Instrumentation and Performance Analysis of Distributed Systems with Freud

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Project description

Freud is a software performance analysis tool that derives performance annotations from measurements of running systems. The goal of this project is to extend Freud to instrument and collect data from a *distributed* software system. This means augmenting the existing implementation to be able to link the data collected over distributed components using causal relations.

Task list

- Develop a simple distributed application based on an RPC library to be used as an initial test environment
- Develop an instrumentation for the client side, server side, and – crucially – the RPC library
- Devise a method to save and retrieve measurement logs from all the remote components
- Design an algorithm to merge the logs from all the systems into a single coherent trace
- Integrate said trace in the existing statistics tool (`freud-statistics`) to derive the performance annotations
- Identify some third-party non-trivial distributed applications and analyze them with the created tool
- Write the report, prepare the poster and presentation
- Have a pizza