



US008112418B2

(12) **United States Patent**
Turnbull et al.

(10) **Patent No.:** US 8,112,418 B2
(45) **Date of Patent:** Feb. 7, 2012

(54) **GENERATING AUDIO ANNOTATIONS FOR SEARCH AND RETRIEVAL**

(75) Inventors: **Douglas Turnbull**, La Jolla, CA (US); **Luke Barrington**, San Diego, CA (US); **Ruoran Liu**, La Jolla, CA (US); **Gert Lanckriet**, San Diego, CA (US)

(73) Assignee: **The Regents of the University of California**, Oakland, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 371 days.

(21) Appl. No.: 12/052,299

(22) Filed: Mar. 20, 2008

(65) **Prior Publication Data**

US 2008/0235283 A1 Sep. 25, 2008

Related U.S. Application Data

(60) Provisional application No. 60/896,216, filed on Mar. 21, 2007.

(51) **Int. Cl.**

G06F 7/00 (2006.01)
G06F 17/30 (2006.01)

(52) **U.S. Cl.** 707/736; 707/711; 707/740; 707/741

(58) **Field of Classification Search** 707/711, 707/740, 741, 736
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,882,111 A *	3/1999	Chen	700/92
5,931,680 A *	8/1999	Semba	434/307 A
6,539,395 B1 *	3/2003	Gjerdingen et al.	1/1
2002/0098881 A1 *	7/2002	Radom	463/9
2003/0041108 A1 *	2/2003	Henrick et al.	709/205
2007/0118546 A1 *	5/2007	Acharya	707/101

* cited by examiner

Primary Examiner — Charles Lu

(74) *Attorney, Agent, or Firm* — Park, Vaughan, Fleming & Dowler LLP; Steven E. Stopp

ABSTRACT

Embodiments of a computer system to determine one or more annotation items associated with an audio file are described. During operation, the computer system provides an interactive environment in which multiple users listen to the audio file within a time interval. Next, the computer system receives one or more annotation items associated with the audio file from the multiple users. Then, the computer system displays the received one or more annotation items from the multiple users in the interactive environment, thereby enabling the multiple users to provide feedback to a given user in the multiple users.

19 Claims, 12 Drawing Sheets



