

## Introduction

We are 5 students from the university of Bern. Due to our lecture practical software engineering PSE we started this project for digital humanities. The goal of the lecture is to do a project in a little team all over from start to the end. That means we start with collecting most of the requirements from interviews with a real customer, solving requirements with agile programming, consulting our customer occasionally and in the end transfer the project to our customer, so that he can begin to work with it.

Our customer analyses different versions of old texts for which a web tool was created, called StemmaWeb. Because the code was built up as a prototype, the main focus laid on functionality and not performance. Therefore we were asked to evaluate a better system to improve StemmaWeb's speed. We were proposed to use a graph database, for example Neo4J, over a casual relational database.

So we started with getting to know Neo4J and its special query language Cypher. We also worked with Jersey, a Java RESTful framework. Step by step we implemented every different user story and defined its own API call. In a last step the customer will have to connect our API calls to her graphical user interface GUI. So that StemmaWeb can go online with a more performant backend.