

Low code development and its role in high speed content-based services

How businesses can make more strategic use of their content, developing applications at speed that transform services and user experiences.

Introduction

While the pandemic put pressure on many companies' ability to function even at a basic level, others were able to turn the unprecedented market conditions to their advantage. Organisations with fully digitised processes - supported by on-demand, anywhere access to whatever information or content people needed - were able to spin out new use cases for that content on the fly.

Most organisations are aware of the need to get maximum value from the content they hold. Recent [Nuxeo research with UK consumers](#) revealed that 41% engaged at least once a week with a brand or retailer's mobile app and 42% via a retailer's website.

Furthermore, good content drives positive business outcomes. 28% of consumers said personalised content made them more likely to buy again, while 42% said they had recommended a retailer because of the quality of the content they share, rising to almost six in 10 of 16-to-24 year-olds.

But a common challenge faced by businesses has been in developing and bringing to market content-based applications quick enough to meet changing needs and requirements. This was true before the Covid-19 pandemic and is perhaps even more true now, with the need for agility and responsiveness brought to the fore more than ever.

This has all meant that 'low code' development has become of much greater significance. This provides companies with the ability to create and roll out new services and user experiences without having to engage in long development projects. When applied specifically to content-based applications, low code paves the way for companies to create new content-based services in just days and weeks, a truly transformative capability.

This white paper explores the emergence of low code development and explains how it can unlock the value from enterprise content, improving user experiences and gaining business advantage.

Covid-19 and 'trapped' content

The realisation of the need to be ready for anything - had dawned long before Covid-19 caught businesses off guard, but lockdown cemented the thinking. If an organisation's employees, supply-chain partners and customers found it difficult to engage fluidly with content and processes beforehand to progress to next actions, this was certainly the case once office premises closed and usual courses of action could not be taken.

For financial services teams specific challenges included approving loans, or processing insurance claims. For many design companies and manufacturers, there were issues progressing new product prototypes. For fashion brands and retailers, problems included how to refresh promotional campaigns to counter flagging sales if they were unable to readily create new visual assets such as photos, videos, and 3D models.

There was also a sense of increased urgency around transformation. Previously, companies looked at the content digitisation challenge as a means of continuous business differentiation. How could they pivot activities to respond to new opportunities and keep ahead of competitors and market disruptors with new and exciting propositions? During lockdown, manoeuvrability became a matter of survival. If different parties couldn't access the information or digital assets they needed on demand to accomplish routine or new tasks, companies' business continuity was directly under threat.

By contrast, those companies that were empowered by smart and flexible content access were able to progress ably under even the most extreme conditions. Examples include those manufacturers and designers that were able to bypass stages of materials sampling and physical prototyping, using virtual sampling and digital 3D product design, as global supply chains were disrupted.



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The importance of digitisation

The most notable point of difference for the businesses that continued to thrive was that 100 per cent of their critical processes were digital - supported by on-demand, anywhere access to whatever information or content people needed. Not only that: these organisations also benefited from the ability to spin out new use cases for that content on the fly. So, while the pandemic was putting pressure on many companies' ability to function even at a basic level, others were able to turn the unprecedented market conditions to their advantage.

Take the plummeting interest rates triggered by the pandemic. Here was a chance for mortgage and loan providers to roll out something special for customers that found themselves financially challenged during the pandemic. Historically, gearing up for peak demand for borrowing would have required advance warning, exceptional resourcing and staff training. Those FS providers that could switch on a virtual workforce, on the other hand, giving them secure remote access to all of the information they needed, would have been able to fulfil demand fairly spontaneously.

Other businesses, finding themselves compromised in their ability to respond to the evolving market conditions, are likely to have lost out. Certainly the importance of being able to construct new products or user/customer experiences quickly and relatively effortlessly will have been driven home hard.

Low code development as an innovation enabler

It is in this context that low code development has risen up the CxO agenda. This is about giving companies the ability to create and roll out new user experiences without having to engage in long development projects.

The idea of low code is to make developers more efficient, by allowing them to re-use existing components and templates to speed up application delivery, drawing on vast libraries of proven constituent software assets. Rather than doing away with the need for developers (who are very much still needed to connect up different data sources, and so on), low code allows IT teams to make smarter and more efficient use of their time and skills, accelerating the delivery of new functionality.

The realisation that this low-code development approach can be applied specifically to content-based applications is particularly interesting for organisations emerging from lockdown. Whereas it might have taken up to 12 months to create a new customer or supply-chain experience the traditional way, development teams

with access to a low-code development platform for delivering new content-based services and experiences, can do so within just a few weeks.

This ability to sprint from idea to execution while prevailing market conditions remain ripe for exploitation is transformational, for both innovation and development teams. And it puts businesses in a very powerful position relative to their competitors.

It is something that Gartner has started to talk about, too. Whereas much of the emphasis of low-code application development to date has been around data-centric applications (e.g. Mendix, Outsystems) and process-centric applications (e.g. Appian, PegaSystems), there has been no provision for unlocking valuable data trapped within routine business content. That's all about to change, however. It is becoming clear that content is the third pillar of low-code application development, balancing out what's possible with data and process applications.

Following the lead of Big Tech

It is no coincidence that Big Tech companies like Amazon and Google work in this way, to bring out new early versions of new products or user experiences at speed - to get them into users' hands quickly, so that they can test out the potential in a quick, low-risk way. Using an iterative, low-code approach to develop, they are able to combine already-proven functions and features to create something new, which they can then test with customers in a live environment - giving them something to refine and build on in more sophisticated next releases.

Crucially, shortening the gap between idea and launch gives these companies critical market advantage. Then they can go about evolving the application or service to deliver the best-possible customer experience - one which they can keep tweaking and embellishing over time. Incremental iteration, a founding tenet of agile development, is a highly viable approach - and one which allows for the unforeseeable.

The Big Tech companies have done a lot of important groundwork, which everyone else can build on. When it comes to building new content-based applications/services/experiences that use deep learning or cognitive services to deliver next-generation intelligent image recognition or text extraction, for instance, the Amazons and Googles have already invested in and refined the latest capabilities and shaped these into plug-and-play services that developers can re-use.

So why would any smaller-scale development team try to go their own way, when proven building blocks are readily available as the basis for new products and experiences?

Making regular content assets work harder

Yet for all their big ambitions - for new products, services and experiences built on companies' knowledge and content assets - many organisations are held back by the fact that a large majority of that material today remains locked in silos, in inaccessible formats. This is preventing product, business development and marketing teams from using it in new and smarter ways to add fresh value for their organisation.

This underexploited content might include handwritten customer information submitted on a paper form; PDFs that have been scanned; or photographs of documents that have been emailed.

Making content work harder requires that two fundamental conditions are fulfilled. First, existing information silos need to be bridged so that content can be unlocked and used in a range of new ways.

Second, content needs to be made 'smarter' so that it is easier to find, combine, analyse and act on. This involves using smart technologies (specifically AI/machine learning) to enrich the data about content, so that it can be found and exploited more readily. That could be specific data embedded in the document. It could be sentiment information (signals about the customer's state of mind in any correspondence, for instance), or data about the context of the content. It might even be usage data - about who, when, where and how people have interacted with content.

For photos and video, smart content transformation might involve applying image recognition or transcription (speech-to-text) technology, so that search or analytics tools can automatically find relevant references without someone having to trawl through images or footage manually. What's exciting is that all of this is within reach for organisations of all shapes and sizes today.

Getting from here to there

The tools and computing power to discover more data about content - to open the black box of content and peer inside - are more widely accessible now than they have ever been. This makes it possible for businesses to quickly identify critical information and fresh insights, and expose these to knowledge workers - when, where and however they need them.

The first step in making progress towards all of this new digital agility is to establish a common foundation or 'platform' for all of the critical information the business wants to be able to exploit in new and better ways.

Next, teams need to be able to leverage the content in as short a timeframe as possible in new apps and services. That could be to extend access to that content for enhanced business continuity/flexible working purposes, and/or to differentiate the business and its products and services in new ways. It is here that a low-code content application development platform comes into its own, enabling companies to derive maximum value from content - efficiently and at speed.

Conclusion

Once valuable business content has been unlocked, and is supported by a smart platform (with a rich library of reusable software functions that companies can harness and build on to exploit their own information assets in new ways), a world of new possibilities opens up.

- Improving the customer experience
- Incorporating AI and ML capabilities
- Paving the way for process automation
- Driving operational efficiencies

Low-code tooling means that organisations with innovative new ideas can pivot more quickly and take advantage of these capabilities more readily. It is the unique combination of core content management functionality and a low-code app development environment that makes this possible: this is what enables new agility and responsiveness to customer or business needs.

So, if a car insurance company wants to roll out a new customer portal with the facility to allow claimants to upload photographic evidence directly from a mobile phone, they can do so quickly and efficiently - even adding artificial intelligence capabilities that can automatically extract critical data from those photos (such as the

registration numbers of vehicles involved in an incident, or the claimant's particulars from their driver's licence).

Such services aren't just about improving the customer experience, by making it easier and more convenient to submit claims information and accelerate processing. They also pave the way for process automation, driving new operational efficiency for companies themselves. Continuing with the car insurance example, if an intelligent image-reading feature is introduced to extract detail about damage to the front-left fender of a particular make and model of Mini, triggering automatic lookup of comparable claims and repair estimates, this could help expedite the settling of claims.

For a lot of companies, the building blocks for advanced content-based services like these already exist within the organisation – buried in filing cabinets and departmental document repositories. Innovation and improved operational efficiency start with unlocking that knowledge and making it more widely shareable. Advances in software development such as low code help to transform how companies achieve that and turn existing and incoming information into something transformational – quickly, cost-effectively, and at low risk.

Nuxeo is used for this purpose by different customers in different industries all over the world. It's a flexible and scalable low code platform that's uniquely suited to building smart content applications that enhance customer experiences, improving decision making, and accelerating products to market.

For further information on Nuxeo and low code development, please visit www.nuxeo.com or [contact us here](#).

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