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Phoebus: An open ecosystem for control system applications and services

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The Phoebus toolkit continues to evolve as a modern, extensible platform for control system user applications and middle-layer services. As the next generation of the Eclipse-based Control System Studio, Phoebus retains the familiar, integrated toolset experience while replacing the Eclipse RCP framework with a modular architecture built on standard Java technologies and JavaFX. This transition simplifies maintenance and extensibility while providing foundational building blocks for modern applications and scalable services. Recent efforts have focused on strengthening infrastructure and streamlining deployment, including updates to support recent Java LTS releases; modernization of the Middle-layer services to use newer Kafka and Spring Boot versions; and improved documentation. Middle-layer services—offering alarm management, save/restore, channel finder, and logbooks—continue to evolve, with emphasis on simplifying configuration, improving scalability, and aligning with modern web standards and containerized workflows. The Phoebus collaboration now includes contributors from dozens of facilities worldwide, many of them first-time participants. Alongside technical progress, the project has prioritized a sustainable, inclusive collaboration model to support future developers and users. This paper outlines the current status, community efforts, and future directions of the Phoebus ecosystem.

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Footnotes

Author: SHROFF, Kunal (Brookhaven National Laboratory)

Co-authors: Mr WEISS, Georg (European Spallation Source); Dr FINCH, Ivan (Science and Technology Facilities Council); KASEMIR, Kay-Uwe (Oak Ridge National Laboratory); LANGE, Ralph (ITER Organization); BREWER‘, Sky (European Spallation Source); FORD, Tynan (Lawrence Berkeley National Laboratory)

Presenter: SHROFF, Kunal (Brookhaven National Laboratory)

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