

CAZOO



codurance | CASE STUDY

Cazoo



About Cazoo

Cazoo's mission is to transform the way people buy used cars in the UK. The latest business venture of Alex Chesterman, OBE (Founder of LoveFilm, sold to Amazon and Zoopla) is now the fastest ever British business to attain "unicorn" status (privately held startup business with \$1bn+ valuation) having been founded only 18 months ago.

Cazoo customers go online to view a range of used cars that have undergone a rigorous 150+ point check, select their car along with any finance options and then have it delivered to their home or at their nearest Cazoo Customer Centre in as little as 72 hours. If they are not 100% satisfied with their chosen vehicle, Cazoo will collect it with their no quibble returns policy.

The highly ambitious company has recently acquired Imperial Cars, a nationwide bricks and mortar used car retailer, giving Cazoo greater capacity for stock, coverage and scale – they recently sold their 5000th car demonstrating that this tech startup is growing up as a serious disruptor in the market.

With trust, transparency and convenience at the heart of the business, Cazoo is shaking up the used car industry, using technology to drive every aspect of the user journey.

Having built other successful online businesses with technology at their heart, senior leaders within Cazoo recognised the importance of building software in the right way and instilling a strong engineering culture so came to Codurance for help.



The Challenge

Cazoo is not a simple e-commerce site – it is a complex business with many value streams including customer services, customer engagement, logistics, finance, operations plus search and browse.

The team at Cazoo wanted to build an offering that they could take to the market quickly and they wanted to build with quality baked in from the start to ensure future scalability as demand grows. However, in the competitive and fast-paced world of used cars, how do you create a delightful user experience and simultaneously build stable systems for every step of the user journey within a matter of months?

Moreover, the team had decided to launch the company to the UK market via a series of targeted television adverts during two high profile events – the Six Nations Rugby Tournament and the Dancing on Ice live finals on the UK's ITV network. With so much at stake, Cazoo had to ensure their technology would be able to withstand this anticipated spike in demand for its website and services.



Our Approach

Cazoo knew that in order to build a well architected platform that would support the spikes in demand for its services, would easily scale and would provide an experience that exceeds its customer's expectations, it was vital to compile an exceptional technology team that had a pedigree in the industry and would have a culture of engineering excellence at its core.

Once key senior hires had been made, it became clear that in order to deliver the technical vision and launch in only months, a trusted partner would be needed.

This is where Codurance came in. We joined the Cazoo team early and quickly grew to support the software development effort to deliver solutions from the ground-up across the entire value stream, from logistics and delivery to the customer-facing website and integration with 3rd-party finance, warranty and insurance providers.

The implementation was based on a vision of Serverless architecture, making extensive use of AWS, including AWS Lambda, S3, CloudFront and CloudFormation. These and other AWS services were used in conjunction with 3rd party headless CMS and e-commerce platforms to create a highly scalable, resilient and flexible system whilst minimising total cost of ownership.

“ If we go serverless we want to use the lowest risk, most mature and safest bet for a platform that will be the strongest solution over the next 3–5 years – and that is currently AWS.

Bob Gregory, Chief Architect, Cazoo



Our Approach...

TECHNOLOGIES USED:

AWS Serverless
Application Model
S3
Typescript on AWS Lambdas
React
Serverless Framework
AWS DynamoDB
AWS Eventbridge

API Gateway
Terraform
AWS IAM
Honeycomb
GitHub
CircleCI
Kibana

PRACTICES AND PROCESSES EMBEDDED:

Agile Methodologies:

TDD
Continuous Delivery
Infrastructure as Code

Engineering Culture:

Community of Practice
Software Craftsmanship
Coaching / Mentoring

Architecture:

Event Driven Architecture

Design:

EventStorming
Domain Driven Design

CODURANCE SERVICE LINES DELIVERED:



**SOFTWARE
MODERNISATION**



**FEATURE
DELIVERY**



**STRATEGIC
ADVICE**



TRAINING



Outcomes

The success of Cazoo has been truly staggering. By embracing a fully Serverless model, the system we helped to design and develop has been able to support Cazoo's phenomenal growth from initial launch to a \$1 billion valuation within 6 months.

Other key metrics of the project include:

- The first version of the application was built in only 90 days with a successful soft launch.
- Cazoo's engineering team grew from 0-65 engineers within 6 months – working successfully across all value streams using modern engineering practices.
- During the marketing launch of Cazoo's TV adverts at the high profile commercial breaks, website demand soared from an average of 300 requests per minute to a high of 27000 requests per minute with no drop in performance and at almost zero additional cost due to the Serverless architecture choices.

Codurance's impact has been felt across the entire technology team – by working in collaboration with Cazoo's people we have been instrumental in helping the company innovate and scale for future growth and demand.



Outcomes...

📄 Codurance was a natural choice, being closely aligned with the culture we are trying to establish as well as being able to meet the significant demand for engineers in order to deliver. I have no hesitation with recommending Codurance for any organization looking to improve their culture of engineering excellence or in the delivery of high quality engineered solutions.

Ian Kershaw
Software Engineering Director, Cazoo

codurance

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Codurance is a global software consultancy that helps businesses build a better, sustainable technical capability that supports growth and innovation.

We build well-crafted, reliable, secure and easy to modify software that minimises waste, and reduces cost and delivery times.

For more information visit: www.codurance.com