# Project Specifications

## Background

Being a student involves having exams at an earlier or later stage; while exams themselves might not pose too much of a challenge, the preparation can be of a real issue. Certainly, one of the best ways to solve a problem is to ask your fellow student to help with a particular question, however, this is usually done in a rather chaotic and confusing matter, thus we as a group decided to fix this and make a study collaboration tool on the web.

## Description

The collaboration tool is a web app with the following features:

* Upload of PDF documents, from which the exam questions are extracted and saved
* Users can tag papers in specific categories
* Users can either browse the existing public exam questions for a specific topic, or create an account and upload the papers themselves
* Users can create private collaboration teams and invite other registered users to work on a particular paper
* Users can mark the answers given by other users as wrong or correct, as well as whether the question is falling into one of the following categories: Beginner, Intermediate or Advanced
* Users can search for public papers by keywords or using tags
* Users can have a “practise” with selected difficulty (Beginner, Intermediate or Advanced), with question that fall into those categories (as marked by users) will be randomly picked, and two best ranked answers and two worst ranked answers will be presented as a choice

If, after all of the aforementioned features and corresponding testing is implemented, the following features might be added:

* The application will pull questions from online sources
* User rating
* Learning mode, when users can select a “course” falling into specific category
* Android implementation of the app

## Technologies

* The back-end will be implemented using Java (Spring Boot Framework)
* The front-end will be implemented using Angular Framework, as well as Angular Material and possibly Bootstrap
* Part of the data, such as questions and user information will be stored in a MySQL Database, while the PDFs will be stored on a native file system
* JUnit will be user for back-end unit testing, and Jasmine and Angular Protractor will be used for front-end unit testing and end-to-end testing

The team is also considering to move parts of the architecture to either Azure or AWS, for scalability, persistent storage and deployment, as well as implementing a Jenkins pipeline for build and deploy.

For project management, the team will be using GitHub for version control and online AGILE tools, such as a JIRA board.