

Bachelor / Master Thesis Description [for optional], status: assigned, language: [ DE | EN ]

Keywords: Cloud Computing, Google App Engine, Wahlzeit

Link: <http://goo.gl/C9BHJH>

# Migrating Code into the Cloud

## Summary

Wahlzeit is a Java web application that provides a photo sharing and rating service to its users. For future uses it needs to be migrated into the cloud (Google AppEngine) and given multi-tenant capabilities. This thesis designs and implements the new enhanced Wahlzeit including multi-tenancy, a plug-in system, and security. Wahlzeit is viewed as a platform within a platform and the promises of platform-as-a-service are evaluated when compared to non-PaaS solutions.

## Work Results

- Literature review
  - 1. Literature on migration to new (cloud-based) runtime/framework
  - 2. Literature on migration from single tenant to multi-tenancy application
  - 3. Literature on securing a multi-tenant application (security, application isolation)
- Design and implementation
  - 1. Migration to AppEngine: persistence layer, other services, testing
  - 2. Multi-tenancy/multi-applications
  - 3. Application plug-in system, plug-in isolation, security
- Optional functionality
  - For step 1: UI renovation with GWT
  - For step 3: Quota system/management resource consumption
  - For step 1: Application evolution
- Research results
  - Evaluation of literature-suggested approaches with actual experience
  - Reflection on migration experience
  - Limitations/challenges of technical solutions like plug-in system with isolation

## Supervisor

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