[0016] FIG. **7** shows a flowchart for an example method for coordinating the coauthoring of documents at a document server.

DETAILED DESCRIPTION

[0017] The present application is directed to systems and methods for structured coauthoring of a document.

[0018] In examples described herein, a document is organized into sections, and users are assigned specific access permissions to one or more sections of the document. The access permissions define the extent to which a user can view, edit, or comment on a section of the document. Structured coauthoring also permits users to share document updates. A user can make changes to the document and decide which, if any, of these changes are shared with other users. In addition, a user can request to see shared updates to the document made by one or more other users.

[0019] FIG. **1** shows an example system **100** that supports structured coauthoring of documents. The system **100** includes clients **101**, **102** and one or more document servers **104**. More or fewer clients and document servers can be used.

[0020] In example embodiments, the clients **101**, **102** are computing devices, such as desktop computers, laptop computers, personal data assistants, or cellular devices. The clients **101**, **102** can include input/output devices, a central processing unit ("CPU"), a data storage device, and a network device.

[0021] Typical input/output devices include keyboards, mice, displays, microphones, speakers, disk drives, CD-ROM drives, and flash drives. Other types of input/output devices can also be used.

[0022] Computer readable media, such as the data storage device, provides for data retention. By way of example, computer readable media can include computer storage media and communication media. Computer storage media includes physical volatile and nonvolatile, removable and non-removable media implemented in any method or technology for storage of information such as computer readable instructions, data structures, program modules or other data. Communication media typically embodies computer readable instructions, data structures, program modules or other data in a modulated data signal such as a carrier wave or other transport mechanism and includes any information delivery media. The term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal.

[0023] Among the plurality of information stored on the data storage device is a client operating system ("OS") and client applications. The client OS is a program that manages the hardware and software resources of the client system. The client applications utilize the resources of the clients **101**, **102** to directly perform tasks specified by the user. For example, the clients **101**, **102** include one or more software applications, such as word processing programs, that are used to create and edit document files. One example of such an application is Microsoft Word from Microsoft Corporation of Redmond, Wash. Other examples of such applications are also applicable.

[0024] The network device enables the clients **101**, **102** to send and receive data to/from the server **104** through a network such as a LAN or the Internet. Other configurations for the clients **101**, **102** are possible.

[0025] The document server **104** is a file server that is accessible through a network. The document server **104** stores a plurality of files. These files can include both software applications and documents, as described further herein. The document server **104** controls access to the documents stored by the server **104**.

[0026] In example embodiments, the document server **104** can be located within an organization or can be part of an Internet-based shared document system. An example Internet-based shared document system is a SHAREPOINT® team services portal server services provided by Microsoft Corporation. An example shared document server is Microsoft Office SharePoint Server 2007 provided by Microsoft Corporation. Other configurations can be used.

[0027] FIG. **2** shows an example document **200** that is rendered by a word processing application **201** on example client **101**.

[0028] In the example shown, the document **200** is organized into a plurality of sections, designated as sections **202** through **212**, respectively. A section corresponds to an editable piece of a document. Typically, a section can be any subpart of a document, for example paragraphs, headings, drawings, tables, etc. A document may contain only one section, for example a table or a single paragraph or sentence.

[0029] Alongside each section of the example document **200** are example user controls **222-232** that display the names of users who are currently coauthoring the section. The example document **200** also includes example access controls **242-252** that display the access permissions of each user for the document section and example action controls **282-292** that permit the user to take one or more specific actions for the document section. The specific actions may include assigning the document section to another user, marking the document section reviewed, marking the document section completed, etc. In addition, the example document **200** also includes example dynamic controls **262-272** that define rules for dynamically changing the access permissions for a section of the document. Other functionality for the controls is possible. The controls may include text boxes, list boxes, pull-down list boxes, icons or any other user interface control types that may be appropriate.

[0030] In the example shown, the user controls **222-232** list the names of the user or users who are currently editing the note section **202-212** of the documents. For example, if user A and user B are currently editing section **202** of the document, the names of user A and user B are listed in the user control **222** so that everyone that has the document **200** open can see that user A and user B are currently editing the section **202**. A user is considered to be editing a document section when the user makes changes to the document section, for example by typing in the document section.

[0031] The access permissions of the access controls **242-252** indicate the extent to which a user may edit a section of the document **200**. Example user access permissions include full control, read/write, review only, comment only, read only and no access. Other user access permissions may be possible.

[0032] In example embodiments, the names of all users with any level of access permission to the document section are displayed via user controls **222-232**. In example embodiments, the names of users with read only access may not be displayed, for example if the list of such users is long.

[0033] When a user is assigned full control, the user has full read/write access to the section of the document and, in addition, the user can use any aspect of the user interface. For example, with full control, the user can change the formatting