Final thesis at Infor (Sweden) AB

Time frame
This is a 10-week thesis. Start date spring 2018 (as soon as possible).

Problem: Create a framework for consumer-driven contract testing of Java APIs

Description
The Infor M3 Technology team in Linköping develops software that is essential for deploying, running and maintaining the M3 ERP product suite. High quality and effective/efficient testing of our application code is therefore essential. Our codebase is written in Java and we are currently investigating how to improve the testing of our APIs. At the moment, we are investigating how to implement contract tests for our HTTP REST APIs. After that, we would like to try a similar approach for our internal Java APIs.

Contract testing is a concept where a contract is created between the consumer of an API and the service implementing the API interface. A contract is defined by the method signatures of the interface combined with any additional expectations the consumer may have on the service behavior when a call is made. For example, calling the add method on a list object must increase the size of the list by 1. Once created, the consumer and the service can be tested separately against the contract (without setting up a test environment where both sides are included). If both sides pass the test the integration between the consumer and the service will work.

This thesis work could, for example, include a proof-of-concept for how to implement contract tests for our Java APIs, as well as a comparison to our existing integration testing approach in terms of test effectiveness, time to develop tests, build times etc.

Knowledge requirements
We expect the student to have good knowledge in object oriented programming as well as basic understanding of software testing concepts such as unit testing and integration testing.

About Infor
Infor is an enterprise software provider and strategic technology partner for more than 90,000 organizations worldwide. We build complete industry suites in the cloud and deploy software that puts the user experience first, leverages data science, and integrates easily with existing systems of our customers.
In Sweden, Infor has offices in Linköping, Stockholm, Göteborg, and Malmö. The biggest office is situated in Mjärdevi, Linköping and houses 200+ employees. Most employees in Sweden (and Linköping) work with the M3 product suite, which is also one of the flagship ERP systems of Infor.

Supervisor at Infor
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