

QuickBase



An Introduction to Citizen Development:
Bringing Shadow IT into the Light

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Shadow IT is real.

According to Gartner, 38 percent of global IT spending is currently managed outside the IT department (a figure expected to surpass 50 percent by 2017¹) and GigaOM reported that 81 percent of line of business (LOB) employees use unauthorized SaaS apps. Adding to these findings is a 2014 Avanade Global Survey where 79 percent of C-level executives said they think they can make technology decisions better and faster than IT.

What is Shadow IT?
Shadow IT describes the practice of business professionals or departments buying or developing and using technology systems and solutions without explicit approval or involvement of corporate IT.



38%

Global IT Spend
Managed Outside of IT



81%

Unauthorized
SaaS Apps in LOB



79%

C-Level Execs Who Make
Faster Decisions Than IT

¹ Gartner Says CIOs Need Bimodal IT to Succeed in Digital Business,” November 2014, Gartner Symposium/ITxpo 2014



Over the last two years, [Shadow IT](#) has moved out of the darkness and into a prominent place in the CIO's mind. As digital business forces many enterprises and IT organizations to come to terms with Shadow IT, CIOs, IT and Business leaders must deal with the problem now so it does not drag digital transformation efforts down, slow innovation and decrease cost optimization or increase risk. In the forthcoming pages, we'll explore the major drivers of Shadow IT, as well as the factors to consider, and value in launching, an effective and collaborative citizen development program in its place that unites business and IT.

What is Citizen Development?

QuickBase defines citizen development as a methodology that enables users or “citizen developers” to leverage a no-code/low-code application development platform to quickly build and manage applications that drive greater agility, speed, and operational efficiency for their teams. Typical citizen developers are motivated problem solvers from operations and business lines with low to no coding experience.

To extract maximum business benefit, citizen development is best approached by uniting the strengths of all stakeholders—combining the deep data and process knowledge from business professionals in operations and in Lines of Business with platform, security, and compliance expertise from IT.

“We love that QuickBase lets our employees do what they need to do without being hindered by complexity.”

– Sherry Parsons, Executive Administrative Manager, [Earthbound Farm](#)

The Backlog Problem

IT developers we've surveyed have said that one of their biggest challenges is application development backlogs. When 80 percent of their total budgets are spent just keeping the lights on—and much of the remaining time moving business-critical projects forward—IT simply can't keep up with hundreds of ad hoc app development requests from business operations and LOB teams. However, for those who want and need these apps to drive business process efficiency and team productivity, the long wait times become a source of frustration and pose risks to the business in the form of lost opportunities and competitiveness.

In traditional models of application delivery, IT owns the entire application development process, which involves a varying degree of input from the business before a solution can be built and delivered. And it doesn't end there because there is application maintenance to consider. After delivering the first version of an application, IT is needed again to code updates and changes to the application on an ongoing basis. This work adds to an already heavy load, making it impossible for IT to keep pace with the business process and downstream reporting change requirements needed by business users in real time.

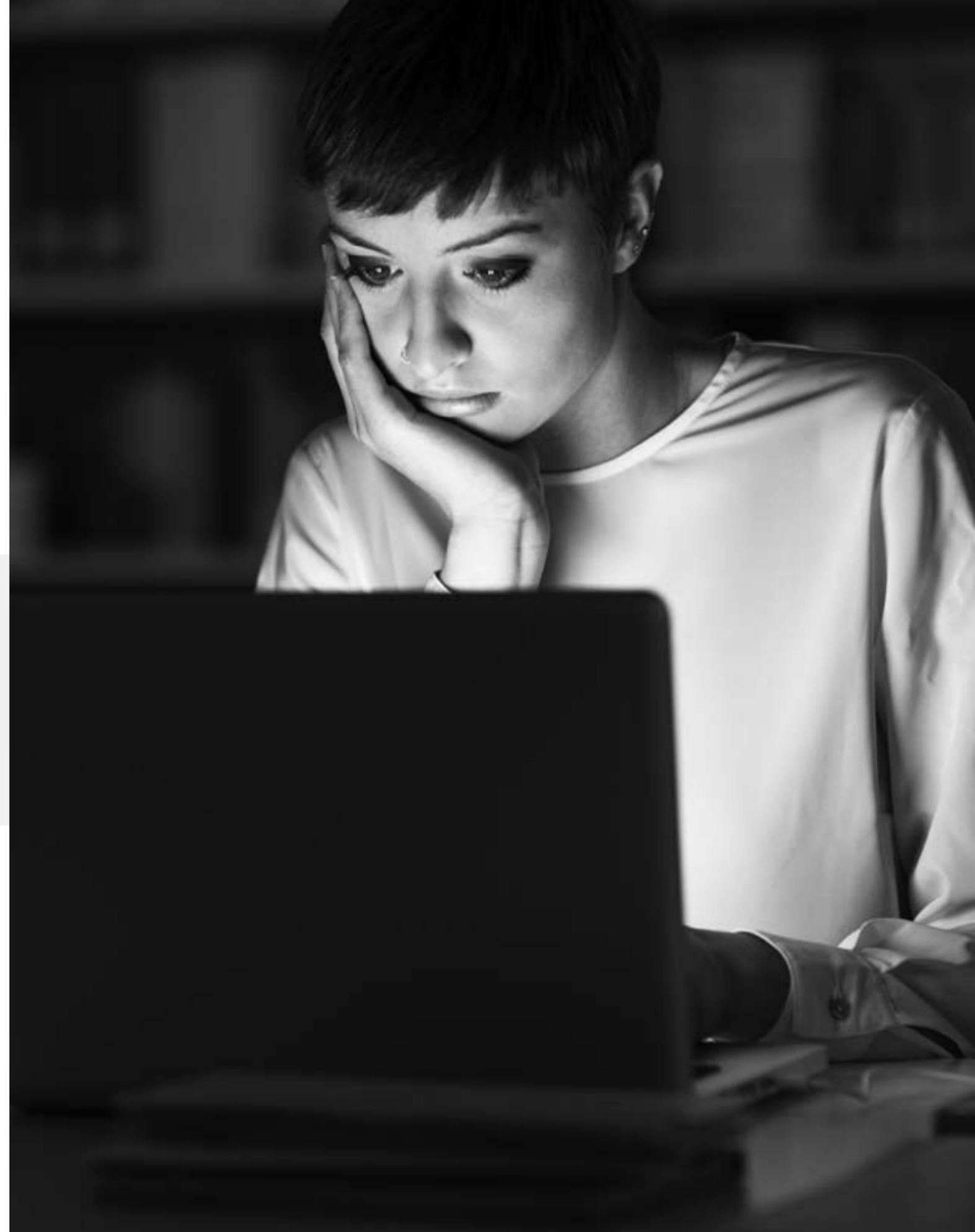


IT has attempted to [alleviate backlogs](#) by bringing in software engineers to work with pro developer languages such as .NET, Java, and C#, or by leveraging IT-focused PaaS stacks that require a high degree of experience and professional services to customize based on needs. Unfortunately, finding and hiring high-end developer resources is often difficult and cost prohibitive, which means all but the most critical business projects remain on the back burner indefinitely.

As a means to find and deliver their own solutions faster, by reducing dependence on IT developer availability, LOB and Operations teams have turned to Shadow IT.

“Use of a no-code/low-code citizen development-based business application development platform reduced the backlog on average by 65% compared to traditional development.”

– [2016 State of Citizen Development Report, QuickBase Inc.](#)



Facing the Reality of Shadow IT

Over the past decade, IT's response to Shadow IT has been to either deny it exists or do everything it could to shut it down. Over time as technology barriers dropped, especially with the rise of cloud-based services, [it has become clear](#) that IT no longer has exclusive control over decisions and budgets associated with technology. Increasingly, digitally savvy business users who “need it now” are openly taking matters into their own hands without relying on or even consulting with IT.

These are the same kinds of employees who drove the “bring your own device” (BYOD) trend, and many of them feel confident and qualified to expand this “do it yourself” (DIY) attitude to develop their own business applications. While this expansion of Shadow IT can be good for business professionals, IT may have valid concerns relating to data security, application silos and usability issues.

What's IT to do? Shadow IT should be brought into the light by embracing it as a positive activity that can coexist with traditional IT activities. To create a [winning situation for all](#), technological solutions to business problems, including the development of custom applications, should be treated as a shared responsibility between business and IT. An open, collaborative partnership of professional IT developers and citizen developers from lines of business or central services teams should involve both groups contributing their time, and either technical or business expertise, toward developing the best possible solutions in the shortest period of time.

“IT organizations need to reframe their perspective on Shadow IT – engaging with it and adopting practices that exploit it as a delivery mechanism, albeit with some guardrails and clarification of accountability to mitigate the risks and enhance the value.” – Gartner, Embracing and Creating Value From Shadow IT, Simon Mingay, 02 September 2015





Citizen Development Unites Business and IT

According to eWeek, 80 percent of enterprises are turning to application development platforms that support no-code and low-code methods. The trend is exploding in popularity because its simplicity empowers citizen developers to solve a range of business problems with ease and speed.

QuickBase characterizes citizen developers on a spectrum that ranges from line of business professionals with Microsoft Excel or Access expertise, but no coding skills, to business analysts and operations managers with some scripting and business/systems analysis skills. Platforms that enable citizen development support fast development of applications without requiring the traditional coding expertise necessary in the past.

However, enabling citizen developers is not as simple as it sounds. While citizen development can open up tremendous opportunities for IT to quickly eliminate backlogs, and for business operations and LOB professionals to optimize and accelerate processes and tasks, without a framework of policies and guidelines from IT, it is essentially Shadow IT with all its inherent risks.

Successful citizen development initiatives will benefit from IT and business stakeholder support. The goal is to create strong working relationships between IT, business operations, and LOB teams that engender a shared accountability and stewardship for rapidly developing and maintaining effective and secure applications.

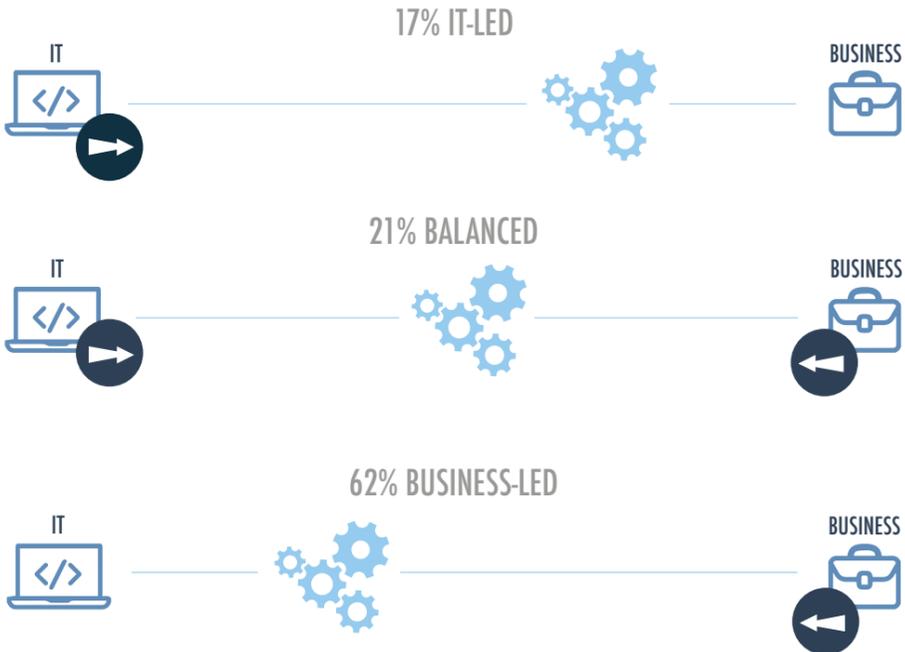


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Approached in this way, IT can still retain the oversight it requires to mitigate risk—especially pertaining to such areas as permissioning and integrations—while citizen developers are free to seamlessly create, update and manage solutions, when and where needed.

What does this look like for QuickBase customers? In one effective citizen development approach, the business user owns the application lifecycle process while soliciting key input from IT on best practices such as scale, scope, and risk management. IT is able to focus time and energy on the most critical and strategic parts of the process, leaving the rest to the citizen developer. In another example, IT and the citizen developer collaborate in building the application, with IT overseeing and supporting the project.

New Collaborative App Development Models



Partnership and Guidance Not Command and Control

[Successful citizen development programs](#) do not need to be governed by IT departments, but they would benefit from support from both IT and business. The best culture for citizen development is one that encourages employee experimentation within an IT framework that offers best practice guidelines and advice for planning and implementation. Citizen development doesn't eliminate the need for IT; it merely elevates IT to a more strategic level.

With this in mind, launching an effective citizen development program requires the right conditions: namely, a supportive organizational culture, and a robust no-code or low-code application development platform, such as QuickBase.

The ideal citizen developer is a business professional with direct knowledge of the business data and processes that the application will manage. The citizen developer should be a team player willing to collaborate with IT and adhere to basic guidelines to keep citizen development compliant with corporate and IT policies, and also be informed about application design best practices. Development guidelines are often best addressed by dual application development policies—a formal one for those supporting mission-critical projects in IT, and a more informal one for the citizen development community that encourages self-service app development within a secure framework that protects data.

By giving citizen developers a secure, yet flexible, space in which to develop and deploy their own technology solutions that empower their teams, IT can dedicate more time to highly mission-critical and long-lived applications that help drive the business forward. Everybody wins.

“Prospective citizen developers are subject matter experts in their lines of business. They are comfortable and conversant with new technology, familiar with Microsoft Excel or Access platforms, and aware of the technology rollout process at a high level.”

– Dion Hinchcliffe, Chief Strategy Officer at 75 Summits and CIO contributor.



Understanding Where Citizen Development Is Most Effective

Some application building projects will be better suited to citizen development than others. It is important to understand the various application tiers and skillsets needed for each to determine where citizen development is not a fit, where it is best done in collaboration with IT, and where it can exist on its own within basic guidelines provided by IT. According to QuickBase, there are several tiers to consider.

Tier 1 Run the Business Applications

Requires pro-code development skills and strong IT governance

Representing a handful of core IT systems, these applications are long-term investments that support a company's most strategic and business-critical platforms such as ERP, supply chain and transactions-based systems. They are architecturally complex and require high-code expertise in such programming languages as Java, .NET, and C#. These applications fall under the jurisdiction of enterprise IT teams and outsourced pro-coders who are solely responsible for their operations and ongoing maintenance.



“QuickBase is a natural fit in our evolving IT approach. It allows citizen developers to create database-driven apps to replace spreadsheet and paper processes without contributing to the IT backlog.”

– Paul Carmouche, IT Director of [Helm Inc.](#)

Tier 2 External Engagement Apps

Requires strong IT governance, low-code development skills

While not 100 percent mission-critical, these non-transactional applications are often customer or partner facing and therefore, still vital to overall business operations. Representing tens of applications across the enterprise, they include CRM, customer service, customer and partner portals, and mobile solutions.

Applications in this tier can be architecturally simple to moderately complex, operating either as stand-alone platforms or connected to core IT systems. Although not an entry-level place for citizen development, more advanced citizen developers with low-code scripting and web skills such as HTML, CSS, Jscript, Python, and Ruby, as well as business/system analyst skills are increasingly tackling tier two application development—with more complex application and integration projects often developed in collaboration with IT. Tier 2 applications are well suited for citizen development because they require relatively frequent updates for which traditional development can be slow and expensive.

“When we get a request, the first thing we do is evaluate the delivery mechanism. If it makes more sense to extend the functionality of an existing application, we’ll do that. If we have to build it from scratch, we’ll try QuickBase. If we can’t do it in QuickBase, we’ll turn it over to our .NET development team.”

– Joe Lichtefeld, VP of Application Delivery, ResCare



Tier 3+: Internal Engagement Apps (variable, frequently changing lifecycles)

Requires moderate to low IT governance and no-code to low-code development skills

Built within a more self-service tier that allows business professionals to quickly and easily solve day-to-day problems that hinder productivity and service, these architecturally simple, cloud-based (SaaS) applications represent the “sweet spot” for citizen development. Creating custom business applications such as those that

support HR, IT help desk, order tracking, and facilities management workflow can easily be developed and maintained by the business. Best of all, application updates and maintenance can be accomplished by citizen developers in real time with little or no reliance on IT.



Additional Considerations for Guiding Citizen Development

Depending on your business, some points of emphasis for deciding on the types of applications suitable for no-code citizen development, low-code citizen development, and those that might be off limits may include:



Who is the application being built for? (Internal or external facing? Executives or knowledge workers? Customers or partners?)



How mission-critical is the application? Will it support a company's most strategic and business-critical platforms?



Is the application for sensitive or confidential information? Does it require integration with other sensitive data stores?



Does the application manage regulated data or at least demand high levels of access controls?



Is it a standalone application or will it require integration with other enterprise systems like an ERP or CRM system?



Are APIs required or is there existing no-code integrations between the systems where you require access?

Driving Speed of Innovation and Significant Savings

When done right, citizen development generates business value from the very beginning. According to QuickBase's [2016 State of Citizen Development Report](#), 42 percent of companies have seen a 2X or greater increase in application development speeds compared to traditional development, and 53 percent indicated that it takes less than two weeks to build an application on average. These results are driven by no-code/low-code application development, enhanced collaboration between Business and IT, and citizen developers contributing their first-hand knowledge of business data, processes and workflows to the application building process.

In step with the business and economic findings of QuickBase's recently released 2016 State of Citizen Development Report, Forrester's April 2016 study, [The Total Economic Impact™ of QuickBase](#) revealed the following composite organization insights. These are based on the risk-adjusted ROI, benefits, and costs of four QuickBase customers ranging in size from 3,800 to 50,000 employees:

- Citizen developers leveraging no-code/low-code techniques developed applications approximately eight weeks faster and at a savings of \$19,231 per application developed.
- Accelerated delivery also means quicker time to value. Faster and more effective processes and enhanced user productivity contributed to a savings of \$4,418,835 over three years.
- Citizen developers, easily updating and maintaining their own applications in real-time, are driving maximum business process transformation while cutting development costs by \$4,513,641 over three years.
- A reduced backlog of LOB application requests not only allows the IT department's pro coders to focus more time on mission-critical applications, but also decreased hiring requirements by two FTEs for a savings of \$612,000 over three years.

"With QuickBase, we just don't see the same backlog that we used to, because we can get it done so much faster."

– Anonymous Interview from [Forrester's Total Economic Impact™ of QuickBase Study \(April 2016\)](#)

Citizen Development in Action: Helm Inc.

One company with a [thriving citizen development program](#) is Helm Inc., which provides branded merchandise, multichannel fulfillment and marketing services to companies in automotive and retail industries.

Helm empowered employees to improve front-office processes and exceed customer expectations by leveraging QuickBase as a low-code rapid application development platform. With it, the company enabled business users to solve immediate business problems while freeing the IT department to focus on areas where it adds the most value.

Five years later, Helm has transformed its business completely—removing hundreds of business requests from its IT backlog; eliminating over 3,000 spreadsheets and 100,000 email communications from manual processes; and saving \$150,000 in administrative labor costs and an additional \$20,000 per year by replacing Salesforce with QuickBase.

What has contributed to such a successful citizen development program at Helm is its QuickBase Black, Red, Green, and White Belt community, and having a dual governance policy covering more formal and less formal elements to ensure proper governance overall.

Helm has an ‘Extend, Educate, and Empower Program’ where they take and emulate their current processes as much as they can and extend that out to the user community using QuickBase.

“Our advanced QuickBase users, or ‘Black Belts’ — typically our best Excel users who realized the power of QuickBase relatively quickly — are the resident experts within that program. As our application administrators, they protect the data in accordance with IT’s overarching policy and governance to help ensure that we are working in collaboration with IT and don’t have any conflicts within the user community. They also leverage their expertise to help our less experienced citizen developers. In addition, they help educate people on the new features that are in the community.

Our program not only includes ‘Black Belts’ but other levels as well. ‘Red Belts’ are precursors to ‘Black Belts’. They must be able to develop applications, create single or multi-line tables and reports, and understand the basics of good relational database design. They represent another link between the development process and the citizen developer. ‘Green Belts’ are those who aspire to be more engaged in citizen development but don’t yet have the technical know-how. ‘White Belts’ are general everyday users; and ‘Beta Advocates’ are ‘White Belts’ who are committed QuickBase users and fans who work with ‘Black Belts’, providing valuable user input on any new features or proposed changes to applications.

That structure, for us, works very well. There is a formal IT governance and policy structure and then within the community, it’s formalized, but there is an informality to it—because at the end of the day the data is flowing quite rapidly and there are a lot of changes to it. Nevertheless, we want to make sure role security is important and the data is protected, and our ‘Black Belts’ help ensure that for us internally. Our users have to be good stewards of that data.”

– Michael Wacht, Vice President of Operations, Helm Inc.

Conclusion

With much of their time already committed to managing infrastructure and supporting highly mission-critical applications and strategic projects, most enterprise IT departments have limited resources to address the monthly stream of custom application requests from business teams.

Hindered by long wait times for much needed solutions, business professionals have turned to Shadow IT to build, deploy, and maintain their own applications for their own teams. Because Shadow IT operates out of sight and without guidance from IT, it can put businesses and their data at risk.

Citizen development, in collaboration with IT, offers operations experts and business professionals a way to harnesses the innovation and speed of Shadow IT without all the risks—or the time and coding complexity associated with traditional IT development. Citizen development platforms, such as QuickBase, can also help your business:



- **Reduce IT backlogs** by making application building readily accessible to business experts who now have the means to solve their own problems quickly and efficiently.



- **Develop higher quality apps faster** designed by the people who are closest to the business data and processes at hand.



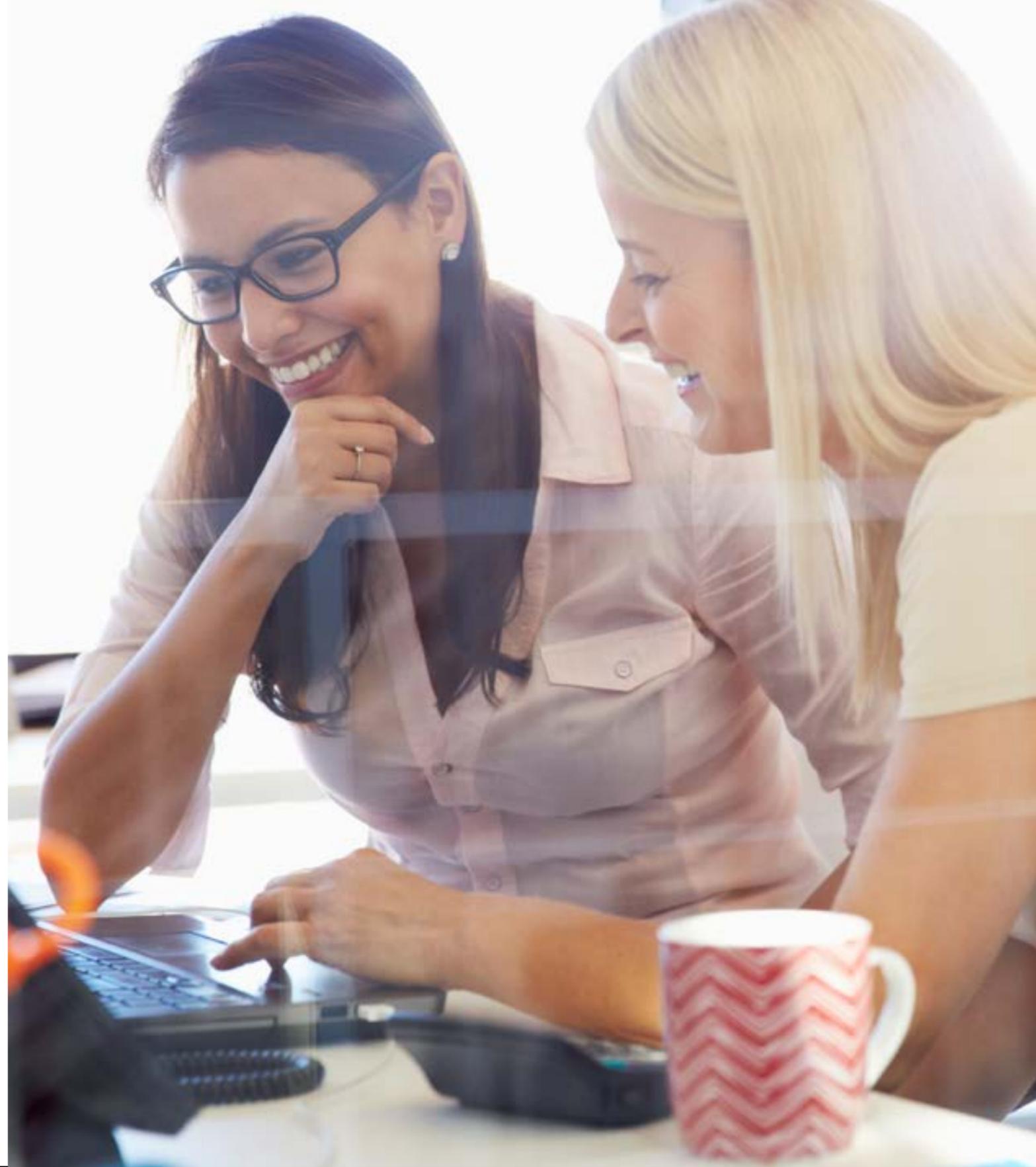
- **Meet evolving business needs more efficiently** by tapping into less costly citizen developer resources using a no-code/low-code application development platform to quickly build and maintain their own applications.

Look for our next white paper where we will outline a best practices framework that recommends strategies for an effective citizen development program within your business.

How can we help you on your citizen development journey?
Learn more about QuickBase or schedule a demo.

Visit us at www.QuickBase.com

Request a Demo Today



Start Your 30-Day Free Trial with QuickBase Today.

QuickBase