Build automation for large heterogeneous software repositories

**Description:** 101companies is growing into a large heterogeneous open source repository, involving a very diverse set of technologies and programming languages. It is a typical challenge for software engineering, to guarantee the consistency of such repositories (in terms of dependency management, testability, executability). Recent studies show, that even more homogeneous software projects (e.g. pure Java corpuses) in the long term perspective suffer from build issues (e.g. some dependencies are missing and cannot be easily found).

**Scope:** This study aims to discover a model of scaling up traditional continuous integration techniques to support heterogeneous repositories. A continuous integration solution for 101companies will be designed and developed. At the first stage, the goal is to automate the build process for implementations. Next stages might involve unit-test automation and advanced reporting. You will be dealing with: *continuous integration (CI)*, *build automation tools*, *make*, *Maven*, *Ant*, *open source cloud-based CI services such as travis-ci (http://about.travis-ci.org/)*

*Can be started as a project practical or research practical and continued later as a Bachelor or Masters thesis*