



SDSU
presents
a thesis defense for
Master of Science
degree in
Computer Science

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GMCS 405

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*A Comparison of the Efficiency of an Atomic Component Operation
versus Primitive Operations for Building a Real-Time
Collaborative Editing API*

Abstract

Real-time collaborative editing is a productive way to work in groups and drive innovation. A software application is more likely to be adopted by its users if it is familiar to them and something they already know how to use. Thus, an API that would allow a development team to turn a single-user application into a collaborative application is needed. Such an API would need to find a balance between complexity from the perspective of the developers building the API and the developers using the API to build a real time collaborative editor.

The API should be flexible and include enough operations so as to be useful, but not so many operations as to make the operation transformations overly complex.

This paper presents a comparison of the efficiency of primitive algorithms versus atomic component algorithms in the context of building a real-time collaborative editing API. The atomic component operations perform better, both in terms of CPU clock cycles as well as in terms of ease of use for a developer building an application.

Thesis Committee

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