Abstract

Operational transformation (OT) is an established optimistic consistency control method in collaborative applications. This approach requires correct transformation functions. In general all OT algorithms only consider two character-based primitive operations and hardly two or three of them support string based two primitive operations, insert and delete. In this paper we propose new algorithms that consider first time in history more new string operations that are Find and replace in addition to primitive operations like insert and delete. In history we are having first time algorithms for composite string operation - Find and replace. These algorithms for new Find and replace string operations also support earlier algorithms for primitive string operations-insert and delete. It also handles overlapping and splitting of operations when concurrent operations are transformed. These algorithms can be applied in a wide range of practical collaborative applications.
Reference

- Greenberg S., Marwood D.; "Real Time Groupware as a Distributed System: Concurrency Control and its Effect on the Interface," in Proc. ACM Int. Conf. on Computer
Supported Cooperative Work, Canada, October 1994, pp. 207-217.

**Index Terms**

Computer Science  
Collaborative Computing

**Key words**

Operational transformation
transformation functions
string operations
Find and replace string operations
real-time cooperative editing systems