ICAP PATENT BROKERAGE

Self-Configured Electronically Facilitated Group Communications

Xerox Corporation & Palo Alto Research Center Incorporated

Initial Bidding Guidance: Low to Mid 6 Figures

Audio communications often occur between subgroups of persons who perform separate communications within the context of a larger (group) communication or meeting. Each subgroup maintains a conversational floor for that subgroup while the members of the subgroup maintain awareness of, or intermittently participate in, the group conversation. Such communications can succeed for a few participants who are physically co-located (such as in a conference room), yet it becomes completely disruptive and unfeasible when the participants are remotely located and attempt to communicate electronically.

This portfolio presents novel solutions to the foregoing problem via a media communication system employing automatic detection of human conversational behavior. The disclosed method includes the step of extracting streams of feature data from a conversation communication between users. The data is then analyzed in various combinations of users over a communicative interval to identify a conversation between two or more of the users. The system can make probabilistic inferences of conversational group membership based on conversational characteristics such as quantitative temporal relationships between specific audible cues and actions during conversation. Once conversations are identified an audio processing system enhances each conversation for each user in the conversation.

The method can assign the two or more users to a conversational floor based on the shared conversational characteristics audio content and maintain the conversational floor by automatically adjusting the floor controls based upon the conversational characteristics audio content. Moreover, the method can enhance audio for each individual participating in the determined conversations by employing volume adjustment, audio effect, and spatialization control. The method also enhances visual representation for each individual participating in the determined conversations. The visual representation of the floor membership may be presented to users by graphical, textual, or other indicator mechanisms. The disclosed invention provides a method and system to automatically detect conversational floors and automatically switch between conversational floors in response to the conversational characteristics related to the various conversations.

Forward Citing Companies: Alcatel Lucent, Cisco, Deutsche Telekom, Google, Hewlett Packard, IBM, Microsoft, National Semiconductor, NEC, Nokia, Nuance Communications, Panasonic, Sony, Texas Instruments

Priority Date: 02-28-2003

Representative Claim: US 7,617,094 – Claim #1
A computer controlled method of identifying a conversation, comprising: monitoring a plurality of conversational communications that each occur electronically between a plurality of users; extracting a plurality of streams of feature data from the conversational communications during a communicative interval between the conversational communications; analyzing said streams of feature data for different combinations of said users in possible conversational configurations during said same communicative interval and assigning a probability to each of the possible conversational configurations; determining a most probable conversational configuration from the possible conversational configurations based on the probability; and identifying a conversation involving two or more of said users based on the most probable conversational configuration.

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TECHNOLOGY
COMMUNICATION SYSTEMS

NOVELTY
COMMUNICATION SYSTEM EMPLOYING AUTOMATIC DETECTION OF HUMAN CONVERSATIONAL BEHAVIOR, ESTABLISHING CONVERSATIONAL GROUP MEMBERSHIP AND ENHANCING EACH CONVERSATION

IMPORTANCE
A VALUABLE PORTFOLIO FOR COMPANIES PROVIDING VOICE, CHAT ROOM, TELECONFERENCING, AND OTHER SHARED-CHANNEL COMMUNICATION SOLUTIONS

NUMBER OF ASSETS
10

PATENTS (9)
US 7,617,094
US 7,698,141
US 7,822,607
US 8,676,572
DE 602004004824.0
EP 1453287
FR 1453287
GB 1453287
JP 4803961

US APPLICATIONS (1)
14/058,178