Record Nr. UNINA9910806197803321 Autore de Boer Frank Titolo Active Object Languages: Current Research Trends [[electronic resource] /] / edited by Frank de Boer, Ferruccio Damiani, Reiner Hähnle, Einar Broch Johnsen, Eduard Kamburjan Cham:,: Springer Nature Switzerland:,: Imprint: Springer,, 2024 Pubbl/distr/stampa **ISBN** 3-031-51060-7 Edizione [1st ed. 2024.] Descrizione fisica 1 online resource (382 pages) Collana Lecture Notes in Computer Science, , 1611-3349 ; ; 14360 Altri autori (Persone) DamianiFerruccio HähnleReiner Broch JohnsenEinar KamburjanEduard 005.11 Disciplina Soggetti Computer programming Microprogramming Computer input-output equipment Logic design Computer networks Microprocessors Computer architecture **Programming Techniques** Control Structures and Microprogramming Input/Output and Data Communications Logic Design Computer Communication Networks **Processor Architectures** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Active Objects based on Algebraic Effects -- Actor-based Designs for Distributed Self-organisation Programming -- Encore: Coda --

Bridging Between Active Objects: Multitier Programming for Distributed, Concurrent Systems -- A Survey of Actor-Like Programming Models for Serverless Computing -- Programming Language Implementations with

Multiparty Session Types -- Modelling -- Integrated Timed Architectural Modeling/Execution Language -- Simulating User Journeys with Active Objects -- Actors Upgraded for Variability, Adaptability, and Determinism -- Analysis -- Integrating Data Privacy Compliance in Active Object Languages -- Context-aware Trace Contracts -- Type-Based Verification of Delegated Control in Hybrid Systems -- Enforced Dependencies for Active Objects.

Sommario/riassunto

Active Objects are a programming paradigm that supports a non-competitive, data-driven concurrency model. This renders active object languages to be well-suited for simulation, data race-free programming, and formal verification. Concepts from active objects made their way into languages such as Rust, ABS, Akka, JavaScript, and Go. This is the first comprehensive state-of-art overview on the subject, the invited contributions are written by experts in the areas of distributed systems, formal methods, and programming languages.