

Bachelor's Thesis

**Implementation of a tool for plagiarism detection
in software development assignments**

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The Institute for System Software is responsible for multiple courses in software development education. These courses typically come with regular assignments for the students. As grading the submissions is split across multiple tutors, detecting plagiarism is very hard, sometimes outright impossible.

Hence, a software that automatically checks for plagiarism in the hundreds of submissions handed in for each assignment could be beneficial to detect plagiarism and thus lift that work from lecturers and tutors.

The goal of this bachelor's thesis is to develop a tool that utilizes established algorithms for plagiarism detection in source code and incorporates custom metrics (to be discussed with the supervisor) that are relevant for the courses held by the SSW. As the SSW uses Java as the programming language for teaching software development, the tool should be focused on detecting plagiarism in Java source code.

Furthermore, the tool should support that code parts that are handed out to the students can be supplied separately, such that no plagiarism is detected in those code parts.

The results of the plagiarism scan should be presented to the user of the tool in an easily readable format such that the user can verify whether they agree with the plagiarism verdict.

The tool should be implemented with a strict separation between the logic for detecting plagiarism and the presentation layer (Command Line or GUI), such that it is extensible in follow-up projects.

Modalities:

The progress of the project should be discussed at least every three weeks with the advisor. A time schedule and a milestone plan must be set up within the first 3 weeks and discussed with the advisor. It should be continuously refined and monitored to make sure that the thesis will be completed in time. The final version of the thesis must be submitted not later than **31.3.2025**.