Software Engineering Seminar (SoSe 2016)

Automated Repair of Deployed Software

– ClearView –

Description

Under certain circumstances, fixing errors in already deployed – or maybe even running – software systems can be necessary. Reasons could be, for example, that the sources of the system are not available to the user, or that the system is indefinitely running and must not be stopped. The applied techniques in this area vary greatly from approaches that deal with the debugging on source code level, obviously.

This topic aims at examining the tool ClearView which detects and corrects errors in running software systems by learning invariants from correct executions and enforcing those invariants in case of an occurring error.

References

[1] Jeff H. Perkins, Sunghun Kim, Sam Larsen, Saman Amarasinghe, Jonathan Bachrach, Michael Carbin, Carlos Pacheco, Frank Sherwood, Stelios Sidiroglou, Greg Sullivan, Others, Weng-Fai Wong, Yoav Zibin, Michael D Ernst, and Martin Rinard. Automatically patching errors in deployed software. *Symposium on Operating Systems Principles*, pages 87–102, 2009.

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