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Low-Code Platforms

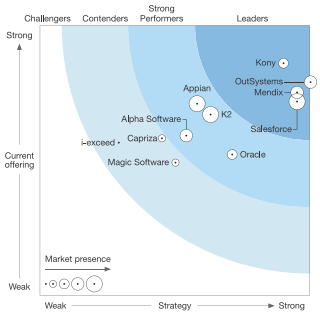
Everything you need to know about Low-Code Platforms and how they are helping organizations address their digital transformation and application development needs.

Low-code platforms is a term coined by independent analyst, Forrester Research, and covered in detail in two Forrester Wave™ reports. According to Forrester's definition:

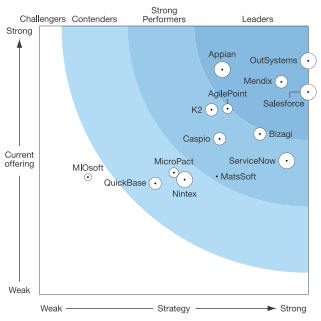
"Low-Code Platforms enable rapid delivery of business applications with a minimum of hand-coding and minimal upfront investment in setup, training, and deployment."

Leading low-code platforms provide a comprehensive set of functionality that includes:

- Visual modeling of business logic and workflows, with the ability to extend with custom code
- Visual definition of data models and integration components
- Drag-and-drop implementation of modern user interfaces for multiple devices
- Application change and lifecycle management



The Forrester Wave™:
Mobile Low-Code Development Platforms, Q1 17



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How does low-code compare with RAD and aPaaS?

Over our 15+ year history, we have seen an evolution in the terminology used to describe platforms that accelerate the application development and delivery process. This can lead to confusion.

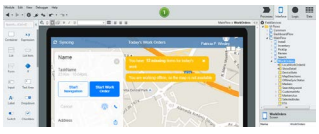
Rapid application development or delivery (RAD) is one term that, while often associated with development platforms from a few decades ago, is more closely tied to the methodology being used rather than the technology platform. And while low-code platforms align well with the highly iterative, prototype-driven RAD approach, they are very different when compared to the CASE tools of old.

aPaaS is the term Gartner uses when talking about development platforms in the cloud. Gartner defines it as "... a cloud service that offers development and deployment environments for application services". As a category, aPaaS initially included a variety of solutions ranging from platforms that were more focused on the provisioning of the infrastructure to those that were focused on accelerating application development. Gartner has now divided aPaaS into two categories, High-Productivity and High Control. High-Productivity aPaaS is very similar to the low-code space defined by Forrester.

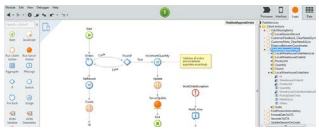
What does developing with low-code look like?

1 Create applications using visual models instead of writing code.

When creating an application in a low-code platform, the developer will work within a graphical interface to visually model the application by dragging and dropping front-end UI components, business logic and functions, workflow and processes, and database tables and schemas. The same drag and drop approach will apply regardless of the layer of the application being built and regardless of the target platform and device.

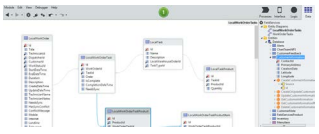


Front End



Business Logic

Processes



Data

2 Deploy applications with a single click.

Once the application is visually modeled, at the click of a button, the low-code platform uses intelligent automation to generate the application based on the model provided. Low-code platforms handle the deployment of applications across environments. All application changes (to data models, logic, business processes and screens) are taken care of by the platform, including making all the necessary updates and understanding dependencies between applications.

The application might be targeted to a desktop browser, tablet or mobile device - the developer doesn't need to worry about the target platform as the low-code platform takes care of everything. The application may also be targeted to run in an on-premises data center, in a public or private cloud, or the low-code vendor may take care of all of this within their own platform.

3 End-to-end managementof applications

After deployment, a well-designed low-code platform will also manage the application throughout its lifetime. This includes providing detailed application performance management with actionable alerts and historical performance trending.

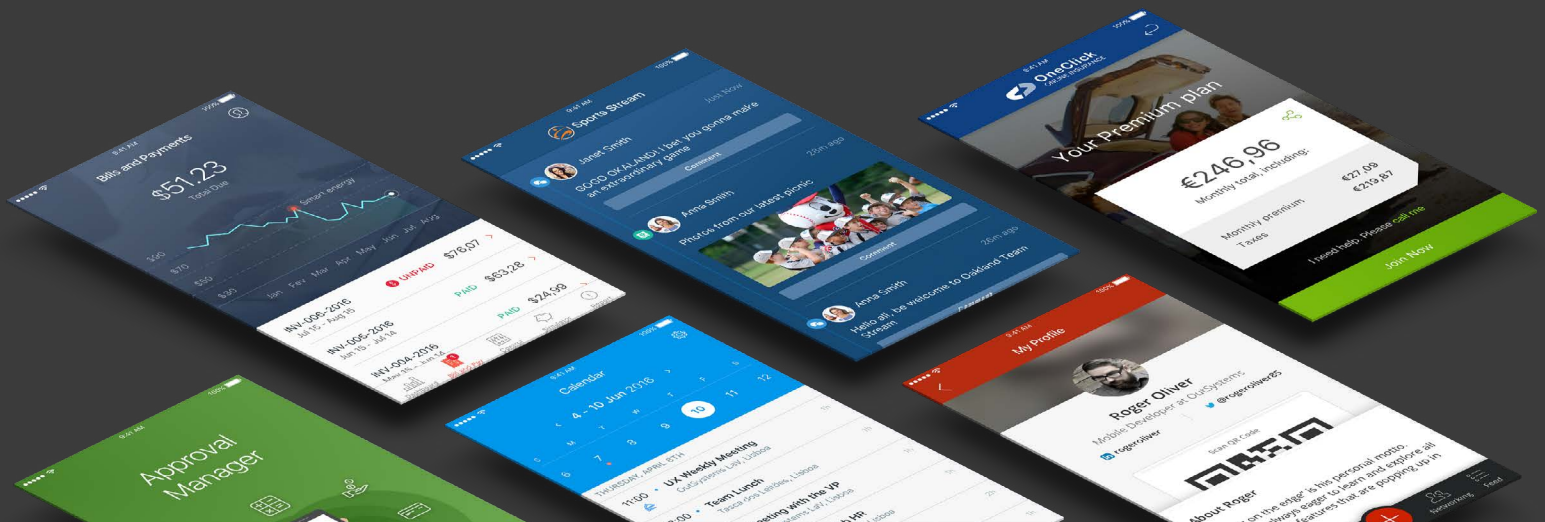
Can low-code be used for mobile?

Not long ago, organizations had three choices regarding their approach to mobile app development - responsive web, hybrid, and native. The options were well understood, and so were the limitations. Evolutions in technology have blurred the lines to the point where it is almost impossible to differentiate between hybrid mobile apps and those coded by hand.

Leading low-code platforms can now support visual modeling for offline behavior, access to native device capabilities (camera, GPS, calendar, email, etc.), and an ultra-smooth user experience. Generating the packages to submit to the various app stores is a single-click operation and updating apps can happen over the wire.

The effects of this evolution can be seen in Gartner's most recent Magic Quadrant for Mobile App Development Platforms, where low-code vendors are taking on the established leaders. More telling perhaps is this statement within the report concerning the future of mobile development platforms:

"In a couple of years, mobile app development will morph into general-purpose app development."



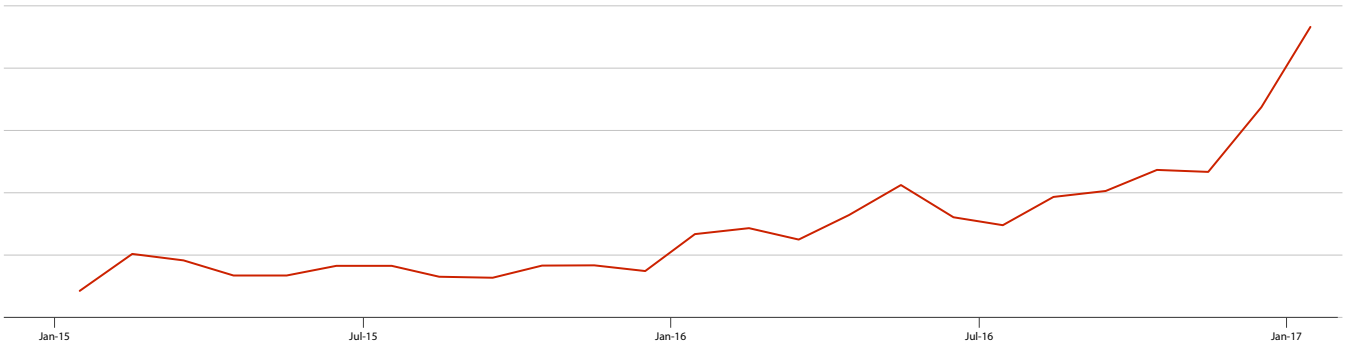
Why is low-code popularity growing?

The popularity of low-code is directly connected to the challenges facing businesses today. In an era where long-established industries are being disrupted by startups, the digital experience of the customer is more important than simply providing a long list of features. A huge increase in demand for new types of digital experiences is predicted.

"By the end of 2017, market demand for mobile app development services will grow at least five times faster than internal IT organizations' capacity to deliver them."
Gartner

For IT, this translates to:

- Growing backlogs
- Shrinking time-to-market requirements
- Skill-set shortage
- Ever evolving technology stacks



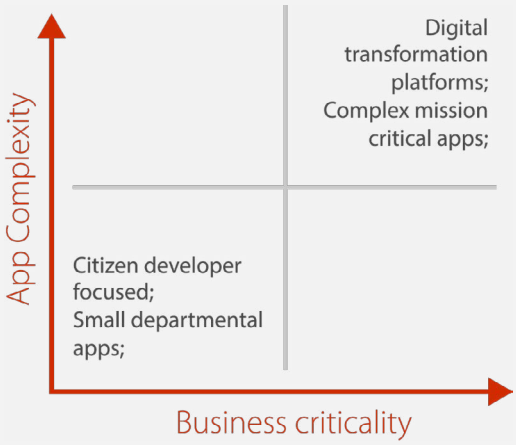
Low-Code Development interest growth based on Google Trends data

This in turn is making it harder for IT to deliver the value the business is looking for. Code-based approaches to application development are simply too slow to keep up. Low-code offers IT the opportunity to rise to these challenges and deliver business value much faster using their existing teams.

Couple this with the significant ROI low-code platforms deliver and it's easy to see why more and more organizations are including low-code development platforms as part of their IT strategy.

Are all low-code platforms the same?

The low-code term has become very popular recently and is being used by a wide variety of technology vendors - it's exciting to see this growth in the market. However, there are important differences between the types of low-code solutions available and what they can deliver.



At one end of the spectrum there is an abundance of new low-code solutions in the market that are aimed at the citizen developer. Often these are referred to as no-code as they offer very little in terms of extensibility. Applications are constrained to whatever the platform allows you to create. While these platforms might help address some of the simpler business application needs, inevitably you will hit a wall.

At the other end of the spectrum are low-code platforms that fully support the digital transformation journey that many organizations must take to remain competitive. This includes enabling organizations to leverage the benefits of low-code development for mission-critical enterprise applications. These platforms provide the scalability, security, and high availability required for these enterprise applications.

Citizen developers and low-code?

Low-code and citizen developers go hand-in-hand. In a recent study of over 3,200 IT professionals globally, 43% of all respondents said low-code platforms are currently part of their strategy. When it comes to citizen developers, 23% already encourage and 20% are considering enabling citizen developers in their organizations.

"A citizen developer is a user who creates new business applications for consumption by others using development and runtime environments sanctioned by corporate IT."
Gartner

Download the State of Application Development research report

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