Modelling of concurrency-relevant architectural decisions in Agile

Short Description

Finding concurrency bugs is a hard problem. Existing static and dynamic approaches are imprecise when trying to reverse engineer architectural decisions related to shared memory between threads and intended synchronization. This makes it hard for testers to choose adequate testing approaches for concurrent software.

Alternative to reverse-engineering is documentation of these decisions during development. There exist approaches that instruct developers which concurrency-related decisions to document during development. However, suggested modelling techniques do not scale. The goal of this approach is to develop a tool that integrates well with Agile environment and enables developers to document and update their concurrency-related decisions.