Generative AI and Low-Code and No-Code Developer Technologies

The generative AI (GenAI) and low-code and no-code developer technologies' CIS examines developer tools that specialize in both AI-native development and low-code and no-code development. AI-native development refers to the development of digital solutions that have prioritized the integration of AI functionality into the application by design as opposed to an afterthought. In particular, this CIS focuses on developer tools that enable the development of digital solutions that feature generative AI functionality and capabilities. In addition, this CIS examines low-code and no-code developer technologies that specialize in the use of visually guided and model-driven user interfaces to create digital solutions.

MARKETS AND SUBJECTS ANALYZED

- The relationship between developers and development and foundation models and large language models such as GPT-4, Claude 3.5 Sonnet, Llama 3, and Mistral 7B
- Developer technologies such as LangChain and LlamaIndex that specialize in the development of bespoke digital solutions that leverage foundation models and large language models, in particular
- Processes and technologies that developers use to transform foundation models such as retrieval-augmented generation
(RAG), fine-tuning, reinforcement learning with human feedback, and direct preference optimization
- Accelerated compute SDKs such as CUDA, oneAPI, and ROCm
- How developer experience changes as a result of the deepened integration of AI into application development
- Key trends in the evolution of low-code and no-code developer tools
- The relationship between low-code and no-code developer tools and the development of intelligent applications

CORE RESEARCH

- Key trends in generative AI developer tools
- Foundation models such as Google Gemini 1.5 Pro, GPT-4, Llama 3 70B, and Gemma 2, with specific attention to the way in which these models transform software development and developer experience
- Coding assistants such as GitHub Copilot, Gemini Code Assist, Amazon Q, Oracle Code Assist, and Tabnine
- Accelerated compute SDKs such as CUDA, oneAPI, and ROCm
- Platforms and technologies that render it easier for developers to create intelligent applications such as Azure AI Studio, Intel Developer Cloud, Red Hat OpenShift AI, Amazon SageMaker, IBM Watson Studio, Oracle GenAI, Salesforce Einstein, Google Cloud AI Platform, and NVIDIA NIM

In addition to the insight provided in this service, IDC may conduct research on specific topics or emerging market segments via research offerings that require additional IDC funding and client investment. To learn more about the analysts and published research, please visit: Generative AI and Low-Code and No-Code Developer Technologies.

KEY QUESTIONS ANSWERED

1. How will the development experience change as a result of the maturation and proliferation of generative AI technologies?
2. How will low-code and no-code developer technologies be influenced by the deepened integration of AI into software development?
3. What are the key categories of developer tools that facilitate the development of AI-native applications? Who are the key vendors in this space?
4. How can organizations measure the generation of value from the deepened integration of AI into software development?

COMPANIES ANALYZED

This service reviews the strategies, market positioning, and future direction of several providers in the low-code, no-code, and GenAI developer technologies market, including:

Abacus.AI, Adobe, AI21 Labs, Airtable, Amazon, AMD, Anthropic, Appian, Betty Blocks, C3 AI, Caspio, Cloudflare, Cohere, Copy.ai, Databricks, Digital.ai, GitHub, GitLab, Google, Groq, HCL Technologies, Hugging Face, IBM, Intel, Jasper, Kissflow, Mendix, Metavine, Microsoft, Midjourney, Mistral AI, NVIDIA, OpenAI, Oracle, OutSystems, Pega, Pika Labs, Predibase, Progress, Quickbase, Red Hat, Replika, Runway ML, Salesforce, SAP, ServiceNow, Snowflake, Stability AI, Synthesia, Tencent, xAI, and Zoho