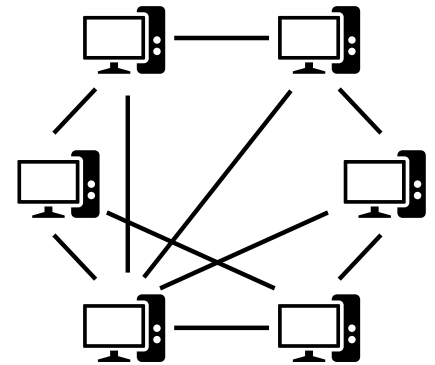


Design of Tests for Peer-to-Peer Systems

Motivation

The course *Peer-to-Peer-Systems and Security*, short *P2PSec*, requires students to complete a project implementing different parts of a Peer-to-Peer-System [1]. While the students have a high degree of freedom in choosing the programming language and approach to the implementation, it also makes consistent grading challenging. The goal of this IDP/HiWi job is to design and implement tests, which not only make testing of the projects easier and easier to understand for the students, but also improves fairness and transparency in grading.



Students will be given a framework which shows the requirements for their implementation as well as different scenarios to be covered by their implementation, while grading may happen with a non-public, extended testing framework. The tests should treat the implementations of the students as a black box as the high degree of freedom in design should be kept. Nevertheless, tests that cover scenarios specific to the modules should be implemented.

Your Task

- Familiarize yourself with the existing projects
- Chose a testing framework and outline requirements for student code
- Design and implement tests for all modules
- Document your tests and the requirements for the students
- Make your tests understood through the specification
- Test your tests! (Possibly with code from previous semesters)

[1] <https://net.in.tum.de/teaching/ss24/p2p.html>

References

Requirements

High familiarity with the contents of the P2PSec lecture, probably best if you have completed it yourself.

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