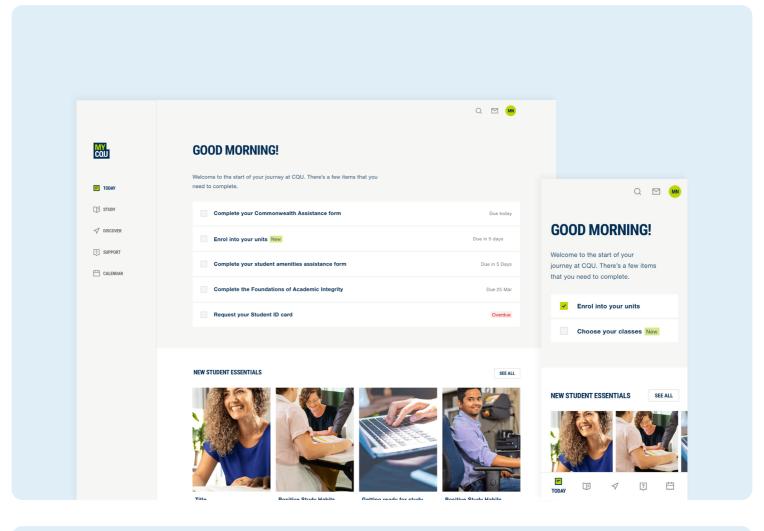
CQU had already begun this difficult process by adopting MuleSoft, an API integration platform that would allow the many systems to start talking to each other and share information with a central point. At the time, the student portal, Sportal, was the 'glue' holding everything together. However, it was a passive directory, a gateway to jump between systems. CQU needed one system to bind them all; an active, personalised assistant that would provide timely guidance and support, helping students make sense of uni life.
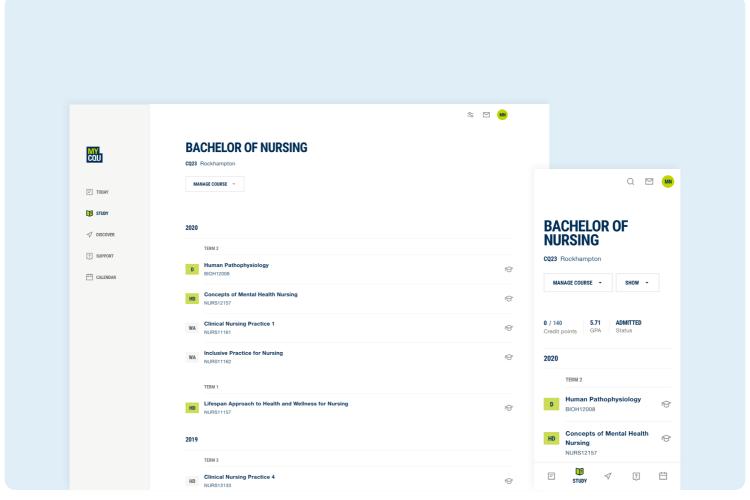
And that's how Liquid and CQU came together to create the MyCQU digital student experience.

The heart of the student experience

MyCQU was to be the central point for students to access everything they needed from enrolment through to graduation. It had to:

- Help guide a diverse student population, yet still feel like a **personalised**, tailored experience to the individual using it

- Have the **interoperability** to work seamlessly with legacy systems, including the single sign-on (SSO) system CQU used everywhere else

- Allow for content to be added and easily maintained by CQU content editors

- Grow in a **data-driven** fashion, with analytics informing evaluations, decisions, and optimisations; and

- Be **future-proof**, with the **flexibility and adaptability** to respond to—or even preempt—the dynamic environment of the higher-education sector.

Laying the foundation

Flexible, adaptable, and future-proof

Some may say it's impossible to really be future-proof in the rapidly changing world of technology. At Liquid we believe it is possible to make smart decisions about technology that give long-term flexibility and adaptability, and that can be enhanced by the right processes and practices.

A solid platform

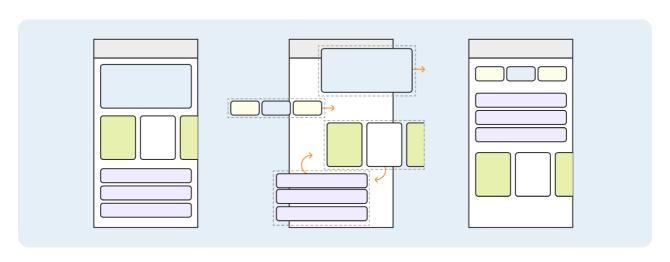CQU required a platform solution that could deliver for its vast digital ecosystem.

Sitecore was chosen for MyCQU because it fit the project requirements and the content architecture was ideal for the university. It's a headless CMS with an API layer—meaning it's an independent back-end system that delivers content to front-end applications through APIs.
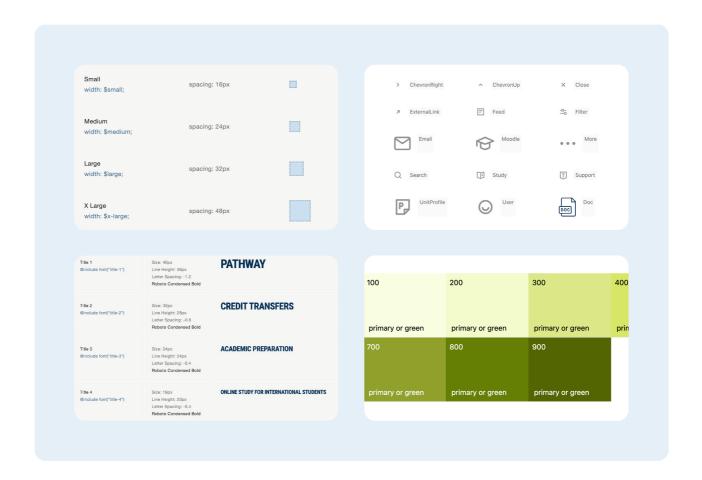
Sitecore Experience Accelerator (SXA) has a two-tiered site organisation that lets you create multiple sites under one or more umbrellas (known as tenants). It's also a relatively future-proof platform to build in. This means any future projects can be set up in the same Sitecore instance, making it easier to manage multiple sites and share data and assets between them.

A robust design system

With a large, blended team working on several features in parallel, inconsistencies are inevitable. This is where a design system or component library comes in. You create a component once, then use it everywhere. Everyone on the project can look to the design system as their source of truth.

Aside from being reusable, components of a design system are self-contained. They are designed so you can slot components in or take them out without affecting anything else on the page. This is great for future-proofing a project, because things will change. Functionality breaks, and new technology and better methods are introduced; having the flexibility to swap out individual components as needed and try out different component combinations saves an enormous amount of time and effort.

Small
width: $small;
spacing: 16px

Medium
width: $medium;
spacing: 24px

Large
width: $large;
spacing: 32px

X Large
width: $x-large;
spacing: 48px

> ChevronRight	^ ChevronUp	X Close
↗ ExternalLink	Feed	Filter
Email	Moodle	More
Search	Study	Support
UnitProfile	User	Doc

Title 1 @include font("title-1")	Size: 40px Line Height: 36px Letter Spacing: -1.2 Roboto Condensed Bold	**PATHWAY**
Title 2 @include font("title-2")	Size: 32px Line Height: 28px Letter Spacing: -0.8 Roboto Condensed Bold	**CREDIT TRANSFERS**
Title 3 @include font("title-3")	Size: 24px Line Height: 24px Letter Spacing: -0.4 Roboto Condensed Bold	**ACADEMIC PREPARATION**
Title 4 @include font("title-4")	Size: 19px Line Height: 20px Letter Spacing: -0.4 Roboto Condensed Bold	**ONLINE STUDY FOR INTERNATIONAL STUDENTS**

100	200	300	400
primary or green	primary or green	primary or green	prin

700	800	900
primary or green	primary or green	primary or green

Reusing code the smart way with Storybook

A design system needs an appropriate tech stack to support it. The MyCQU project team decided to use Storybook, an open-source tool for developing reusable, shareable UI components, as part of the design-development workflow.

Storybook lets developers build JavaScript components in isolation and test them before including them in an application. This in turn helps them catch design inconsistencies and code errors earlier, without impacting other parts of the app.

Using Storybook means we now have a versatile, reusable, and transferable design system and component library. It makes it easier for developers to adapt and build new components for MyCQU, and any future CQU projects can reuse the design system, even if they're built on a different platform, by a different team.

Building a Progressive Web App

Progressive Web Applications (PWAs) have become increasingly popular, and with good reason. They look and feel like a native app, but are delivered through the web—making them accessible on any device with a browser and an internet connection. PWAs are easier to develop and maintain than native apps: they're faster to build, you have a single source code, and you don't have to worry about backwards compatibility or version fragmentation because everyone is accessing the same version. MyCQU was developed as a PWA so that we could provide a richer experience to students. It let us deliver a slick, mobile-first design that felt intuitive on any device, while still keeping website functionalities such as the ability to link to specific pages and being discoverable in search engines.

It's not just the tech:
Flexibility and adaptability in your team

Future-proofing your project isn't just about choosing the right technology. People need to be flexible and adaptable too. That's how you get the most out of your tech and stay on top of an ever-changing landscape.

Your team needs to be willing to learn new skills and adopt new ways of working, and have the ability to tackle curveballs quickly and creatively. The experts on the project are not exempt from

this—in fact, they should be the ones proactively seeking new and better processes for developing and managing components, creative solutions to tricky problems, and opportunities to develop and grow skills.

Also, don't forget that your team isn't just the group doing the day-to-day work. Fostering partnerships with other stakeholders or service providers builds on your resources and capabilities.

Why Sitecore?

Headless with an API layer

As a headless CMS, Sitecore can deliver content to any front-end application, giving developers more freedom and flexibility to create bespoke, fit-for-purpose designs. More control over the UI means we can craft user-centred experiences that accommodate complex needs. By getting Sitecore's API layer integrated with MuleSoft (the API integration platform), we can have all of CQU's other systems talking to Sitecore, and Sitecore talking back.

Sitecore Content Hub™

Content Hub is a content management system that allows teams to manage their own content. Using Content Hub, CQU can maintain a central repository of content and digital assets, and deliver them to any system with headless publishing. Sitecore comes with a Content Hub connector out of the box, so we can synchronise content between the two systems smoothly.

Personalisation

MyCQU is tailored to the student, guiding each individual through their journey. This requires personalisation based on a host of facets, or user attributes, that come from multiple systems. Checking another box, Sitecore has a strong personalisation engine and can use facets from external systems as well. We can draw on student data from anywhere in the CQU ecosystem to factor into our personalisation strategy.

The content architecture

Sitecore Experience Accelerator (SXA) supports a two-tiered site organisation, with multiple sites grouped under one or more higher-order umbrellas known as tenants. This is an ideal future-proofing setup for an organisation like CQU, which has a vast digital ecosystem. Any future projects can be set up within the same Sitecore instance, making it easier to manage multiple sites and share data and assets within and across these sites.

Interoperability: Single Sign On (SSO) and connecting legacy systems

Creating a centralised digital student experience meant connecting the 50+ systems CQU uses to collect and maintain student information. CQU had already done most of the work in setting up MuleSoft to hook into each of those systems; what we needed to do was add Sitecore's APIs to the mix to start requesting and pushing data between MyCQU and these other sources.

This interoperability was the core of MyCQU's most successful feature: the checklist. The checklist is a tailored list of tasks, guiding students through what they need to do to get started at CQU. It is specific to each student and gets status updates from other systems so students can track their progress through the crucial onboarding stage. It embodies what MyCQU needs to be: the heart of the student experience, the assistant guiding students along their journeys—the glue holding all the pieces together.

We also needed to find a way to implement the existing SSO system in MyCQU so that students and staff could continue to use their logins. CQU had both on-premises and cloud-based Azure Active Directory (AD) options to choose from, but our challenge was to work out how to integrate these in a headless Sitecore implementation.

Here, Liquid was able to push the boundaries and pioneer a customised hybrid solution that seamlessly integrates all of these systems and software.

Students and staff can now log in to MyCQU using their standard university credentials, keeping the digital experience consistent and removing a barrier to uptake of MyCQU. It was a huge win for the project team, and something that Sitecore themselves acknowledged hadn't been done before with the current tech stack.

"The MyCQU project was a multi-faceted initiative, and the Liquid and CQU teams worked seamlessly together to find intelligent solutions built on Sitecore's latest technologies. There was never a moment the team shied away or was unable to solve a challenge along the way. It is a privilege to be part of the journey and watch the continuing success of the collaboration."

- James Barrow, Technical Account Manager, Professional Services, APJ, Sitecore

Personalisation in MyCQU

Organisations are increasingly moving towards tailored experiences, particularly through personalisation, for their customers who continue to demand more relevance. Customers aren't looking for brands to define their journeys, they want brands to offer experiences that help them carve their own paths.

To take advantage of this, we made sure the strategy and planning was done and the infrastructure was set up before development began, so that personalisation could be baked in from the start for any component or feature in MyCQU.

Asking the right questions

The success of personalisation on this project came from answering three key questions: who do we need to work with, how will we know who's using MyCQU, and what do students need to see?

Who do we need to work with?

Getting the right stakeholders involved was the first step for successful personalisation. We needed in-depth knowledge about CQU's systems and processes, various student journeys and their touchpoints, and the vast amounts of content available. A collaborative approach gave us confidence in our framework and decisions, because we knew we were getting invaluable insights from the people on the ground who work with the systems, processes, students, and content.

"One of the main reasons we selected Liquid as our Sitecore implementation partner was their approach to delivering digital user experiences through innovative and creative human-centred design.

"Our experience, having worked with them for over a year, has been that they are a talented, dynamic team of professionals whose focus is on understanding a problem or a need, and then designing and delivering the highest value, highest impact experience to address it."

- Victoria Maclean, Senior Project Manager, CQUniversity Australia

How will we know who's using MyCQU?

Our next step was to map our target audience (student cohorts) and figure out what information was needed to tell them apart in MyCQU. This mapping process ensured that we would have all the necessary attributes available through other systems, which we could then synchronise into Sitecore using MuleSoft.

Putting it into practice: On login, a user's profile is automatically built from demographics and other student data queried from the CQU ecosystem, allowing us to start delivering personalised content straight away.
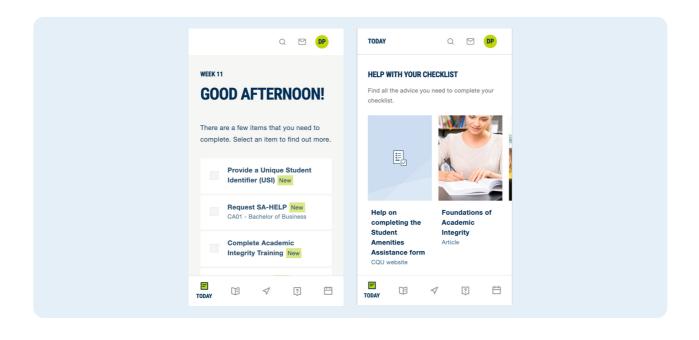
What do (or don't) students need to see?

Personalisation is only successful if it benefits the end-user in tangible ways. Keeping with our design criteria of tailored and guided, we wanted to help students cut through the noise, and only show them content relevant to their situation. By removing the information students didn't need from their views, we were decluttering the experience and making it easier for them to find what they were looking for.

Putting it into practice: We've set up personalisation at multiple levels, so we can control visibility of individual items or entire collections for students with certain attributes.

Managing a rich set of facets

We had a wealth of user attributes from multiple systems to use as facets for personalisation. However, the challenge with having so many facets is that creating personalisation rules and reviewing what has been applied can be tedious and confusing. To overcome this, our tech team created custom 'rule sets' that used progressive disclosure, so you choose an attribute type (e.g. course type) before relevant individual values are made available (e.g., HE, VET, RHD). This customisation, while not unique, greatly improved the ease of use and ability to interpret personalisation logic in MyCQU.

Data-driven isn't a buzz term

You don't need machine-learning algorithms and a data warehouse to be data-driven. While you need to invest in data collection and analytics, being data-driven means listening to what it tells you, even when it's not what you expect or want to hear. It's a willingness to understand why something does or doesn't work, so you can apply those learnings moving forward.

Web analytics and data collection were a priority for MyCQU from the beginning, with both Liquid and CQU teams agreeing on the need for a strong analytics setup. This meant that event and goal tracking was included when components and features were developed, making for a more efficient and robust implementation.

We used a combination of Sitecore tracking and Google Analytics on MyCQU. This allowed us to focus Sitecore tracking on events and goals most relevant for personalisation and Path Analyzer. Then from Google Analytics, we get the robust and flexible reporting that people are most familiar with.

Being data-driven also means having clear goals or objectives, measuring the right things to speak to those objectives, and collecting the right kinds of data—quantitative and qualitative.

You need to have mechanisms for regular analysis of the data you collect so that you can feed insights back into the planning and production streams, and share that data with the wider team. You may be surprised at how many people are interested and who can give additional insight into trends and anomalies, especially on a large collaborative project.
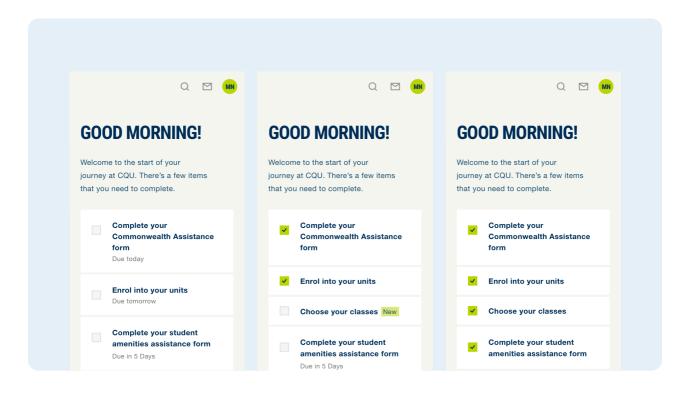
A better student experience:
Positive feedback and behaviour change

A student survey conducted six months after launch saw students praising MyCQU for being:

- Easy to access, use, and navigate

- Great on mobile devices

- Clean and simple in its layout and

- A one-stop shop that allows easy access to key platforms like Moodle and student emails

- Helpful with important reminders and a consolidated calendar with all events and key dates

- Not filled with unnecessary information

- Continuously improving, with visible new developments

82% of new students rated their MyCQU experience as positive.

One feature in particular, the checklist, has proven to be a great success. The checklist is tailored to each student, links directly to the platforms where the tasks can be completed, and also reflects status updates from those platforms. Each of these features was a direct response to challenges identified in the discovery phase. Not only has the student feedback on the checklist been very positive, but we are seeing positive behavioural changes as well.

Q ✉ MN

GOOD MORNING!

Welcome to the start of your journey at CQU. There's a few items that you need to complete.

☐ **Complete your Commonwealth Assistance form**
Due today

☐ **Enrol into your units**
Due tomorrow

☐ **Complete your student amenities assistance form**
Due in 5 Days

Q ✉ MN

GOOD MORNING!

Welcome to the start of your journey at CQU. There's a few items that you need to complete.

☑ **Complete your Commonwealth Assistance form**

☑ **Enrol into your units**

☐ **Choose your classes** New

☐ **Complete your student amenities assistance form**
Due in 5 Days

Q ✉ MN

GOOD MORNING!

Welcome to the start of your journey at CQU. There's a few items that you need to complete.

☑ **Complete your Commonwealth Assistance form**

☑ **Enrol into your units**

☑ **Choose your classes**

☑ **Complete your student amenities assistance form**

In the first term after launch, CQU saw a noticeable reduction in support calls from students who were confused about their next steps, or where they needed to go to complete key forms and other processes. CQU also found that they weren't chasing up nearly so many students for outstanding on-boarding tasks.

For example, the Commonwealth Assistance Form needs to be submitted by any student enrolled in a Commonwealth-supported place. But in the past, many students were either leaving this to the last minute, or failing to submit the form on time.

Since the introduction of MyCQU and the checklist, CQU saw 66% more Commonwealth Assistance Forms completed ahead of time: 3,873 forms lodged at the end of January—over a month in advance of Term 1—compared to 2,340 lodged in the previous year.

Taking an MVP approach to implementing MyCQU enabled us to deliver improved user experience to students early. At the same time, we are using the MVP product to test and validate the MyCQU app with a broad student base, and utilising their feedback to inform priorities for improvements and enhancements. This way, we know that we're delivering the highest value elements for CQU students.

The new capabilities delivered by MyCQU provide a lot of opportunity to support future use cases.

Delivering a human-centred technology strategy

The higher-education sector is a complex and ever-changing landscape. To keep up and keep moving forward in this dynamic environment, your organisation needs a technology strategy that pushes boundaries. But in order to create a stand-out experience, you need to adopt a **human-centred approach** that puts students—your users—first.

The right tools, the right team, and a commitment to delivering what users need: that is how you succeed.

Working with Liquid

If you're interested in working with Liquid, we want to hear from you.

Steven Marrinan
Partnerships Director
steven@liquidinteractive.com.
in *linkedin.com/in/steven-marrinan*

Sam Daley
Head of Product
sdaley@liquidinteractive.com.
in *linkedin.com/in/samdaley*

This whitepaper was written, designed and produced by members of the Liquid and CQUniversity Australia teams.