



PegaWorld*iN*spire

Citizen Development Is Not What You Think

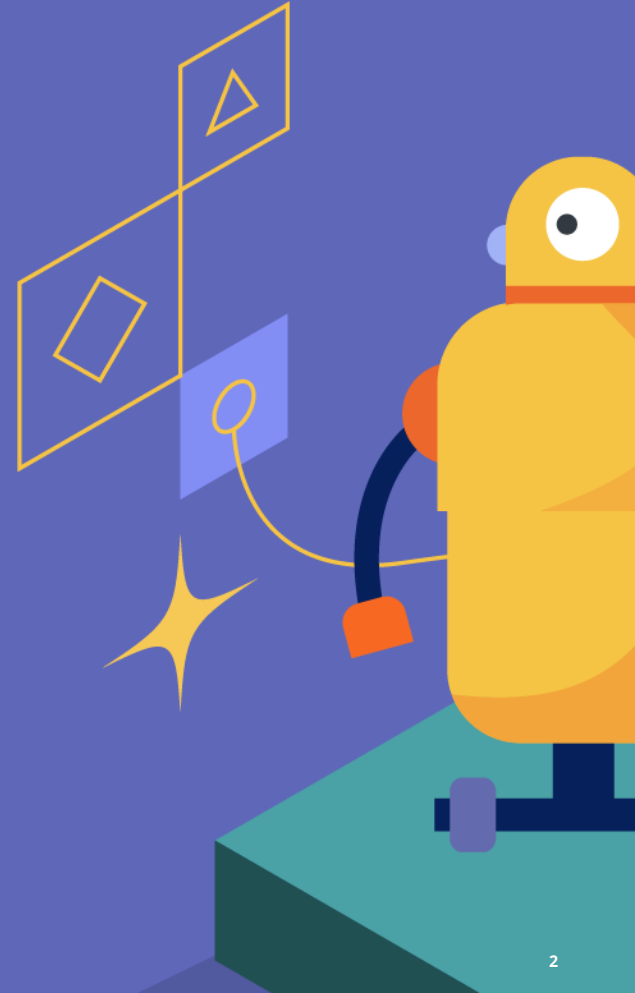
Establishing an Innovation Factory for Low-code Development

Timothy Harfield

Senior Director, Product Marketing & Strategy, Intelligent Automation
Pegasystems



What is a Pega citizen developer?





What is a citizen developer?

“A citizen developer is an employee who creates application capabilities for consumption by themselves or others, using tools that are not actively forbidden by IT or business units.

A citizen developer is a persona, not a title or targeted role. They report to a business unit or function other than IT.”

Gartner



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Gartner



What is a citizen developer?

“A citizen developer is someone who can build applications without coding knowledge, but usually with the support of IT”

PMI (2021) Citizen Development: The Handbook for Creators and Change Makers

Are You A Citizen Developer?



As an individual contributor

- ✓ Simple applications
- ✓ Small number of internal users
- ✓ Support from IT through managed App Factory, reuse, and coaching

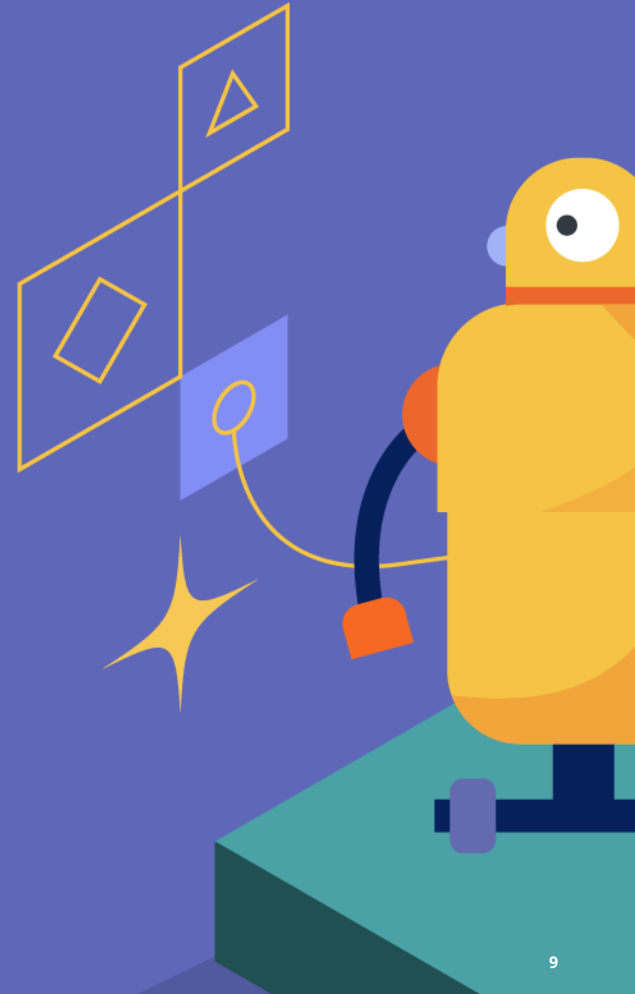
In a citizen development squad

- ✓ Moderately complex applications
- ✓ Departmental use cases
- ✓ Support from IT through managed App Factory, reuse, and coaching

In a fusion team

- ✓ Moderate-high complex / critical use cases (internal or external)
- ✓ Support from IT to mitigate risk, develop complex UI, and deliver more complex requirements
- ✓ Collaboration may be synchronous or sequential

Why citizen development?



Enterprise backlogs are growing



84%

of organizations struggle with demand for new applications from the business

Vanson Bourne (2023)

DIVE BRIEF

Demand for IT apps is on the rise, but a backlog looms

Published May 21, 2019



Roberto Torres
Editor



Getty Images

DIVE BRIEF

IT projects trapped in backlog as demand rises


Published Sept. 14, 2021



Roberto Torres
Editor

in f t p e





Automation demands are on the rise

91%

of organizations say demand for automation from business teams has increased over the last two years

Vanson Bourne (2022)

50%

of enterprise purchases fall under the umbrella of 'Shadow IT'

Everest Group





How ~~Why~~ low-code?

70%

Of new enterprise applications will be developed using low-code/no-code technology by 2025

Gartner

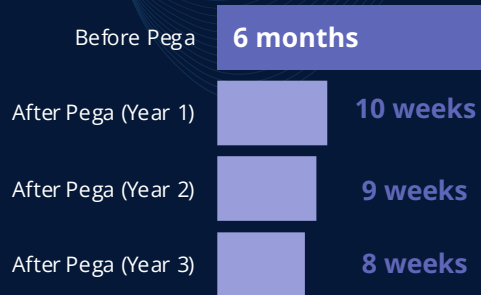
80%

Of low-code/no-code users will be outside of formal IT departments by 2026

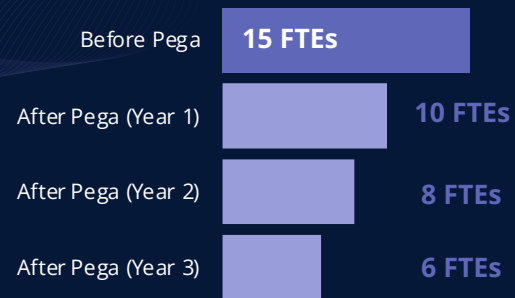
Gartner

Improving Developer Productivity

Time needed to develop a process



resources needed to develop a process



SOURCE: Forrester (April 2022) The Total Economic Impact of Intelligent Automation with Pega Platform

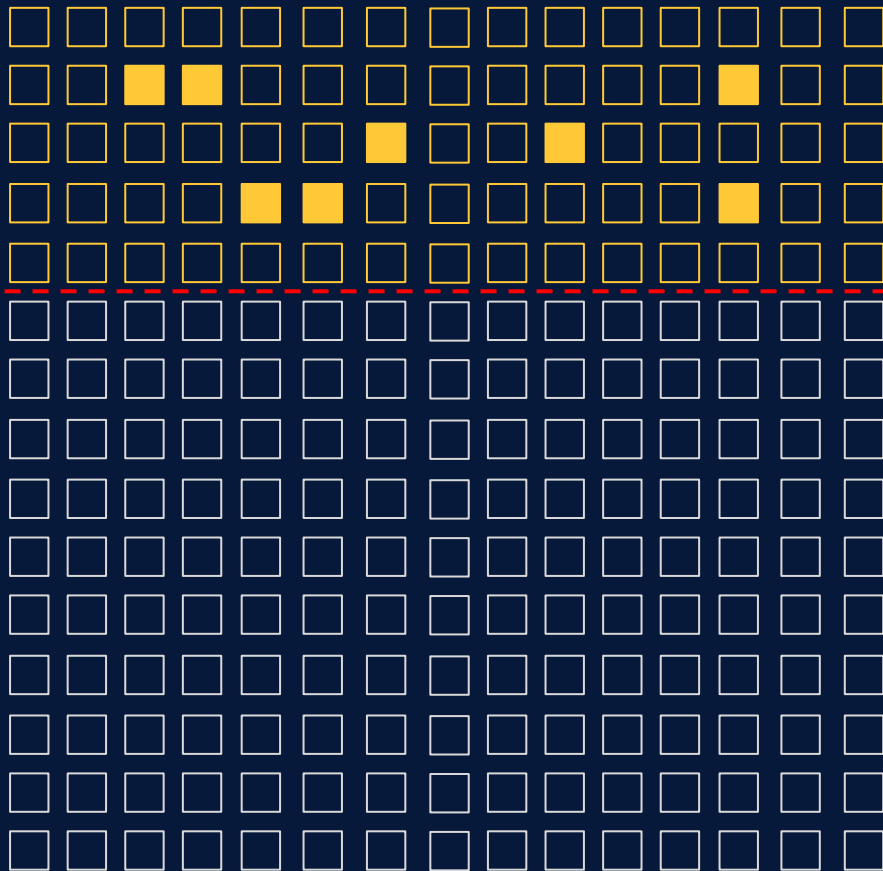
You need to automate everywhere

Manual processes
you know about

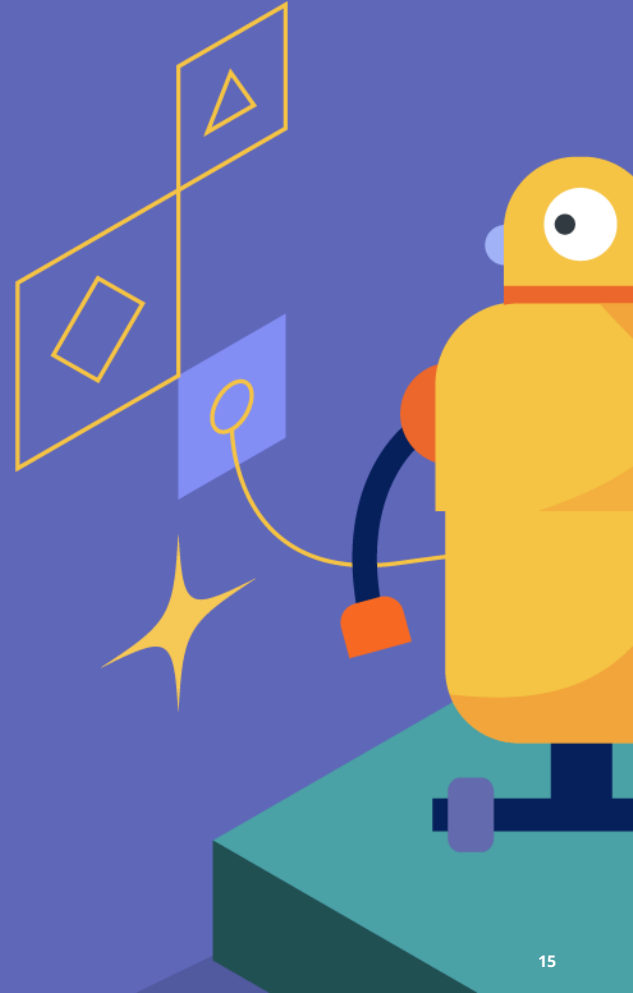
Manual processes
you *don't* know about

■ Manual processes you have the *capacity* to automate

□ Manual processes that *should* be automated

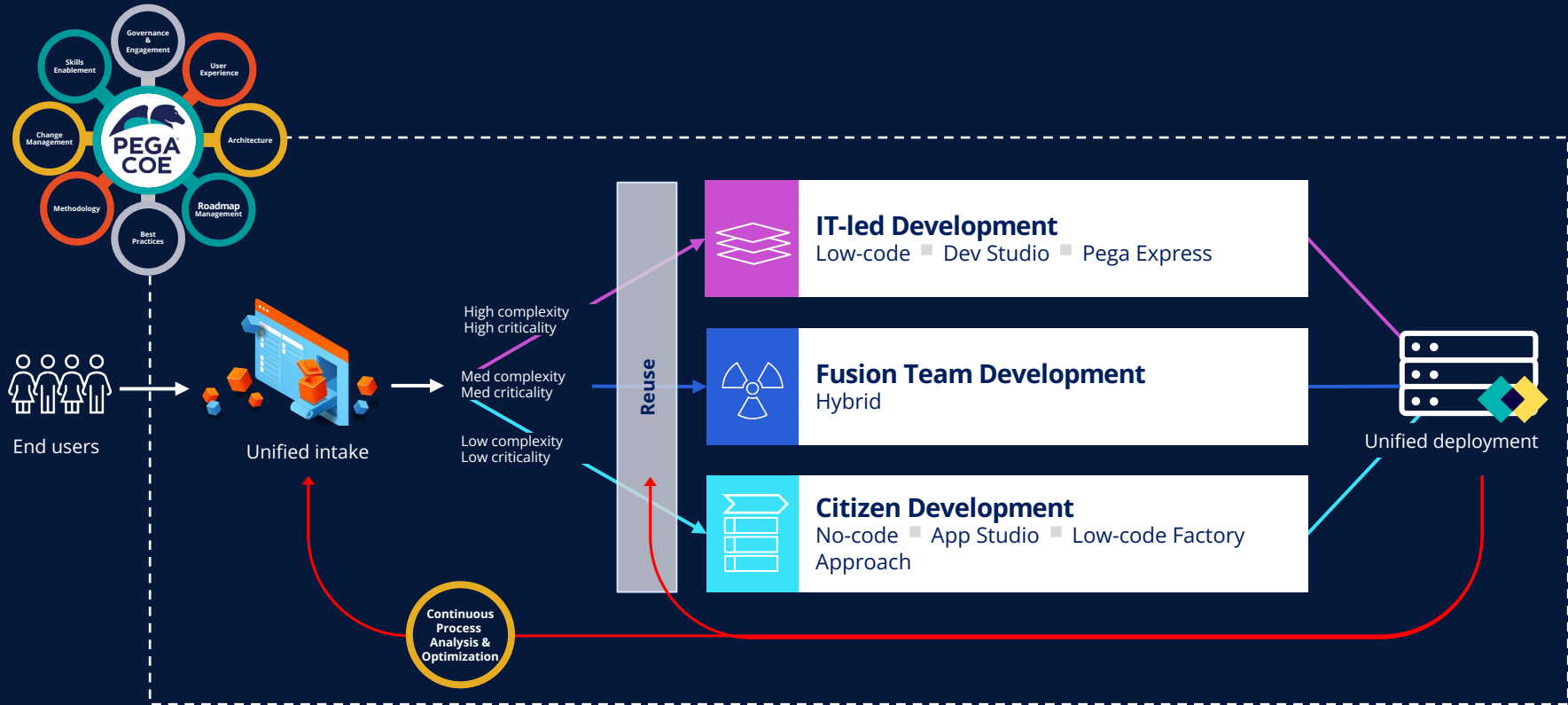


How do I do citizen development?



Low-code Innovation Factory

With a low code platform for handling the full spectrum of workflow automation

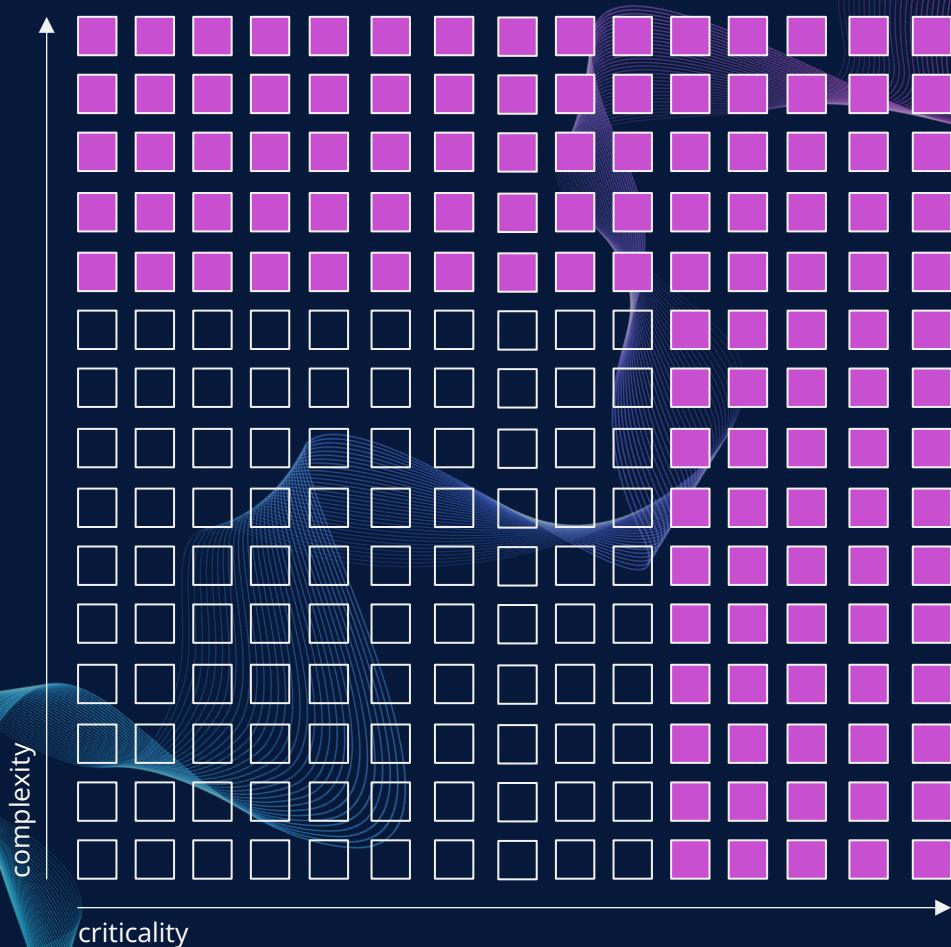


IT-led Development

		IT-led Development
Complexity	Functionality	High Complexity
	Integrations	Custom
	User Interface	Highly customized
Risk	Security	High
	Operational IT	
	IT Architecture	
	Regulatory	
	Reputational	
	Financial	

Adapted from PMI (2021) Citizen Development: The Handbook for Creators and Change Makers

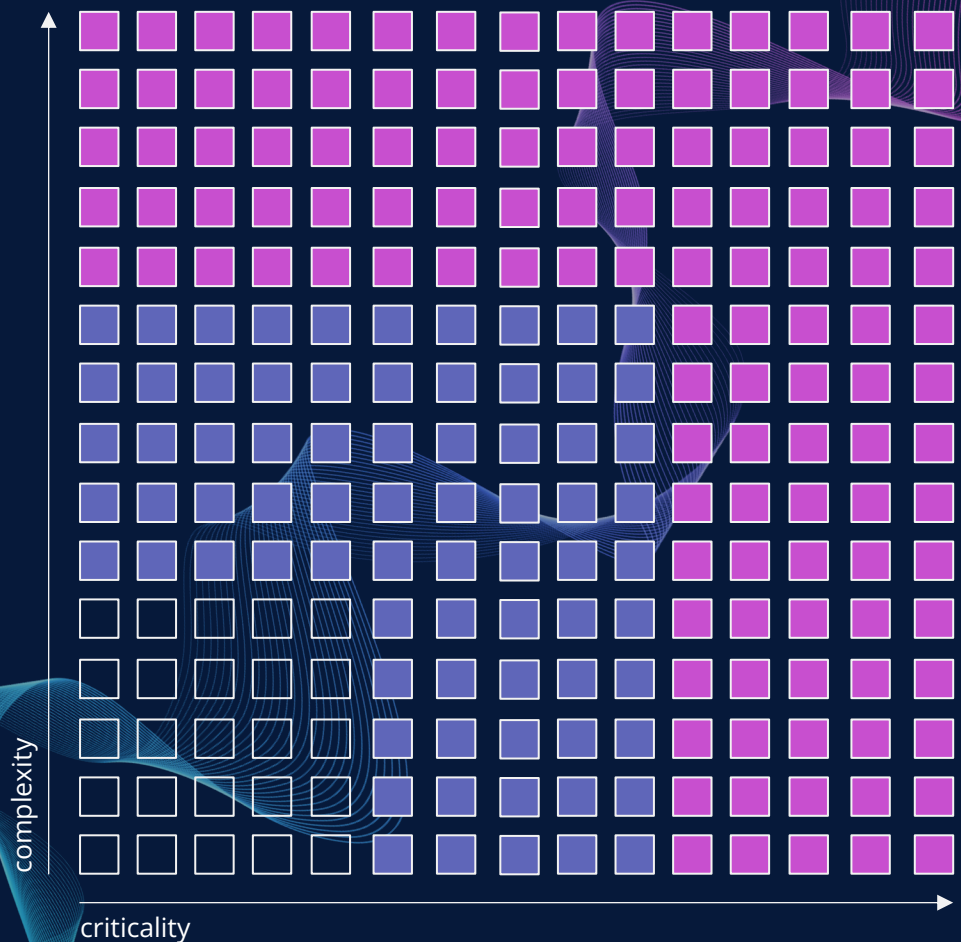
Adapted from PMI (2021) Citizen Development: The Handbook for Creators and Change Makers



Fusion Team Development

		Fusion Team Development
Complexity	Functionality	Low-Moderate Complexity
	Integrations	Involves Custom Integrations
	User Interface	Some custom
Risk	Security	Medium Risk can be mitigated by getting an expert involved
	Operational IT	
	IT Architecture	
	Regulatory	
	Reputational	
	Financial	

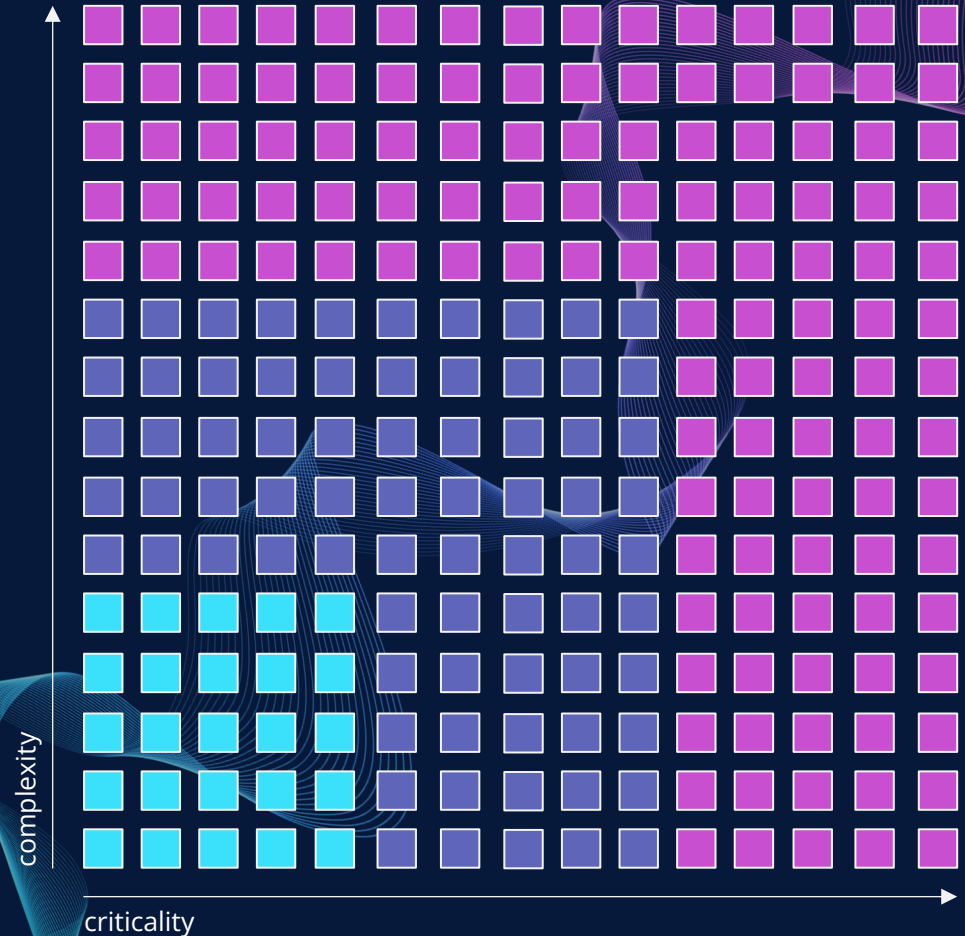
Adapted from PMI (2021) Citizen Development: The Handbook for Creators and Change Makers



Citizen Development

		Citizen Development
Complexity	Functionality	Low Complexity
	Integrations	OOTB & Pre-built
	User Interface	OOTB
Risk	Security	Low
	Operational IT	
	IT Architecture	
	Regulatory	
	Reputational	
	Financial	

Adapted from PMI (2021) Citizen Development: The Handbook for Creators and Change Makers

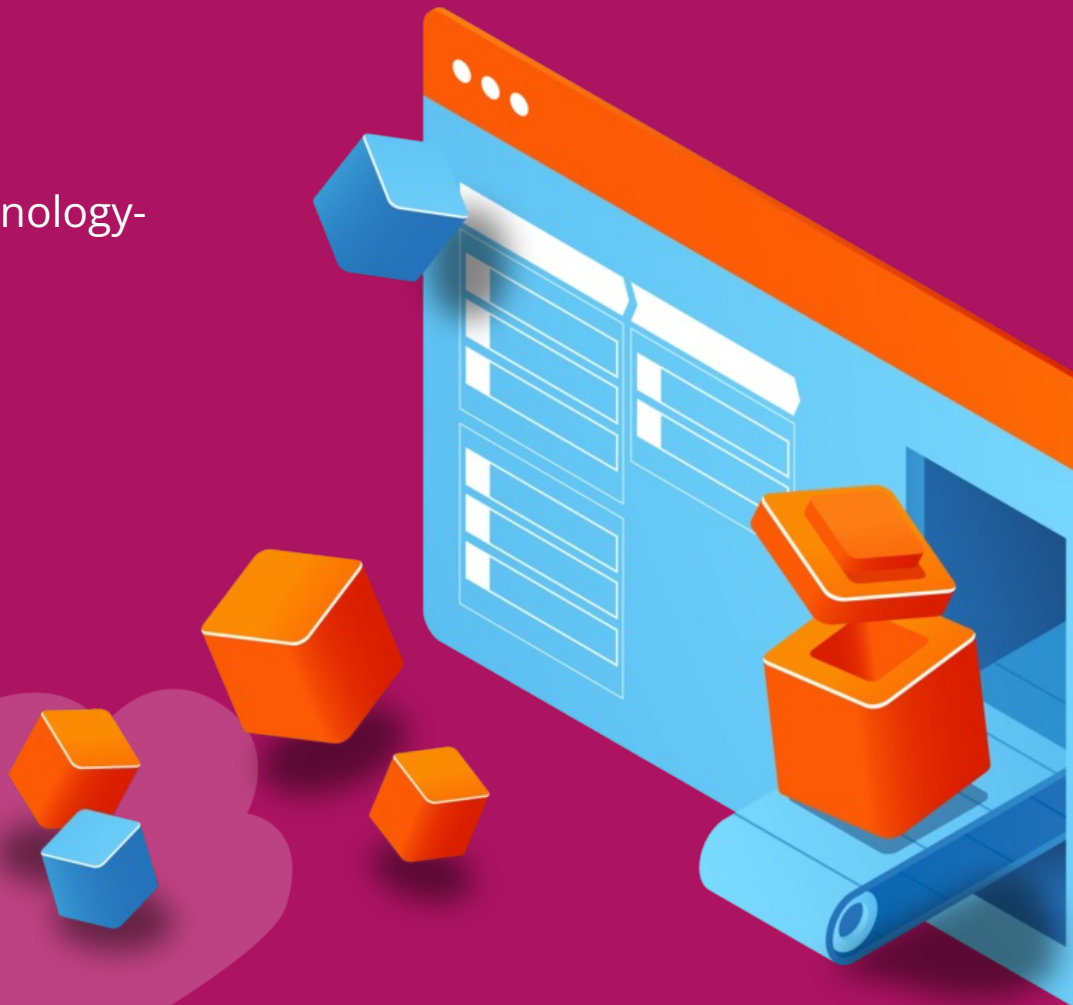


Governance

Pega App Factory

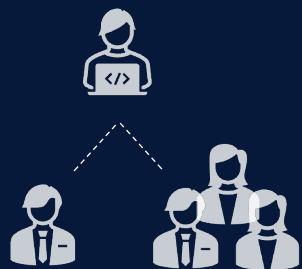
Avoid the peril of 'shadow IT' with technology-assisted governance

- ✓ Unified intake ensures that the right projects are assigned to the right teams
- ✓ Automated compliance with custom guardrails
- ✓ Easy access to resources and coaching
- ✓ Build faster with pre-approved application templates
- ✓ Tailor DevOps pipelines according to individual project needs



Governance

Business & IT Collaboration Across the Low-code Continuum



Coached Citizen Development
Individual Makers or Squads



Co-production in Fusion Teams
Business + Professional Developers



IT-Led Development
Professional Developers



Low Volume
Low Complexity
Low Criticality



Workgroup Apps

Departmental Apps

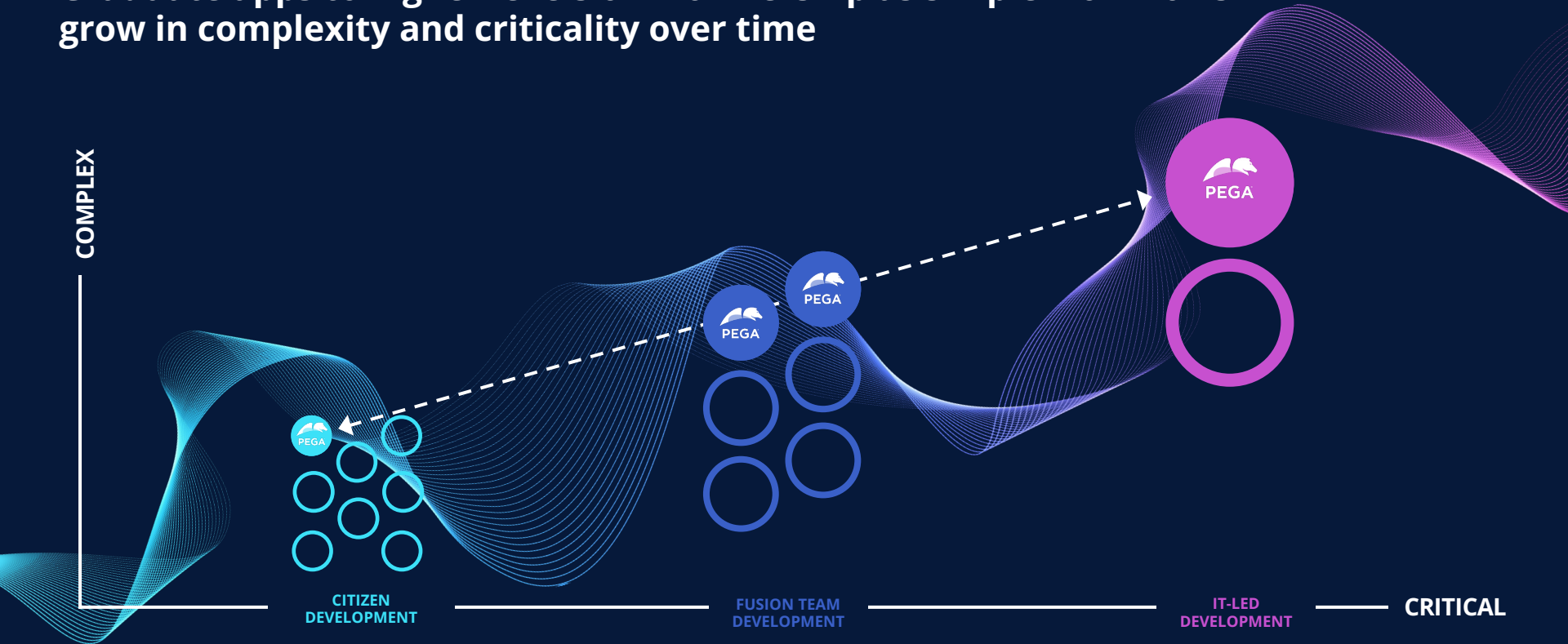
Enterprise Apps



High Volume
High Complexity
High Criticality

Graduation

Graduate apps to higher levels of IT ownership as simple workflows grow in complexity and criticality over time



Generative AI Pega GenAI™



AI-prompted workflows



AI-generated personas



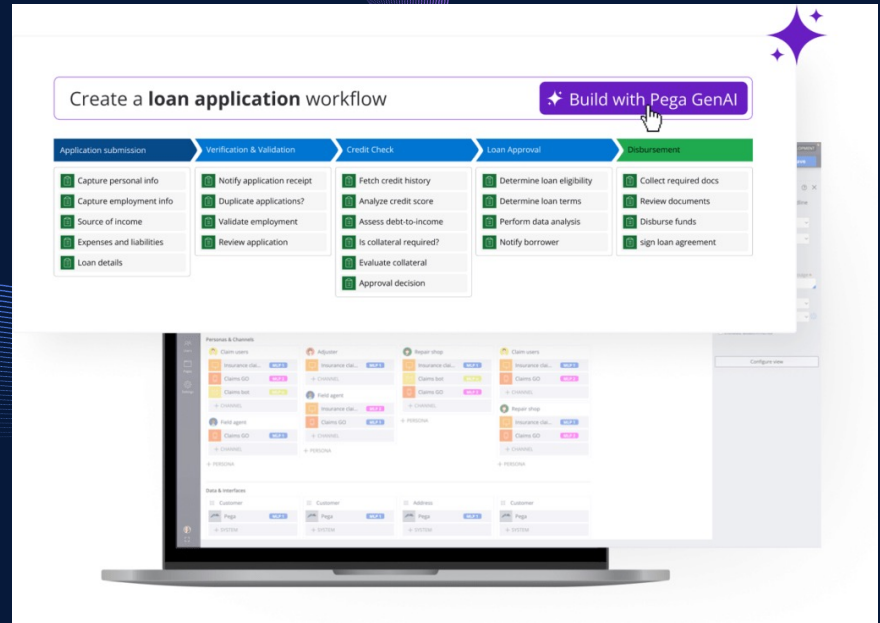
Automatic data modeling



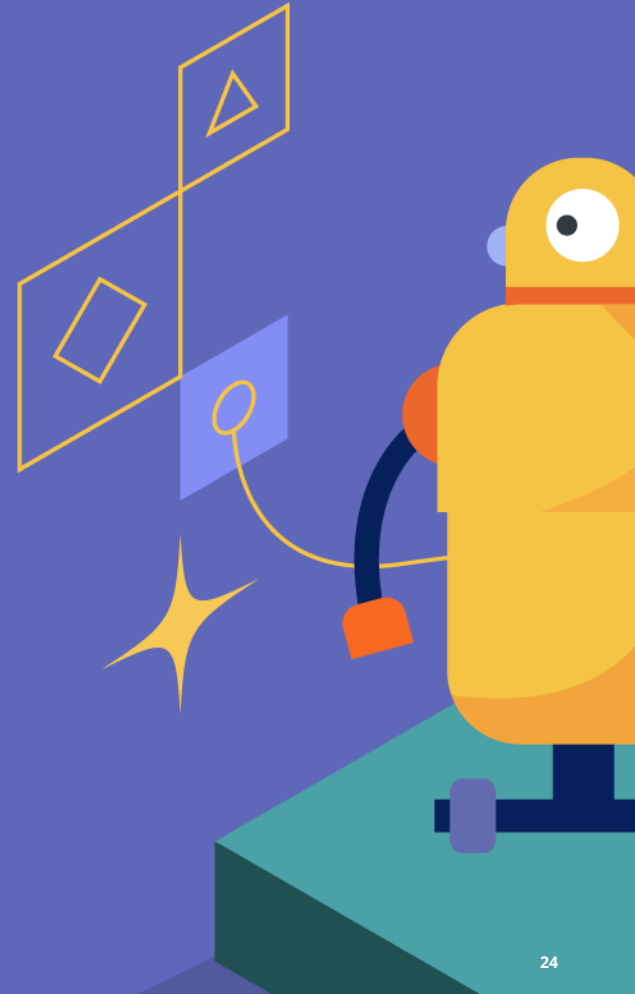
Back-end integration assistance



Sample data generation



How do I scale low-code development across the continuum?



Low-code Maturity

Adapted from PMI (2021) Citizen Development: The Handbook for Creators and Change Makers

Discovery	Experimentation	Maturity Chasm	Adoption	Scaling	Innovating
<p>A proof-of-concept project is identified and the initial citizen development squad is working together to learn the approach and demonstrate the value of citizen development</p> <ul style="list-style-type: none"> No defined citizen development strategy Governance is ad hoc and largely driven by the line of business Informal engagement with IT Pockets of expertise with no formal training program 	<p>The value of citizen development has been proven through the delivery of a small-scale initiative, and a portfolio of citizen development initiatives is being developed and managed.</p> <ul style="list-style-type: none"> Sponsorship still not integrated as a formal process in the organization No established cross-functional dependencies IT informed of the citizen development activities Solutions still focused on specific problems 		<p>Organization has recognized citizen development as a key enabler for transformation and growth and agreed to take the necessary steps to formally adopt and scale citizen development across the organization</p> <ul style="list-style-type: none"> C-level aligned, supports citizen development, and asks IT to support Roles and responsibilities definition for citizen development exists and a citizen development operating model is established Active IT collaboration and planning for co-delivery Agreement on KPIs to measure value delivery and high-level KPI deployment Principles set for what can and cannot be developed with citizen development An inventory of citizen development applications and associated governance established 	<p>Processes and structures are in place for citizen development to grow in the organization</p> <ul style="list-style-type: none"> IT and citizen development co-deliver Strong citizen development governance in place across the organization IT access to environment, templates, and rule book Some nonfunctional requirements embedded into the architecture Formalization of operating model 	<p>Organization is actively transforming and innovating through citizen development. There is a citizen developer culture at the heart of the organization</p> <ul style="list-style-type: none"> Citizen developer strategy integrated into organization strategy Citizen development embedded into business as usual, with citizen development policies and was of working becoming the norm Proven transformation outcomes with an integrated citizen developer and IT operating model Non-functional requirements technically enforced or standard processes in place to ensure compliance A community portal enabling and perpetuating citizen development

Challenges

1. Lack of central capacity to handle automation requests (backlog of 700 applications)
2. Lengthy development times because of error-prone knowledge transfer methods

Outcomes

- Just one app decreased processing time by 50%
- Faster development times because of reduced knowledge transfer requirements
- Higher rates of adoption owing to citizen developer professional networks

Keys to Success



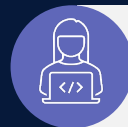
Governance

- Unified intake / deployment using Pega App Factory and Deployment Manager
- Coaching through Center of Excellence
- 'Slider' to determine level of direct IT collaboration required



Reuse

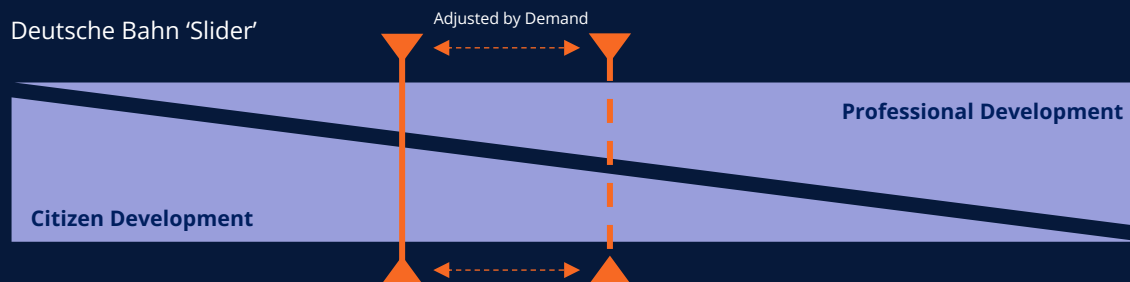
- Rule of 95/5 – At least 95% of apps built using OOTB features and reusable components
- Started with single sign-on, active directory, email templates, and connection to central DB API hub
- Easier upgrades



Clear App Ownership

- Citizen developers 'own' their applications, responsible for stakeholder approvals, compliance, security checklists, guardrail scores
- Focus on creating prototyping through Minimum Lovable Products
- Decreased development time from more effective knowledge transfer

Deutsche Bahn 'Slider'



Navy Federal Credit Union



Challenges

1. Existing manual processes inadequate to deal with growing transaction volumes
2. Lack of visibility into how processes *actually* work

Outcomes

- 35 Applications
- 300,000 hours saved (150 FTE)
- 80% of departments have a Pod
- Cultural change in support of continuous process improvement

Keys to Success



Pod-based Approach

- Departments each have a dedicated citizen development 'pod,' consisting of a business analyst, a citizen developer, and a project manager



Standard Intake

- Created an 'ACE Playbook' provides a structured approach to discover, implement, and manage low-code app development
- Use of Pega App Factory to automate governance workflows
- Where projects are not a good fit for a Pod, then routed to IT



Training

- Every new Pod goes through common training, consisting of 2 weeks in classroom and 3-4 weeks completing a standard process.
- Automation Center of Excellence (ACE) provides ongoing coaching



Process Optimization

- Pods work with requestor to understand and optimize the existing process before automation
- A culture of continuous improvement now has each team looking to analyze, simplify and optimize every process BEFORE automation begins.

Challenges

1. Growing backlog
2. Increased volume and diversity of automation requirements from the business

Outcomes

- Streamlined development process and increased application development throughput
- 50 low code applications currently in production

Keys to Success



Standard Intake

- Clearly defined criteria for assigning automation opportunities to citizen developers, professional developers, or hybrid
- Intake workflow management in Pega App Factory



Balanced Governance

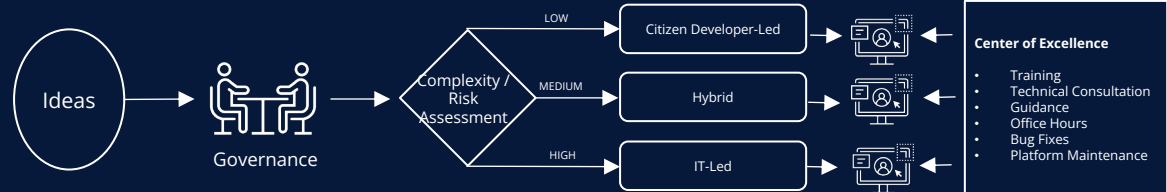
- Ensure that governance is not so stringent that it discourages participation
- Provide timely coaching to citizen developers and teams (ex. Daily Office Hours staffed by COE)



Reuse

- Customized Layer Cake to surface appropriate reusable components to different departments
- Leverage existing reusable components for citizen developers to start
- COE meets regularly to review and maintain needs and documentation

Ford's Low-code/No-code Governance Model



Keys to Success

Lessons learned from other Pega clients



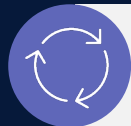
Executive Sponsorship

- Accelerate maturity
- Champion automation program across departments
- Mitigate shadow IT risk



Standardized Intake

- Light-weight governance workflow automation
- Evaluate and assign projects by complexity and criticality
- Assign coaches as required



Process Optimization

- Avoid automating suboptimal processes
- Cultivate a culture of continuous process improvement



Training

- Consistent educational experiences
- Pre-requisite to dev environment access
- Minimize coaching burden



Reuse

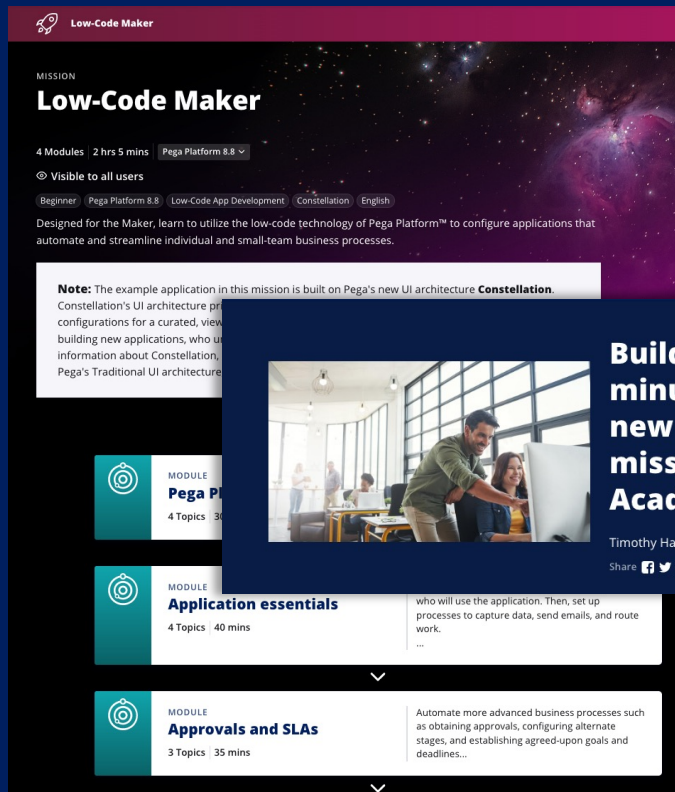
- Faster development
- Minimize need for active IT collaboration
- Leverage components already built for IT-led development

Support for Governed Citizen Development



Low-code Maker Mission on Pega Academy

- ✓ Can be completed in less than 2 hours
- ✓ Step by step instructions
- ✓ Easy to follow walk-through videos
- ✓ No prior experience required
- ✓ Everything you need to know to create a simple app
 - create a new case type and stages
 - add users
 - collect information and manage approvals
 - automate emails
 - route work
 - configure SLAs
 - make a publishing request through app factory



Low-Code Maker

MISSION

Low-Code Maker

4 Modules | 2 hrs 5 mins | Pega Platform 8.8

Visible to all users

Beginner | Pega Platform 8.8 | Low-Code App Development | Constellation | English

Designed for the Maker, learn to utilize the low-code technology of Pega Platform™ to configure applications that automate and streamline individual and small-team business processes.

Note: The example application in this mission is built on Pega's new UI architecture **Constellation**. Constellation's UI architecture provides pre-built configurations for a curated, view-based user interface, enabling users to build new applications, who use the application, and who use the application. Information about Constellation, Pega's Traditional UI architecture.

MODULE 1
Pega Platform 8.8
4 Topics | 30 mins

MODULE 2
Application essentials
4 Topics | 40 mins

MODULE 3
Approvals and SLAs
3 Topics | 35 mins

who will use the application. Then, set up processes to capture data, send emails, and route work.

Automate more advanced business processes such as obtaining approvals, configuring alternate stages, and establishing agreed-upon goals and deadlines...

Build your first app in 90 minutes! Introducing a new Low-code Maker mission on Pega Academy

Timothy Harfield, Nov 17, 2021 | 5 minute read

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Pega App Factory Templates

- ✓ Faster application development for common use cases
 - Forms
 - Approvals
 - Onboarding
 - Event Planning
- ✓ Easier for Pega Makers and Practice Managers (and for professional developers as well!)
- ✓ Exemplars for template contributions from clients and partners



Automate workflows faster than ever before! Introducing Templates for Pega App Factory

Timothy Harfield, Feb 1, 2022 | 3 minute read

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For citizen developers, the importance of time to value is especially pronounced.

As a Pega Maker, you have a day job. You work in HR, marketing, sales, operations, or some other business function. You aren't interested in building an app as an end in itself. Instead, what drives you is the need to find ways to increase the productivity of you and your team. As a Maker, you want to automate workflows fast so you can get work done. And as a new Maker, a blank canvas can be terrifying.

The good news is that most applications are built to perform one of four basic functions: (1) [collecting information](#), (2) [managing requests and approvals](#), (3) [onboarding](#), and (4) [task management](#). That's why we have created [four new templates](#) for Pega App Factory – one for each use basic use case – that will allow Makers to build apps way faster than if they had to build from scratch.

A screenshot of the Pega App Factory 'Welcome Kit' template interface. The interface shows a progress bar at the top with steps: Add Team Member, IT Setup, Welcome Kit (current), Training, and Review. The main content area is titled 'Provide Welcome Kit' with a due date of 'Due 1 day from now'. Below this, there's a section 'Welcome Kit Contents' with a checkbox 'Check all that apply'. The contents list includes 'Laptop Stickers', 'T-Shirt', 'Bag', and 'Bottle', each with a checkbox. The 'Laptop Stickers', 'T-Shirt', and 'Bag' checkboxes are checked. Below the list, there's a question 'Welcome Kit Provided to new Team Member?' with radio buttons for 'Yes' (selected) and 'No'. At the bottom, there are 'Cancel', 'Save', and 'Finish' buttons.

Run-time experience of Onboarding template for Pega App Factory

Video Library for Pega Citizen Developers



Filters

(Clear filters)

Product

Choose Product

Capability

Capability

Role

Citizen Developer (23) X

Series

- ☐ Product How-To (20)
- ☐ What's New (2)

Found

How to calculate a field with a Decision table

00:46

How to calculate a field with a decision table

This video shows how to calculate a field with a decision table, useful when the derived value can have one of a few outcomes.

How to create a chatbot

02:13

How to create a chatbot

Pega Intelligent Virtual Assistant™ (IVA) is a chatbot technology that interacts with an application by sending and receiving text messages from users, in a simple question and answer form. By...

The Pega Community video library is an invaluable resource of content ranging from high-level discussions with Pega product owners to detailed demos of Pega software for end-users.

https://community.pega.com/video-library?f%5B0%5D=videos_roles%3A38121

Pega Citizen Developer Community of Practice

Living the #AppStudioLifestyle



Develop your skills

Tips & Tricks ▪ 'How I Built This' ▪ Hackathons



Deepen your impact

Peer-to-Peer Sharing ▪ App Studio Roadmap



Grow your career

Guest Speakers ▪ Opportunities to share



Pega Citizen Developers
LinkedIn Group



Citizen Development Event Series

Thursday, May 25, 2023 11:00 AM - 12:00 PM

(UTC-04:00) Eastern Time (US & Canada)

Pega Citizen Development Show & Tell

Webinar speakers



Jim McSweeney

Principal Software Engineer
(Pegasystems)



Zach Karpinski

Sr. DevSecOps Engineer
(Pegasystems)



Andreas Neul

Sr. Client Success Manager
(Pegasystems)





PegaWorldiNspire



Client Success



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2. Lack of visibility into how processes *actually* work

Outcomes

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Citizen Developed App Examples

Accelerate Onboarding

Human resources

- Professional Skills assessment
- Onboarding / offboarding
- New hire checklist
- Award management / distribution
- Employee recognition
- Temporary badge requests

Product management

- Product launch process tracking
- Requirement collection
- Quality assessment

Streamline Operations

Marketing

- Campaign execution requests
- Campaign tracking
- Newsletter item requests

IT

- Feature requests
- Service agreement management
- Cost effectiveness tracking

Procurement

- Purchasing process management

Resolve Exceptions

Customer service

- Complaint management
- Service fulfillment control
- Abusing customer resolution
- Security incident resolution
- Pipeline leak monitoring and resolution

Operations

- HELOC freeze appeals
- Bank branch cash limit increase request
- Underwriter assignment