

# Visualization of concurrency-relevant architectural decisions in Agile

## Short Description

Managing concurrency in software systems is not easy. It is especially hard to track all the decisions made related to concurrency (shared variables, used synchronization mechanisms, independent execution flows). To do so, some approaches aim to record concurrency related information during development and complement Agile with additional actions [1]. Others try to create frameworks that enable easier reconstruction of synchronization intentions [2].

The aim of this work is to combine existing approaches [1] [2] and create a tool that would enable visualization of concurrency related software properties. Inputs to this tool would be made from the referenced two approaches. The candidate is expected to have good programming skills in C and Python.

[1] Jahić, J., Doganci, V., Gehring, H. (2022). CASA: An Approach for Exposing and Documenting Concurrency-Related Software Properties. In: Orailoglu, A., Reichenbach, M., Jung, M. (eds) Embedded Computer Systems: Architectures, Modeling, and Simulation. SAMOS 2022. Lecture Notes in Computer Science, vol 13511. Springer, Cham. [https://doi.org/10.1007/978-3-031-15074-6\\_9](https://doi.org/10.1007/978-3-031-15074-6_9)

[2] <https://github.com/matheusbortoloti/AutoSync>