Software Engineering Seminar

Delta Debugging

Description

In delta debugging, one tries to isolate a minimal root cause of an occurring error by removing all elements that are not relevant to the failure. For example, JINSI [2] is a tool to capture and replay interactions between Java components and their environment. It is also able to apply delta debugging to automatically isolate a subset of interactions that is relevant for the failure. In a multi-threaded environment, DEJAVU [1] allows to record a thread schedule and replay it in a deterministic way. Then, comparing successful and unsuccessful schedules, it uses delta debugging to narrow down the exact location of the occurred error.

The goal of this topic is to examine the merits of delta debugging in general and the mechanics of the given tools in particular.

References


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