

Load and Performance Testing the Open Data Service

Summary

The JValue open data service under development at the professorship provides, among other open data, water level information about major rivers in Germany. The Pegel Alarm Android app, built on top of the open data service, using the ancillary complex event processing service, alarms its users to rising water levels. Assuming flooding to recur in Germany, this thesis develops a series of usage scenario of the app and the underlying services, implements load and performance tests for these scenarios, performs the tests, and makes suggestions for improving the architecture of the app and the services based on the test results.

Work Results

- Literature review
 - Stress testing, performance testing, load testing of mobile apps and web services
- Research approach
 - Key figures about the domain, historic data, anticipated user behavior
 - A series of staged usage scenarios of increasing complexity to reflect the predictions
- Research execution
 - Design and implementation of stress tests to test for key performance indicators
 - Execution of tests, subsequent evaluation, identification of problems, bottlenecks
- Research results
 - Suggestions for improvement of the app and services

Supervisor

Prof. Dr. Dirk Riehle, dirk.riehle@fau.de

Open Source Research Group
Computer Science Department
Friedrich-Alexander University

More information: <http://osr.cs.fau.de/theses/resources/>