Design and Implementation of a Web-Based Collaborative Editing Tool for Hardware-Based Lab Courses

The iLabs offered by the Chair of Network Architectures and Services are hands-on practical courses in which students learn about selected topics from computer networks. Teaching material (individual teaching units are referred to as “lab”) is provided using the e-learning platform labsystem which is tailored to the requirements of these courses.

The labsystem is currently undergoing a complete rewrite for modernizing it in alignment with current standards. As part of the rewrite, the currently integrated editing component for teaching material is migrated to an external tool, which shall be designed and implemented in this IDP.

Technical requirements for this editing tool include:
- Versioning of contents using a git-based workflow
- Browser-based, collaborative editing of teaching material
- Access control
- Compatibility with the specified lab exchange format [1]

- Familiarize yourself with the frameworks used for the new labsystem
- Design and implemented the editing tool
- Implement suitable test cases
- Document the code
- Experience developing software in Python3
- Familiarity with the ilab teaching concept [2, 3]

References


Contact

Christoph Schwarzenberg schwarzenberg@net.in.tum.de
Manuel Simon simonm@net.in.tum.de
Christian Lübben luebben@net.in.tum.de
Florian Wiedner wiedner@net.in.tum.de