

The State of **Application Development**

Is IT Ready for Disruption?

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Summary

In its sixth year, the OutSystems State of Application Development Report provides a comprehensive analysis of the challenges, priorities, and innovations encountered by IT teams around the globe, at a time when organizational agility has never been so important.

Agility is the central theme of this year's report because businesses and their IT organizations face a multitude of disruptive forces in 2019. The threat of digital disruption and the consequent need for digital transformation has been a driver of IT strategy for years. Add to that the current uncertain global economic outlook, and it becomes obvious why business leaders are so concerned about agility today.

How will IT "step up to the plate" and ensure that their organizations have the speed and adaptability to thrive, despite uncertainty?

This context serves as the backdrop to our sixth annual survey of IT professionals as we seek to understand the state of application development better. We set out with five critical questions in mind:

- 1 How are organizations' app dev practices evolving to meet digital transformation and agility objectives?
- 2 What are the main challenges to meeting application development goals?
- 3 What strategies are IT teams employing to speed up application delivery?
- 4 Are these strategies working to overcome resource constraints and reduce backlogs?
- 5 Are new app dev practices such as low-code and citizen development making a difference?

Our research, conducted in March 2019, took us around the world, connecting us with more than 3,300 IT professionals in all kinds of industries. In this concise summary of the report, we focus on specific findings related to the **local government sector**.

You can access the full 44-page report [here](#).

Color Key:



Global Responses



Local government Sector Responses

Application Development in the Local Government Sector

Compared to private sector enterprises, public sector organizations do not face the same existential threat of digital disruption from more agile digital start-ups. However, the need for digital transformation across the public sector is no less grave.

According to Deloitte's survey of 1,200 government officials, citizen satisfaction with government services has fallen to an eight-year low, and 73% of officials believe their organization's digital capabilities lag behind those in the private sector.¹

According to Forrester's U.S. Federal Customer Experience Index, the U.S. federal agency's customer experience index was worse than any private sector industry in 2018, and had not improved in the past year.²

Government IT organizations face an unenviable challenge: trying to launch compelling citizen digital experiences, while at the same time keeping the lights on with an aging and disjointed range of legacy systems.

Many public sector bodies are suffering from austerity funding cuts, and yet, at the same time, they face steeply rising service delivery costs for an aging population. According to the Brookings Institution, the resulting gap between federal spending and revenue is forecast to grow threefold in the next 20 years.³

Public sector CIOs need to prioritize digital transformation, not just because of the rising expectations of digitally-savvy citizens, but because those improvements also deliver significant efficiency and cost savings.

Understanding and acting on the key findings in this year's State of Application Development report is therefore crucial, not just for government CIOs, but also to those concerned with state and local government finances as well.


1. Deloitte - Delivering the Digital State


2. Forrester - The US Federal Customer Experience Index

3. Brookings - The Federal Budget Outlook


Key Findings

Digital Transformation Is a Work in Progress

 Evaluating their progress with digital transformation on a six-point scale, on average, respondents awarded their organizations a score of 3.74, meaning digital transformation efforts are typically widespread, but not yet strategic or continuous.


 On average, local government respondents scored their digital transformation maturity as 3.31, lagging all other industries except construction, nonprofit, agriculture and education.

Disruption Is a Rising Concern

 Uncertainty and disruptive threats appear to be on the rise. Asked to evaluate potential risks, senior respondents ranked changes in customer preference or behavior as

their number one risk factor, closely followed by regulatory change, cyber-attack, and more nimble competitors.

Stock market volatility was the least of their concerns. Even so, 51% thought this was likely or very likely to disrupt their organization in the year ahead.

 Although the most likely causes of disruption are quite different compared to private sector industries, respondents from local government organizations shared three of the top concerns. Taking both likely and somewhat likely into account, budget cuts, regulatory change, cyber attack, and changes in citizen preferences or behavior were ranked as their top disruptive fears.

As shown in Fig. 1, fear of budget cuts stood apart, with 90% of respondents fearing that this was either likely or somewhat likely to cause disruption in the year ahead.

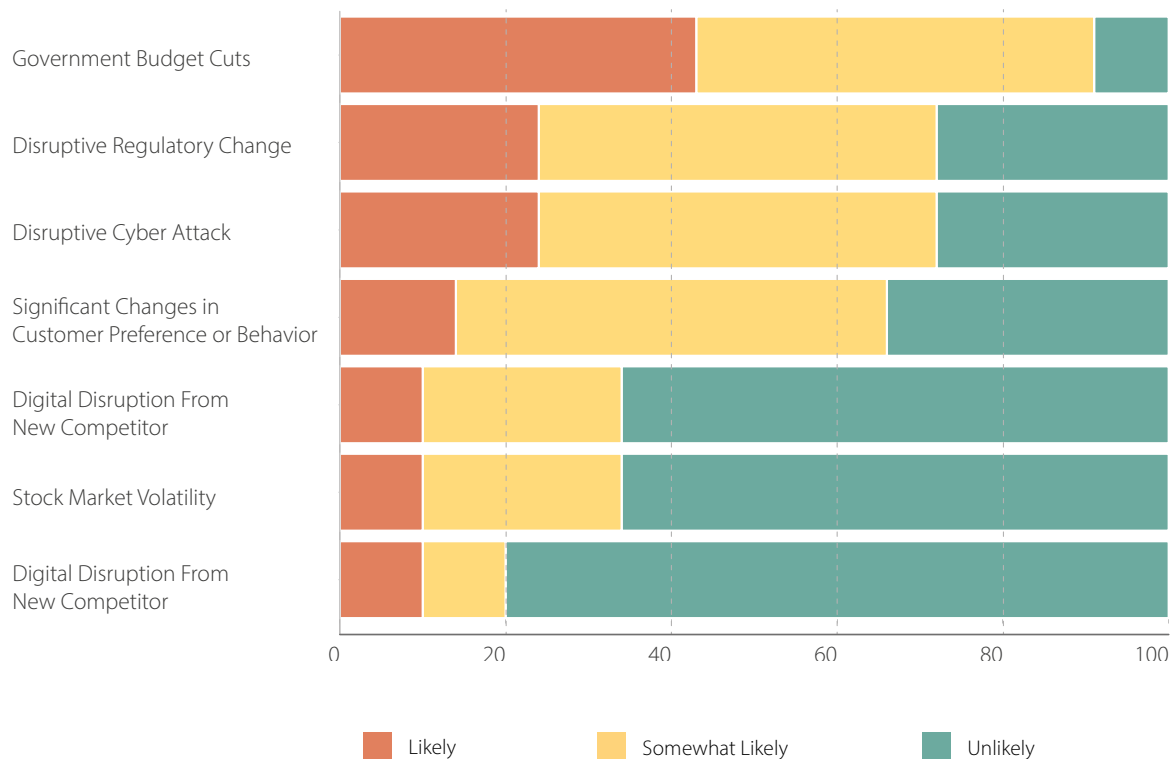


Fig. 1: Disruptive Fears in Local Government

Source: State of Application Development 2019/2020. OutSystems ©


Demand for App Dev at All-Time High


 The number of applications that respondents have slated for delivery in 2019 is 60% higher than last year's assessment. Focusing on organizations with more than 500 employees, 65% of IT professionals said they had plans to deliver 10 or more apps, 38% plan to build 25 or more apps, and 15% said they plan to develop 100 or more apps in 2019.

 Compared to other industries, respondents from local government organizations plan to deliver fewer new software applications in 2019. Focusing on organizations with more than 500 employees, 44% said they would deliver no more than nine new apps, and just 18% plan to build more than 25 applications in 2019.


But even these more modest plans for application development are likely to tax local government IT departments.


Development Time Is Faster—But Not for All

 Last year 54% of respondents said the average time to deliver a web application was four months or less. This year, that figure has risen to 61%. Mobile app development is little changed since last year with, on average, just 55% saying that they deliver apps in four months or less.

 Local Government respondents reported slower development times compared to the global average. Only 42% claim that they commonly deliver web applications in four months or less, and just 32% think that they generally deliver mobile applications in four months or less. Given the burden of legacy IT often found in local government, it is little wonder that application development seems to move at a slower pace in this sector.

Backlogs Remain Stubbornly Long

 Sixty-four percent of IT professionals said they have an app dev backlog, and for 19% of these respondents, the backlog was more than 10 apps. Only 39% said their app dev backlog had improved in the last year, and 50% say it's about the same.

 The picture is worse according to local government respondents, 68% of whom complained of backlogs, and only 31% of whom thought that the backlog had improved in the past year. It seems that despite the less taxing delivery target for new applications, the majority of local government IT teams are unable to keep up with demand.

Development Skills Are in Short Supply

The vast majority of responding organizations have hired multiple app dev roles in the past year. Only 15% of respondents described such recruitment as easy, and for many specialties, recruitment was described as hard or very hard. Despite such recruitment, only 36% of organizations have larger app dev teams than a year ago.

So, for many organizations, retention of developer talent appears to be an equally grave challenge.

Only 19% of local government respondents said their AppDev team had grown in the past year. Respondents from local government said that the three most difficult to hire specialties were AI/ML, cybersecurity, and IoT. Fig. 2 provides full break down of the recruitment challenges expressed by local government respondents.

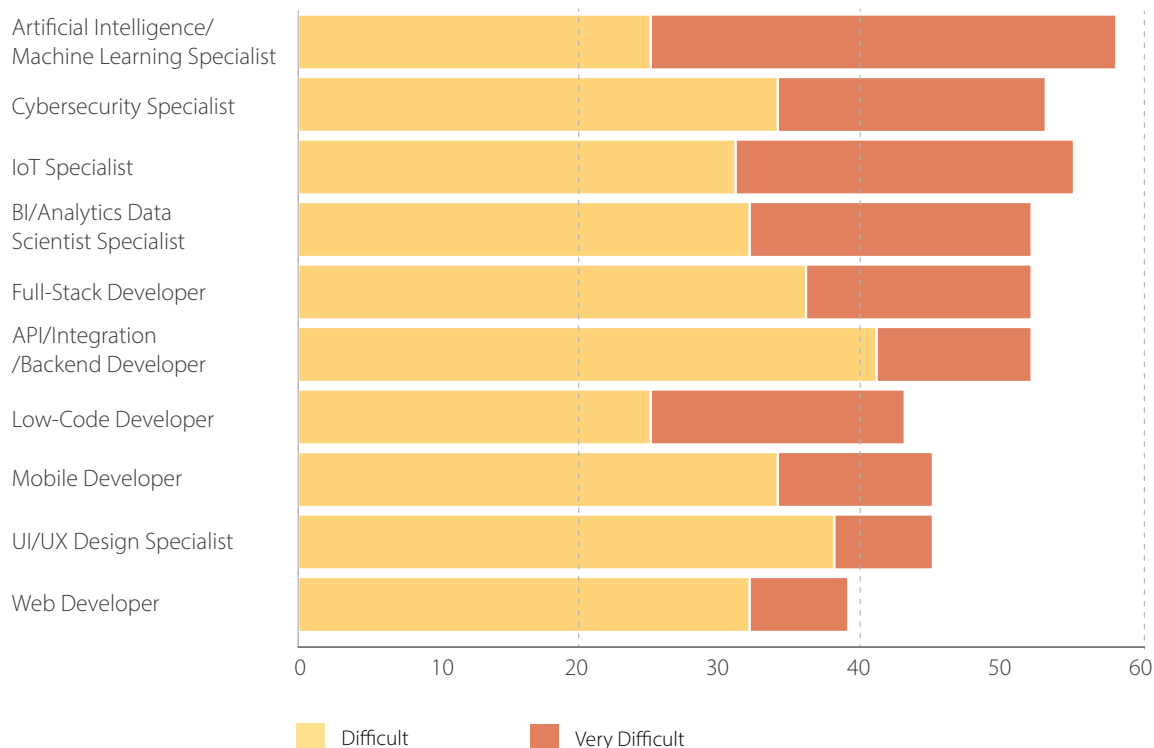


Fig. 2: App Dev Hiring Challenges - Local Government

Source: State of Application Development 2019/2020. OutSystems ©

Agile and Other Customer-Centric Practices Are on the Rise

Most organizations have invested in customer-centric practices in the past year, including agile (60%), design thinking (30%), customer journey mapping (20%), and lean UX (11%). Despite these efforts, agile maturity is still lacking in many organizations, the average assessment being somewhere between “just started” and “well defined.”

practices in the past year, such as agile (59%), design thinking (15%), and customer journey mapping (15%).

Local government respondents said their organizations had invested less in customer-centric development

Local government organizations reported the lowest level of agile maturity of any industry sector at 2.23 compared to the overall mean of 2.74. The ranking of all industries compared to mean is shown in Fig. 3.

The basket of “other” industries also found at the bottom of Fig. 3 advertising and marketing; agriculture; construction, machinery, and homes; entertainment, sports, and leisure; nonprofit; and real estate.

In the survey, level 2 and level 3 agile maturity were defined as follows:

- **Level 2** - Just started: processes not fully defined. Basic level of agile adoption. Development and testing are not fully in sync yet.
- **Level 3** - Our whole team is using well-defined agile processes, and we're consistently delivering sprint after sprint.

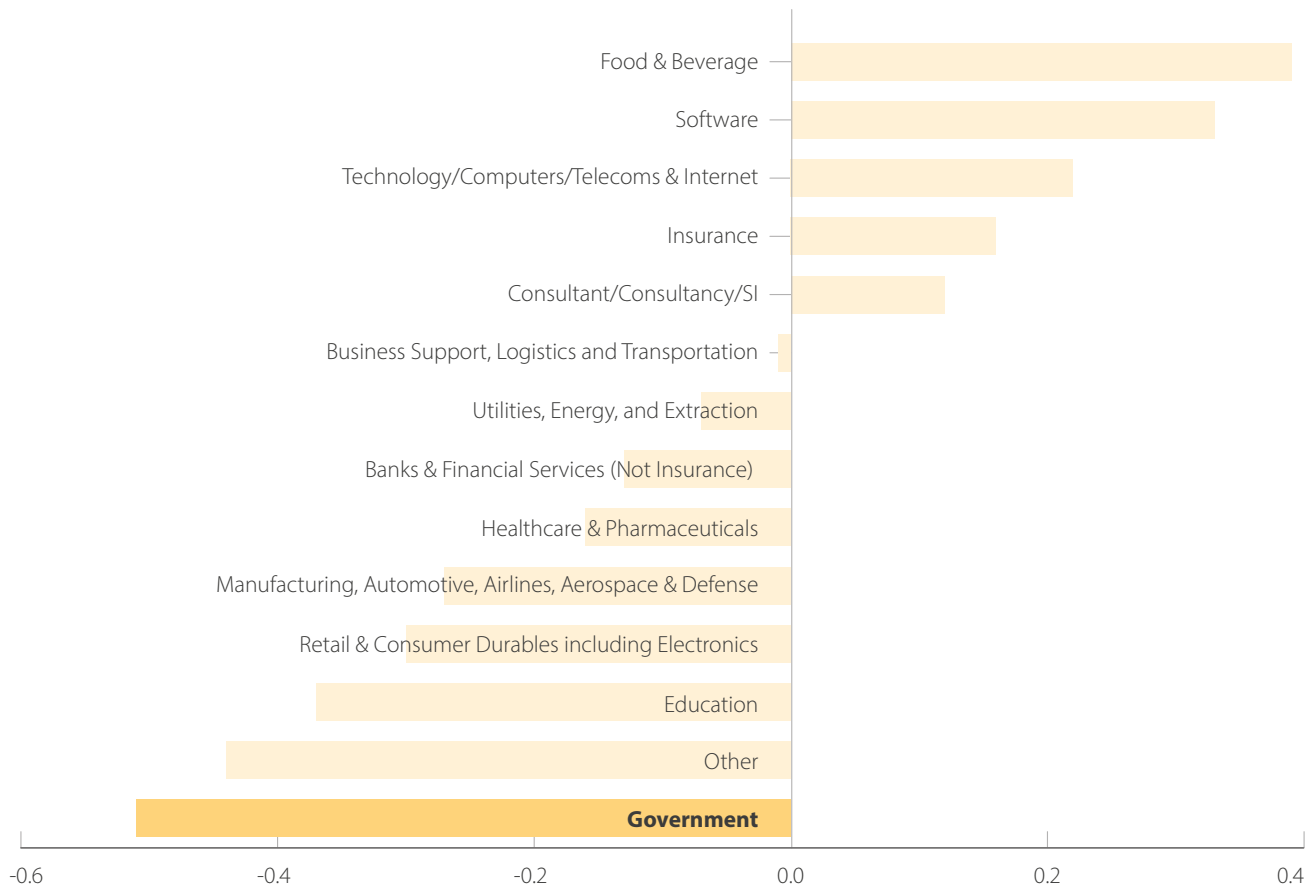



Fig. 3: Industry Variance From Global Mean Agile Maturity Score

Source: State of Application Development 2019/2020. OutSystems ©

Low-Code Is Mainstream

 Forty-one percent of respondents said their organization was already using a low-code platform, and a further 10% said they were about to start using one. This correlates closely with the adoption forecast provided in last year's report, in which we found 34% of respondents using low-code and another 9% saying they were about to start.

 Low-code adoption appears to be significantly lower for local government firms. Just 29% of respondents said that their organization was already using a low-code platform, but 11% said that their organization was about to

start using low-code. That leaves 60% of local government respondents saying that they neither use, nor plan to use low-code in the near future.

Given the underperformance reported by local government organizations with respect to delivery speed, backlogs and agile maturity, as well as the competition for scarce IT talent, we hope that these organizations quickly reevaluate how low-code could help them improve service delivery efficiency, and digital experiences for their citizens. Read on to discover the advantages that low-code delivers, according to our analysis of this year's survey responses.

Users of Low-Code Are Getting Significant Benefits

We compared the performance of those using and not using low-code and found notable differences across a wide number of app dev performance measures. It seems that the use of low-code is delivering significant benefits for those who have adopted it. Several of these performance comparisons are summarized below.

Digital Transformation Maturity

Low-code users had a 16% higher self-assessment score for digital transformation maturity compared to those not using low-code.

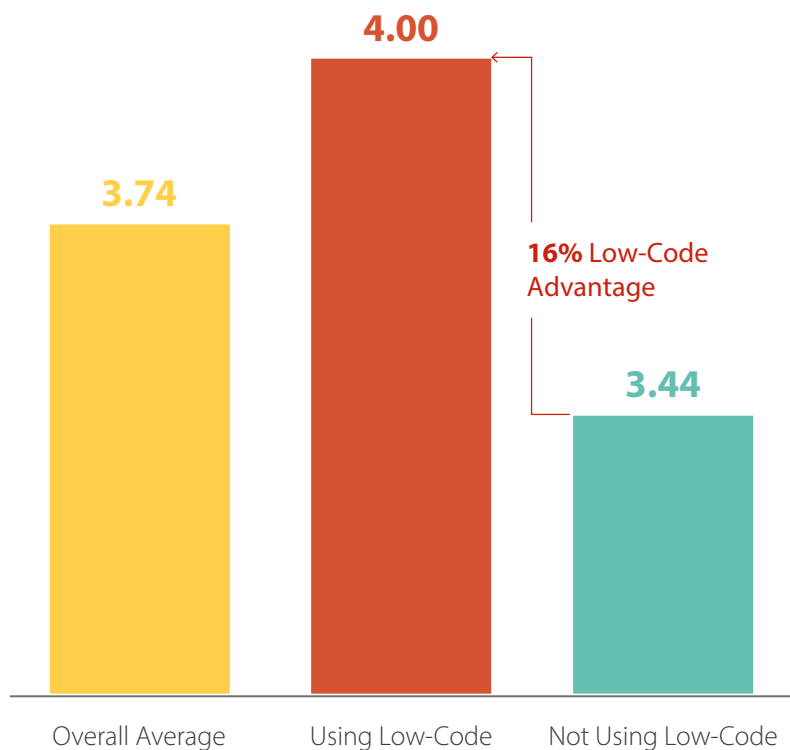


Fig. 4: **Digital Transformation Maturity Advantage for Low-Code Users**

Source: State of Application Development 2019/2020. OutSystems ©

The Proportion of App Dev Devoted to Innovation

Low-code users said that more of their app dev effort was devoted to innovation instead of maintenance, outperforming those not using low-code by 5%.

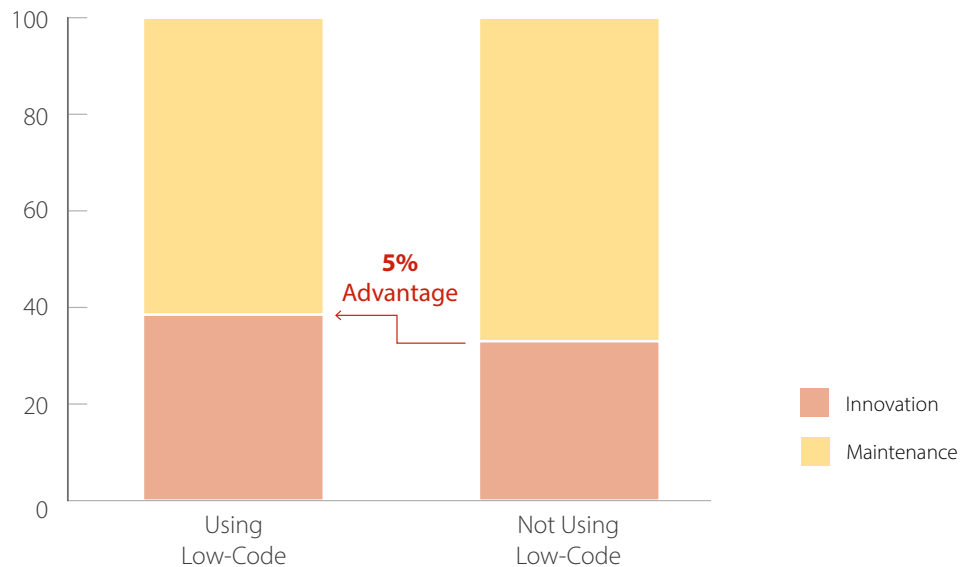


Fig. 5: **Innovation vs. Maintenance - Low-Code Users' Advantage**

Source: State of Application Development 2019/2020. OutSystems ©

Software Release Cadence

Users of low-code said that they release new software versions more frequently, being nearly 7% more likely than those not using low-code to release monthly or more frequently.

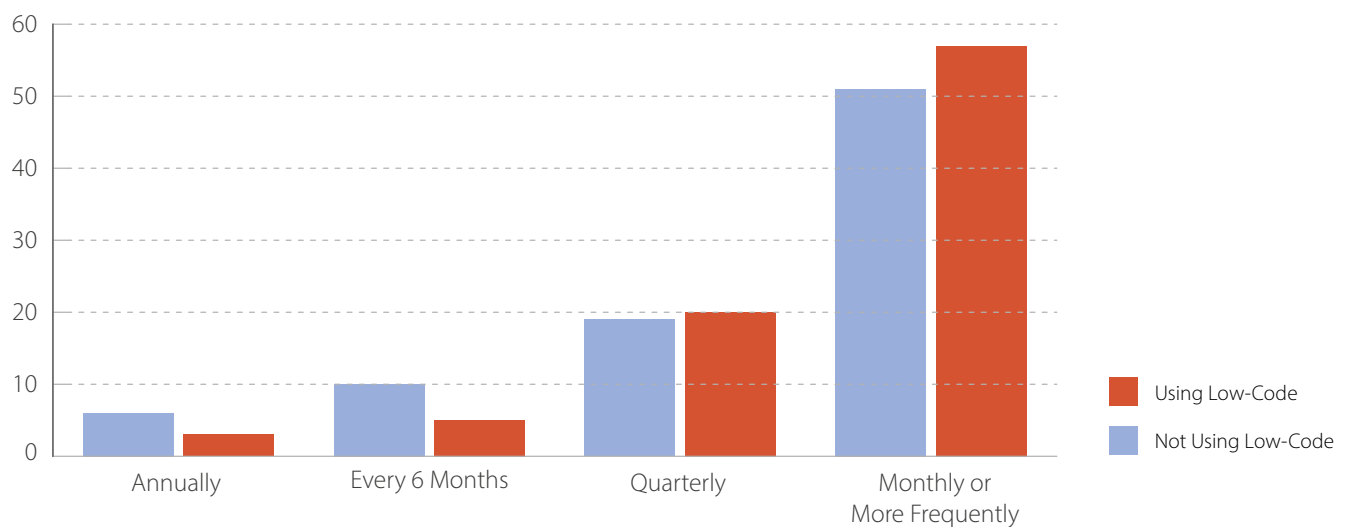


Fig. 6: **Release Cadence: Low-Code Advantage**

Source: State of Application Development 2019/2020. OutSystems ©

Business Satisfaction With Software Release Frequency

Thirty-seven percent of low-code users described their business as satisfied with their frequency of software release, compared to just 26% of those not using low-code.



Source: State of Application Development 2019/2020. OutSystems ©

Fig. 7: Business Satisfaction With Release Cadence - Low-Code Users' Advantage

Organizational Agility

Low-code users had an 8% higher organizational agility self-assessment score compared to those not using low-code.

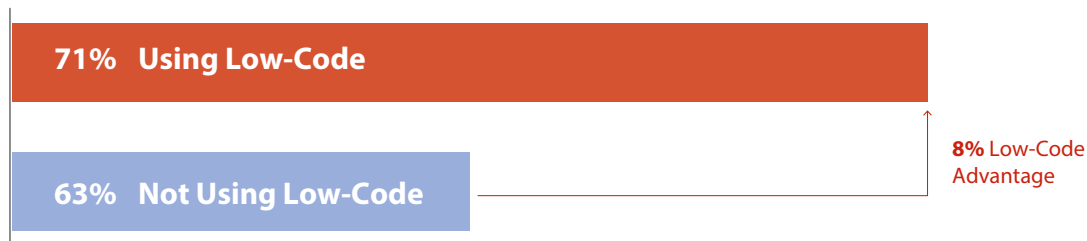
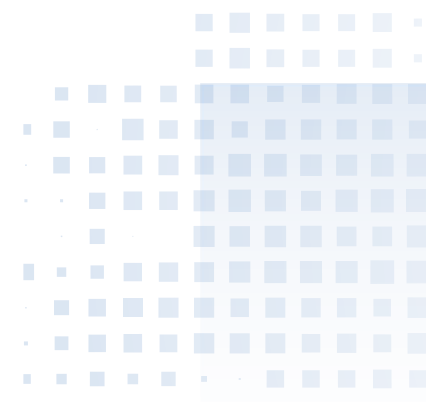


Fig. 8: Organizational Agility Advantage for Low-Code Users

Source: State of Application Development 2019/2020. OutSystems ©



Agile Maturity

Low-code users were 20% more likely to rate their agile maturity as level 3, 4, or 5 compared to those not using low-code.

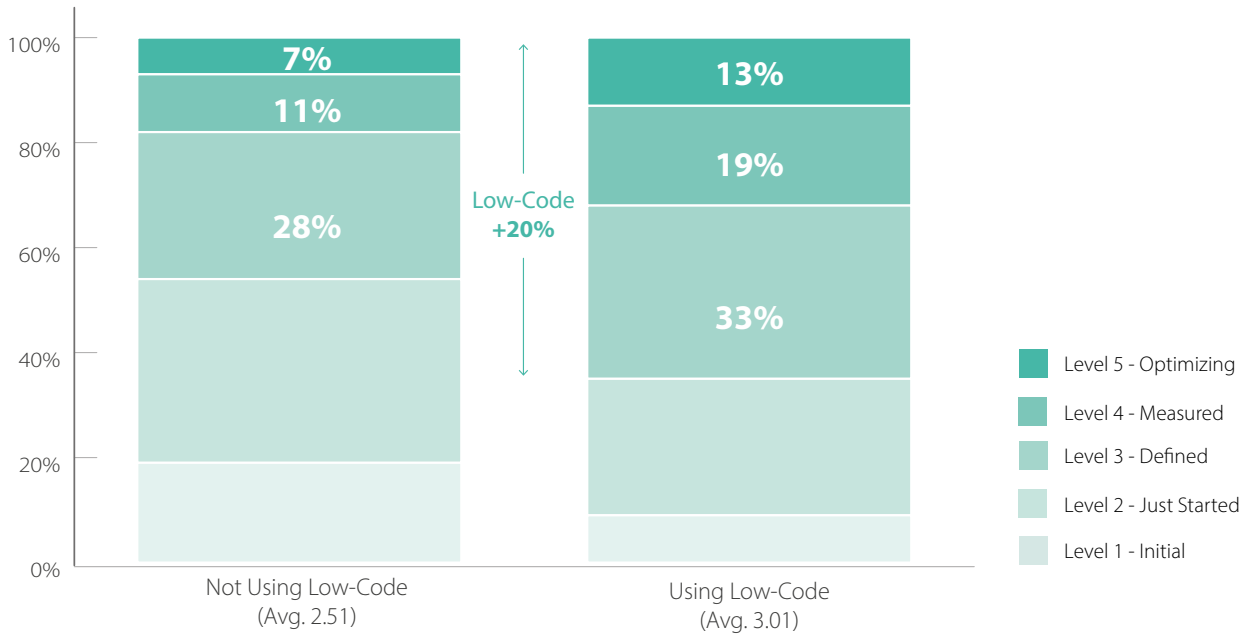


Fig. 9: Agile Maturity Score - Low-Code Advantage

Source: State of Application Development 2019/2020, OutSystems ©

Backlog

Low-code users were 12% more likely to say that their backlog had improved in the past year compared to those not using low-code.

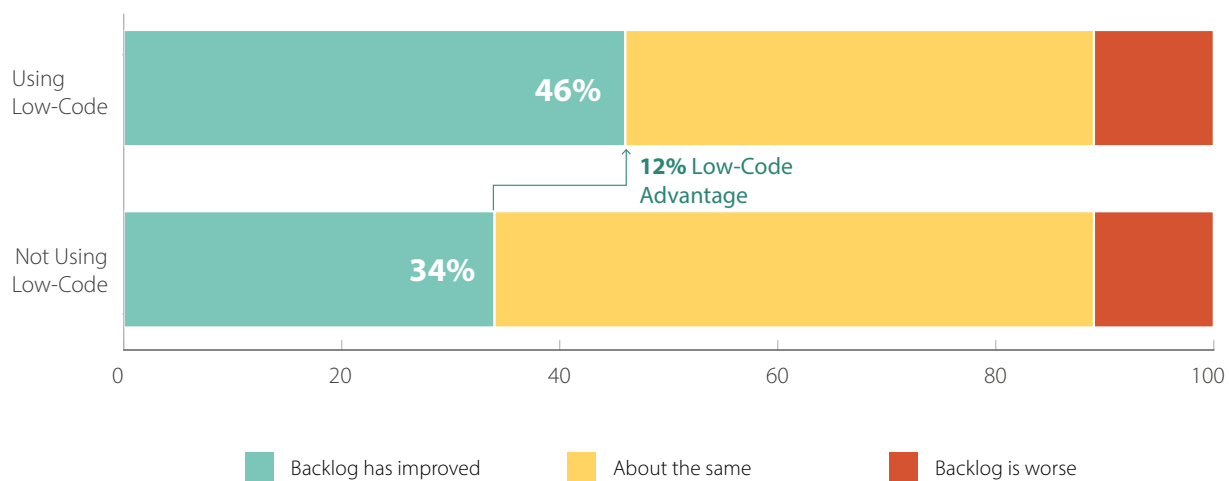


Fig. 10: App Dev Backlog Improved – Low-Code Advantage

Source: State of Application Development 2019/2020, OutSystems ©

Web Application Development Speed

Low-code users were 11% more likely to deliver web applications in 4 months or less compared to those not using low-code.

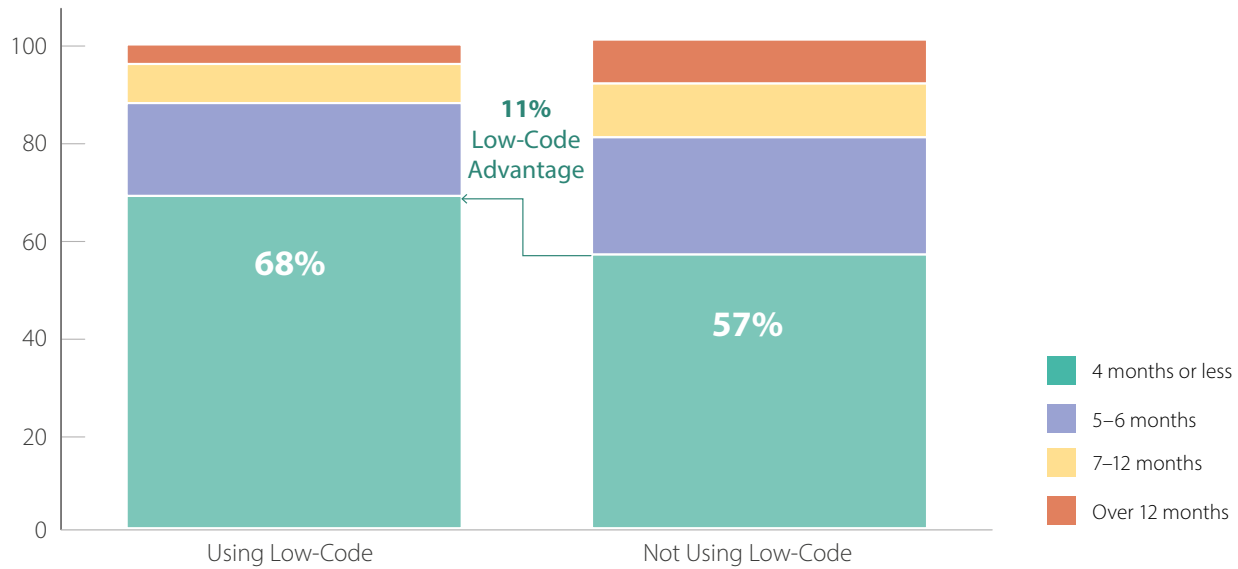


Fig. 11: **Web App Development Time - Low-Code Advantage**

Source: State of Application Development 2019/2020. OutSystems ©

Mobile Application Development Speed

Low-code users were 15% more likely to deliver mobile applications in 4 months or less compared to those not using low-code.

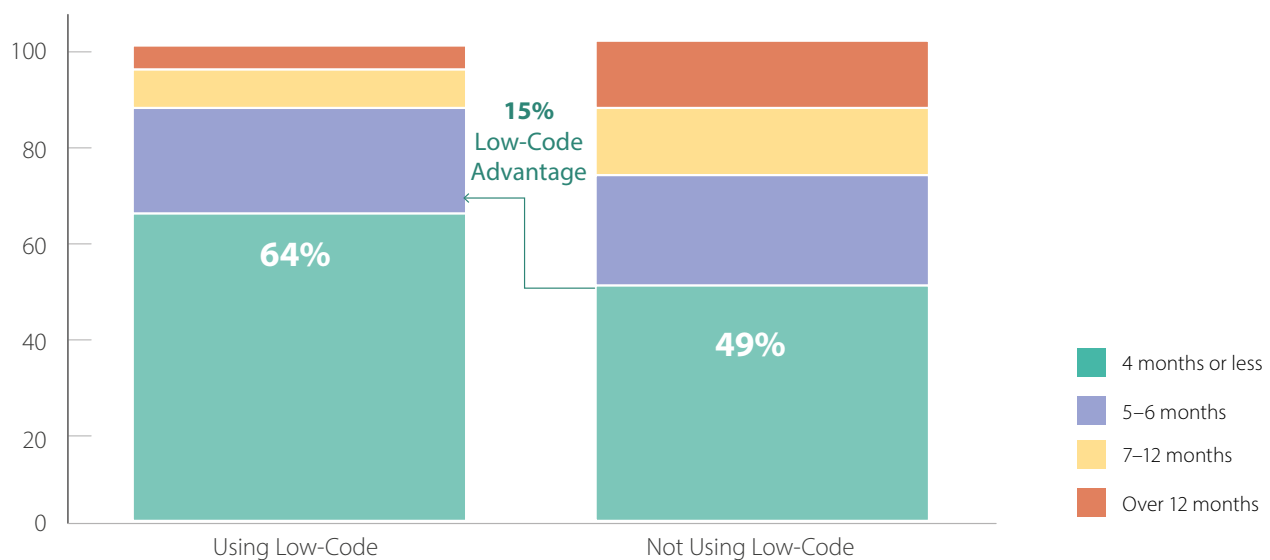


Fig. 12: **Mobile App Development Time - Low-Code Advantage**

Source: State of Application Development 2019/2020. OutSystems ©

Governance of Citizen Developers – Low-Code Advantage

Low-code users appear to have more success at governing citizen development in their organization compared to those not using low-code.

In summary—

37%

Thirty-seven percent of low-code users described significant success at governing such development, a 9% advantage compared to organizations not using low-code.

35%

Thirty-five percent of respondents whose organizations were not using low-code described ineffective governance of such users who could pose a risk to their organization. By comparison, users of low-code exhibited an 11% advantage.

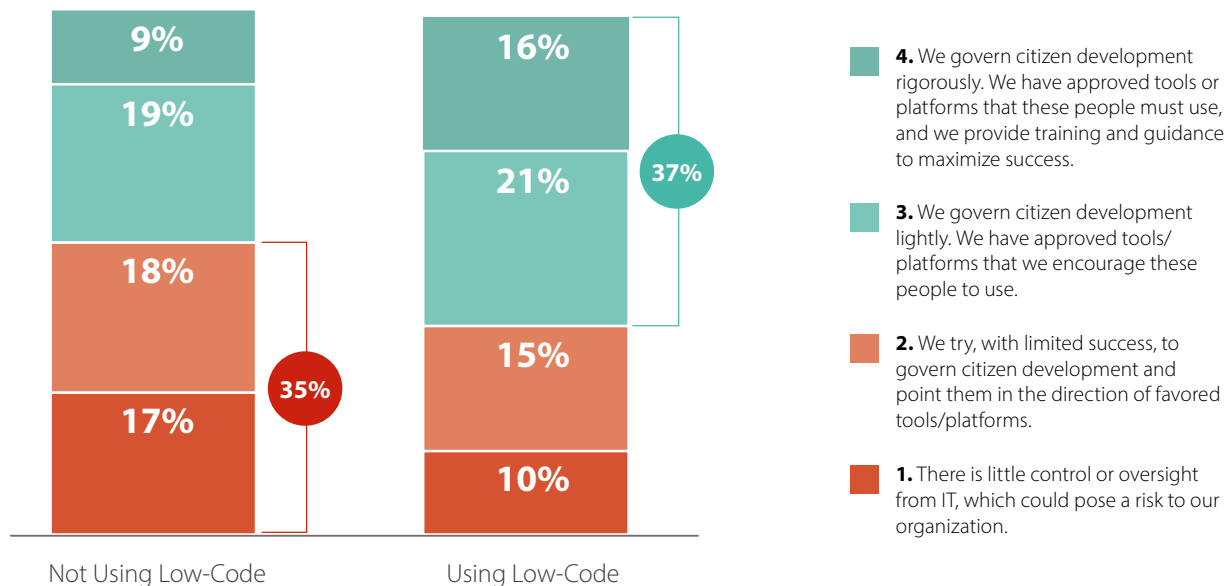


Fig. 13: Degree of Governance of Citizen Development

Source: State of Application Development 2019/2020. OutSystems ©

Survey Demographics

The survey was promoted primarily to IT professionals who were not OutSystems customers to ensure we surveyed a broad cross-section of organizations and not just OutSystems fans. To achieve this, we turned to third-party media.

Roles

Respondents were developers, CIOs, IT managers, and other professionals, representing thousands of companies from around the world who agreed to share objective feedback based on their experiences.

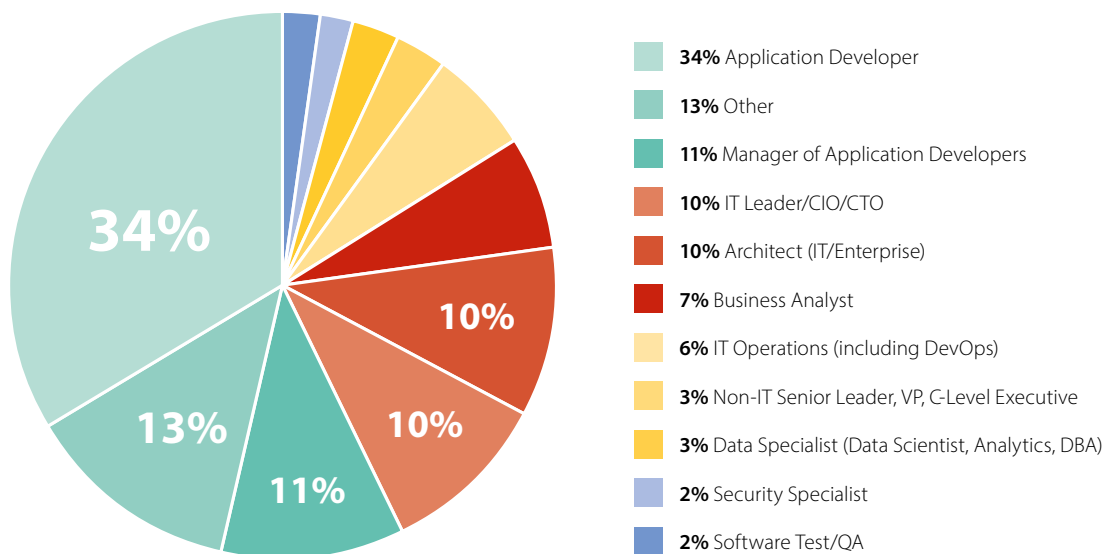


Fig. 14 Primary Job Function

Source: State of Application Development 2019/2020, OutSystems ©

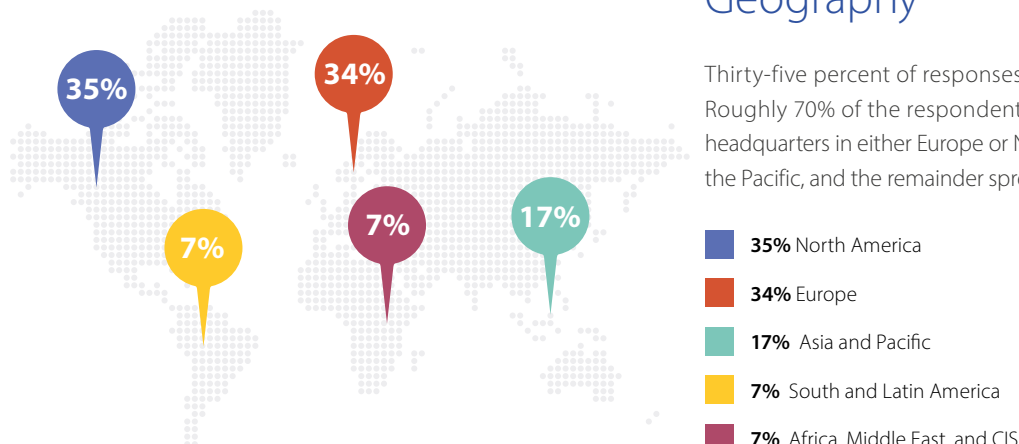


Fig. 15: Geography

Source: State of Application Development 2019/2020, OutSystems ©

Geography

Thirty-five percent of responses came from North America. Roughly 70% of the respondents' organizations have headquarters in either Europe or North America, 17% in Asia and the Pacific, and the remainder spread across the rest of the world.

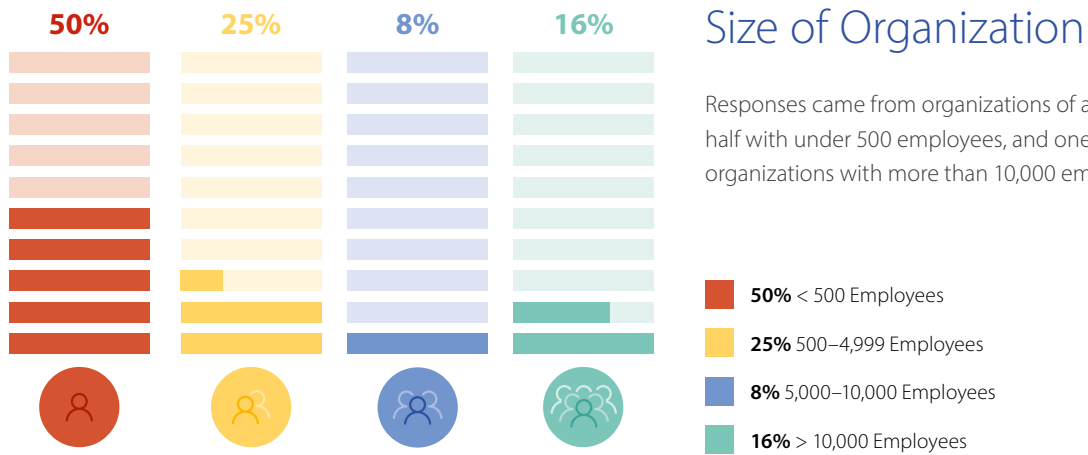


Fig. 16: Company Size

Source: State of Application Development 2019/2020. OutSystems ©

Industries

All industries were represented in the survey, the top seven being software, technology (including computers, telecommunications, internet), consultants and system integrators, government and education, manufacturing (including automotive, aerospace, and defense), and banks and financial services.

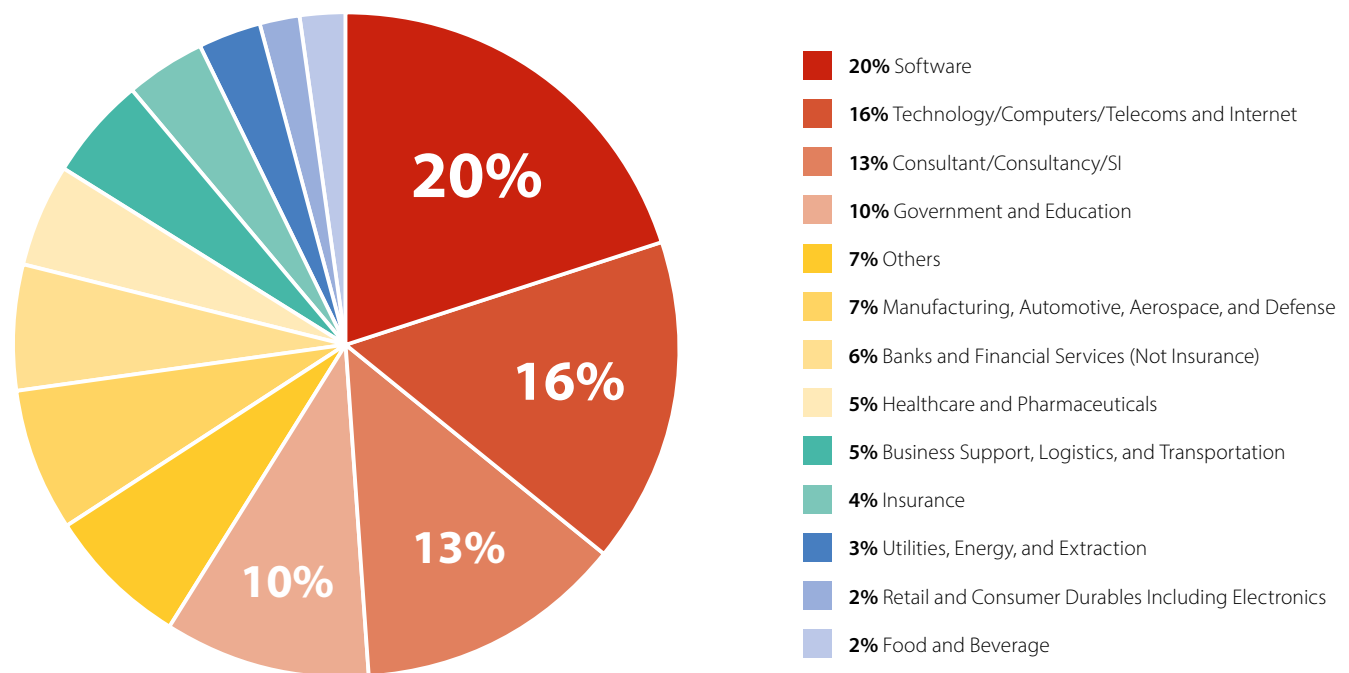


Fig. 17: Industries

Source: State of Application Development 2019/2020. OutSystems ©

Get the Full Report

The full report answers many more questions besides those explored in this local government sector summary. You can access the full report [here](#) to learn much more, including:

- What are organizations' top goals for digital transformation?
- What progress are organizations making with digital transformation, and how does that vary by industry sector?
- Which disruptive forces are of most concern to organizations in different industries in 2019?
- What proportion of applications planned for delivery in 2019 is new, as opposed to maintenance or replacement of apps that already exist?
- What are the most important types of app that organizations plan to deliver in 2019?
- What approaches and technology are organizations investing in to speed up application delivery?
- What are the top challenges that organizations blame for application delivery delays?
- What app dev skills are organizations hiring?
- How difficult is hiring for various app dev roles?
- Which app dev skills will organizations acquire through consultants and outsourcing providers in 2019?
- What app dev training and development priorities do organizations have in 2019?
- What kinds of use are organizations making of low-code application development platforms?
- Are citizen developers being governed effectively in organizations?
- What reasons do organizations give for using or not using low-code?
- What fears regarding low-code still worry potential IT buyers?

About OutSystems

OutSystems is the number one platform for low-code rapid application development. Thousands of customers worldwide trust OutSystems as the only solution that combines the power of low-code development with advanced mobile capabilities, enabling visual development of entire application portfolios that easily integrate with existing systems.



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