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# The Thirteenth International Workshop on Collaborative Editing Systems

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**Abstract**

Collaborative editing (CE) has been an area of continuous research since early days of CSCW. Various CE systems have been studied in academia as research vehicles to investigate key technical issues in building advanced collaborative applications. In recent years, CE techniques have been increasingly adopted and further developed in industry for supporting real-world Internet or Cloud-based CE systems/services, such as Google Docs, Codoxware, IBM OpenCoWeb, Novell Vibe, and SubEthaEdit. This workshop aims to bring together CE academic researchers, industry developers, and end-users to discuss and exchange ideas on contemporary issues in researching, developing, and adopting CE systems. We have successfully organized this workshop annually at CSCW-related conferences. This year's workshop focuses on CE issues and techniques for supporting complex real-world documents (including but not limited to rich text, xml, spreadsheet, 2D/3D digital media, CAD, video, etc.), and evaluation of CE systems for such complex real-world documents.

**Keywords**

Collaborative editing systems; groupware.

**ACM Classification Keywords**

H.4.1 [Information Systems Applications]: Office Automation – Groupware; H.5.3 [Information

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**Interfaces and Presentation]**: Group and Organization Interfaces.

### **General Terms**

Algorithms, Design, Human factors, Performance, Security, and Theory.

### **Aim and Objective**

Collaborative Editing (CE) systems support multiple users working together to edit shared documents over computer networks, most commonly the Internet. The shared document can be in various formats, from plain text to complex formats such as rich text, multimedia, virtual environments, etc. CE systems may allow participants to collaboratively edit the same document simultaneously (real-time), at different times (non-real-time), or the combination of the two (any-time). The major benefits of CE include reduced task completion time by taking advantage of parallelism and improved solution quality by integrating “wisdom of crowds”.

Over the past 20+ years, a large number of CE systems have been developed as research vehicles for studying various key technical and social issues surrounding CE and as useful applications for supporting real-world collaborative work. Examples of social and technical issues in CE include the impact of culture or organizational roles on CE, melding of real-time and non-real-time CE in social interaction, privacy and security, consistency maintenance, group undo, group awareness, interaction control, and syntactic/semantic conflict resolution. Issues such as concurrency control are also studied in traditional areas such as databases and distributed systems. However, CE systems (and collaborative systems in general) demand that we additionally consider human factors when designing

concurrency control schemes. Over the years, the CE community has explored numerous novel consistency control techniques such as operational transformation, multi-versioning, and optional locking. Significant attention has been given to optimistic approaches, such as operational transformation, since they allow users to simultaneously edit any part of a shared document at any time without blocking each other.

In recent years, commercial industry’s participation in the CE domain has steadily increased. Many organizations have contributed by advancing CE research and by productizing innovative real-world Internet/Cloud-based CE systems such as SubEthaEdit, Google Wave/Docs, Novell Vibe, IBM OpenCoWeb, Codoxware, etc. These industrial CE systems have played an important role in promoting CE to end-users, raising awareness and interest in CE by innovatively applying CE techniques to a wider range of applications. These new impacts of CE increase the visibility, significance and value of CE research but at the same time raise new CE research issues.

This workshop builds on the success of previous twelve workshops at Group'99, CSCW'00, Group'01, CSCW'02, ECSCW'03, CSCW'04, GROUP'05, CSCW'06, GROUP'07, CSCW'08, CSCW'11, and CSCW'12. This year’s workshop will discuss regular technical CE topics such as theoretical foundation, algorithm design, and system/application development but in the context of complex document formats such as rich text, html/xml, spreadsheet, 2D/3D digital media, CAD, video, etc. In addition, this year’s workshop will include more discussion of user requirement analysis, evaluation, and usability study of CE systems for complex real-world documents.