

Requirements and a Case-Study for SLE from Robotics: Event-oriented Incremental Component Construction

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Abstract: Research in the area of human-robot interaction requires a tight interleaving of incremental system development and experimentation across different robotic platforms. In terms of software engineering this proposes certain challenges to system development that are only partially covered by component-based robotic engineering. For the incremental component composition, we introduce an explicit granularity level above functions but below components using an event-driven data-flow model. Two different case studies show its impact on the re-use and maintenance of software components. We discuss requirements and possible impact of software languages for the graph-based decomposition approach.