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(57) Abstract :
AI-DRIVEN ENTERPRISE SOFTWARE DEVELOPMENT PLATFORM WITH AUTONOMOUS CODE GENERATION, MULTI-LANGUAGE OPTIMIZATION, AND SECURITY-AWARE REFACTORING ABSTRACT The invention presents a system 100 for AI-driven enterprise software development, designed to streamline the code generation process. The system includes an input module 110 that captures user requests, which may comprise natural language descriptions, partial code snippets, or specific programming requirements. A code generation engine 112, leveraging a machine learning model trained on diverse codebases, autonomously generates executable code in multiple programming languages. To enhance performance, a multi-language optimization module 114 analyzes the generated code for scalability and efficiency. Additionally, a security-aware refactoring module 116 continuously assesses the code for vulnerabilities, offering recommendations for security improvements. A documentation generator 118 produces essential documentation to enhance code maintainability, while an interactive feedback interface 120 allows users to provide real-time input, fostering iterative enhancements in the code generation engine's performance and accuracy. This system significantly improves productivity and code quality for enterprise development teams .

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