# CodeLite: Smart Multi-Language Mobile Code Editor

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**Abstract:** *In the current digital learning environment, students and developers increasingly require flexible programming tools that support on-the-go coding and experimentation. Conventional desktop-based development environments demand complex installations, high system resources, and fixed workstations, which limit accessibility and convenience. This paper presents CodeLite, a smart mobile-based multi-language code editor designed to enable program writing and execution directly on Android devices through cloud-assisted compilation. The system processes user-written code using remote execution services, eliminating the need for local compiler setup. Codelite supports multiple programming languages and integrates secure user management and persistent storage to enhance usability and continuity. The application is built using a scalable mobile architecture combined with cloud services to ensure responsiveness and reliability. Experimental evaluation indicates that the system delivers accurate execution results with minimal latency, demonstrating its effectiveness as a portable programming and learning support platform.*

**Keywords:** Mobile Code Editor, Cloud-Based Compilation, Multi-Language Programming, Android Application, Remote Code Execution, Software Development Tools