

# Citizen Developers: High-Impact or Hyperbole?

Meeting the growing demands for custom software development

The citizen development movement originated from organizations' need to accelerate the pace of software development and delivery. This need was driven by both the proliferation of digitization and a desire for end users to have more control over the development of software applications they use every day. Citizen development empowers end users and domain experts to build applications to meet their specific needs, leveraging people with limited software development skills or training to develop applications. Citizen development requires new tools and processes to ensure the delivery of high-quality, secure software applications that are maintainable, extensible, and secure. The key enabling factors of citizen development are modern low-code application platforms (LCAPs) and the involvement of skilled software professionals throughout the process.

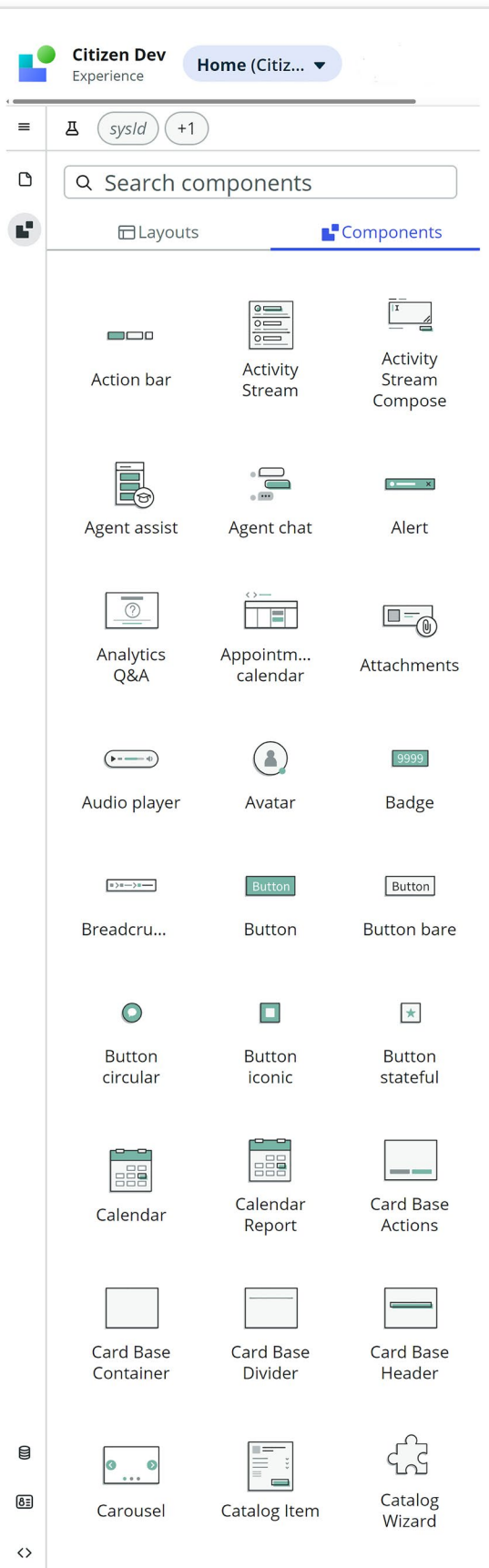
## Who Are Citizen Developers?

A citizen developer is a domain expert who understands business needs and has the skills to develop working applications using a low-code application platform. Training and skills are still vital for a citizen developer to be successful. However, they will rely on professional



developers for high-level architectural decisions and assistance in troubleshooting the issues that always arise when developing software applications.

Citizen developers augment professional developers. Instead of software libraries and code, citizen developers primarily work by selecting prebuilt components, configuring properties, and connecting these components to work together. The replacement of custom code with configuration is not a new concept; it is what everyday users routinely do when using a settings menu to alter the behavior of a software application.



Drag and Drop UI Components, ServiceNow

Citizen developers expand the software development workforce, allowing applications that previously would not deliver a high enough value or urgency to justify lengthy pro-code development cycles to become viable candidates for development. This includes applications with a small number of end users or infrequently used applications, both of which can have very high value for a small, select group. Also, replacing manual swivel-chair processes with software application software has the added advantages of consistency, automation, and improved data visibility. In some circumstances, a skilled citizen developer can design and implement an entire project in the LCAP. This level of citizen development takes time to establish but satisfies the needs for an increased developer workforce and better alignment between what is needed and the delivered software.

## The Promise of Low-Code Application Platforms

*Low-code* is an application development process that leverages prebuilt components with configurable properties and minimal reliance on custom code to develop applications. Key leaders in this space include ServiceNow, Salesforce, Appian, and Microsoft Power Platform. LCAPs empower users to create new apps and workflows. The LCAP market has evolved rapidly over the past four years, creating many new opportunities and challenges — a common occurrence with new, disruptive trends. Without low-code, citizen development would not be possible.

LCAP platforms have matured to deliver tangible benefits, including:

- Reduced time to value
- Expedited change process
- Increased transparency into the development process
- Closer alignment between developed applications and business users' needs
- Freed up development cycles to allow pro-code developers to focus on more challenging work
- Implicit guardrails to unify development conventions and improve security

This is not the first time information technology advances have promised tools that would enable anyone to create applications easily. Decades ago, products like Visual Basic, Spreadsheet Macros, Drupal, and SharePoint offered ease of configuration and automation that enabled users to create their own custom solutions. But these earlier platforms still required extensive work to build out the capabilities needed for many enterprise applications, including mobile and web access, robust workflows, data models and application integration. Security is also frequently an issue with these older systems. Moreover, third-party add-on modules for older systems are often limited to very narrow configurations and, therefore, a very small audience of potential users. Modern low-code platforms resolved many of these early limitations, but some challenges remain.

## The Challenges of Low-Code Applications Platforms

In a rapidly growing market like modern LCAP, the need for highly skilled platform developers exceeds the supply. Selling software licenses, especially the full-featured licenses developers require, is of utmost importance for low-code software vendors' bottom lines. The citizen development movement arose out of both needs. It can benefit all who engage, provided the developers' expectations are well understood up front and the organization embraces a culture of continuous learning for all involved.

IT professionals and low-code platform developers are still vital in implementing guardrails, isolating development environments from production, and implementing code/configuration processes to move changes from Developed through Test and into Production instances. In addition, security and compliance, while made easier by FedRAMP and other certifications supported by LCAP vendors, is still an area where some responsibility will fall on IT, systems, or DevSecOps teams.

In addition, organizations must consider long-term architecture to avoid vendor lock-in and to ensure the correct guardrails are in place to simplify future modernization efforts when tomorrow's best-fit LCAP platform may not be the same as today's. Since these application platforms are sold per user/module/year with frequent multi-year contract lock-ins, careful evaluation and planning are vital in assessing the total cost of ownership and total value of ownership.

## The Road to Low-Code Success

A successful citizen development program should never start with moving complex development tasks from pro-code development teams to people who are unwilling or unable to successfully develop production-ready applications. Buy-in at all levels is required to maximize the impact of a citizen developer initiative.

For enterprise-wide needs, modern low-code platforms make it easy for citizen developers to create user interface mockups and workflow diagrams directly inside the platform. This eliminates the common practice of creating mockups in tools like Visio. When professional developers step in to move the project to the enterprise application stage, low-code platform mockups and workflows give those pro developers a head start. The mockup itself acts as project documentation, eliminating the confusion and misunderstanding that can occur between the statement of business requirements and code stages. And because citizen developers can collaborate with full-time developers in the low-code platform, the time needed to improve and modify applications is drastically reduced.



Low-code doesn't mean low-responsibility. Implementing low-code solutions without the required expertise and without taking advantage of the full LCAP capabilities may lead to application sprawl, poor design choices, duplication of effort, and difficult-to-maintain architectures that limit the potential efficiency gains LCAPs can offer. Guidehouse helps organizations implement effective low-code and citizen development initiatives by providing:

- System design and architecture
- Platform selection, including a 70-point assessment of alternatives (AoA)
- Establishing roles, permissions, and guardrails to improve security with minimal impact on citizen developer capabilities
- Organizational change management, including identifying and amplifying champions
- Development of advanced workflows, integrations, and complex applications
- Development of reusable components that citizen developers can easily leverage



## Guidehouse can put your low-code platform on the right track.

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A citizen developer initiative offers many advantages. With reasonable expectations and the right people working in low-code platforms, citizen developers deliver exceptional alignment between business needs and application delivery.

Guidehouse can put your low-code platform on the right track from a people, process, and technology perspective. We provide a comprehensive team of professionals that includes process change re-engineering, agile delivery, and technical expertise on all major low-code platforms. Our low-code experts can assist with your technical architecture, promote understanding of how to best use out-of-the-box features, and identify when such features are too limited to meet your specific business requirements. This team empowers a citizen development initiative with the right mix of low-code architects, professional developers, and enterprise system integration to achieve your objectives.


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### About Guidehouse

Guidehouse is a leading global provider of consulting services to the public sector and commercial markets, with broad capabilities in management, technology, and risk consulting. By combining our public and private sector expertise, we help clients address their most complex challenges and navigate significant regulatory pressures focusing on transformational change, business resiliency, and technology-driven innovation. Across a range of advisory, consulting, outsourcing, and digital services, we create scalable, innovative solutions that help our clients outwit complexity and position them for future growth and success. The company has more than 16,000 professionals in over 55 locations globally. Guidehouse is led by seasoned professionals with proven and diverse expertise in traditional and emerging technologies, markets, and agenda-setting issues driving national and global economies. For more information, please visit [guidehouse.com](https://guidehouse.com).

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