

Online document editors are useful tools that allow users to create, edit, and often also store and share documents. Some editors additionally support collaborative real-time editing for multiple users, allowing them to get live feedback from others.

Collaborative editors need to face the issue of conflicting user changes. To avoid desynchronization, such editors need to be able to resolve conflicts in a consistent way at the site of each user. To do so, editors use the technology of operational transformation, which proposes a series of complex algorithms aiming to achieve consistency.

The goal of this thesis is to develop a collaborative editor and repository prototype which is able to automatically resolve conflicting user changes and support large numbers of active users. To achieve this, a new theory for handling consistency is devised from an existing one by introducing a set of constraints to improve scalability.