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Why Pure AI Coding Won't Work for Enterprise Software

As AI transforms software development, enterprise solutions need both natural language coding and structured platforms to balance innovation with governance.

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As generative AI reshapes software development, a critical question

has emerged: Will traditional low-code and no-code platforms become obsolete in the face of natural language "vibe coding"?

While some industry voices predict the complete displacement of structured development approaches by AI agents, Pega — a veteran in enterprise software — offers a more nuanced perspective that bridges both worlds.

The Enterprise Reality Check

"There are a lot of people who think everything is going to be agents," Don Schuerman, CTO and vice president of product marketing, told The New Stack in an interview. "I don't think those people have ever dealt with the complexity of an actual enterprise IT organization. I think there's a little bit of naivete there, frankly."

This observation highlights the tension between the promise of AI-powered development and the practical realities of enterprise software. While tools like Cursor enable developers to build applications through natural language prompts (what some call "vibe coding"), enterprises require additional guardrails that pure AI generation doesn't inherently provide.

The Pitfalls of Unstructured AI Development

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Schuerman listed several enterprise concerns with unfettered AI code generation:

- **Security and compliance risks** without proper oversight.
- **Data access management** complications.
- **Technical debt proliferation** as thousands of developers potentially create similar applications without centralized coordination.
- **Lack of auditability** for regulated industries that must explain exactly how processes work.

The Middle Path: AI Application Generation

Rather than an either/or proposition between traditional low-code and AI agents, Schuerman said, Pega advocates for what Forrester Research calls "AI application generation" — using AI and natural language to generate structured business assets rather than raw code.

"What we've been thinking about is, how do I take the spirit of vibe coding, which is this idea that with these AI tools, I should be able to express in natural business language what it is that I want to accomplish and just have the software begin to pick it up, but do that in a way that puts structural checkpoints along the way that fit into

what the enterprise is looking for," he explained.

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Blueprint: AI Meets Structured Workflow Design

Pega's answer to this challenge is Blueprint, an AI agent-powered workflow design tool that turns natural language descriptions into structured business processes.

During a demonstration of the tool, Schuerman showed how users can:

1. Specify their industry, business area, and application purpose in natural language.
2. Receive AI-generated workflows, user interfaces, and data models appropriate for their described needs.
3. Benefit from domain-specific knowledge (e.g., adding accessibility reviews for healthcare applications).
4. Preview experiences across channels (mobile, web, contact center, conversational interfaces).
5. Export structured definitions that integrate with low-code platforms.

The result is a blueprint that provides approximately 60-70% of the build completed in a governance-friendly format, Schuerman said.

The Two Faces of AI Agents

He also stressed the distinction between different agent roles. Design-time agents should be creative, suggesting improvements and bringing in domain expertise during the design phase. Whereas runtime agents need to strictly follow established workflows when serving users, ensuring compliance and regulatory requirements, he said.

"At design time, I want my agents to be creative. I want them to suggest things I might not have thought of," Schuerman explained. "When I get to runtime, I don't want my agents to be creative. I want them doing exactly the workflow that I laid out, and I want them doing it consistently every time, because that's how I defend myself to my regulators."

No-Code's Limited Enterprise Role

While Schuerman acknowledges that traditional no-code tools may indeed be displaced by AI for simple personal applications — "no-code was always sort of more the personal apps," he said — he also pushed back strongly against the notion that all enterprise development will follow the same path.

Schuerman said that for regulated industries like banking, healthcare, and government, the ability to show exactly how a process works — not just that "an agent figured it out" — remains essential.

Where Professional Developers Fit

Professional developers won't be replaced but will see their focus shift. According to Pega, they'll still be needed for: Building and maintaining data services, developing custom applications and frameworks, creating digital experiences and handling low-level data configuration.

This suggests that AI and low-code platforms will handle more of the business domain implementation, while professional developers focus on infrastructure and specialized needs.

Hybrid Approach

Meanwhile, as AI transforms software development, the enterprise space appears headed toward a hybrid approach — one that embraces the natural language benefits of "vibe coding" while maintaining the structure, security, and governance that businesses require, Schuerman said.

Rather than an AI revolution that sweeps away existing paradigms, we're witnessing an evolution where AI enhances and accelerates structured development approaches, particularly for complex enterprise needs where auditing and compliance cannot be compromised, he argued.

Thus, this middle path recognizes that while consumer applications may increasingly be built through pure AI generation, enterprise software development must balance innovation with responsibility.

Darryl K. Taft covers DevOps, software development tools and developer-related issues from his office in the Baltimore area. He has more than 25 years of experience in the business and is always looking for the next scoop. He has worked...

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