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[Continued on next page]

(54) Title: A SYSTEM AND METHOD FOR SCORING A SINGING VOICE

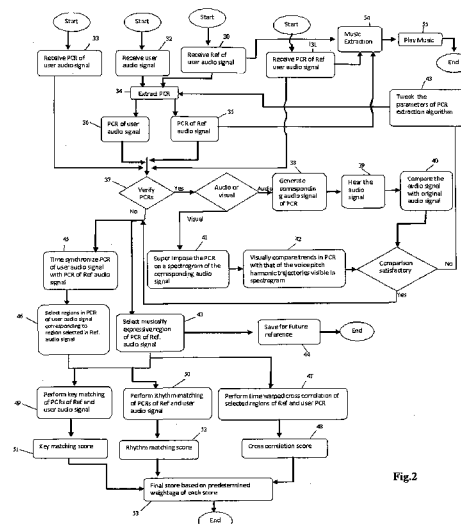


Fig.2

(57) **Abstract:** A system for scoring a singing voice comprises a receiving means (1) for receiving a singing reference audio signal and/or a user audio signal and/or a pitch contour representation (PCR) of the reference and/or user singing audio signals; a processor means (2) connected to the receiving means (1) and comprising a pitch contour representation (PCR) module (10) for determining a PCR of the singing reference and/or user audio signal, a time synchronization module (11) for time synchronizing the PCRs of the reference and user audio signals respectively, a selection module (12) for selecting a segment of the PCRs of the reference and user audio signals based on pre-defined criteria, a cross-correlation module (13) for performing time-warped cross-correlation on the selected segments of the PCRs of the reference and user audio signals and outputting a cross-correlation score, a key matching module (14) and rhythm matching module (15) for key matching and rhythm matching the remaining unselected segments of the PCRs of the reference and user audio signals respectively and outputting a respective key matching score and rhythm matching score, a scoring module (16) for determining a singing score based on a combination of a pre-determined weightage of the cross-correlation, key matching and rhythm matching scores; a user interface means connected to the processor means for changing at least one module parameter within at least one module; a storing means (4) connected to the processor means (2) and a display means (5) connected to the processor means (2) for displaying the PCR and singing score.



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G10H G10K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 2009/038468 A1 (BRENNAN EDWARD W [US]) 12 February 2009 (2009-02-12) paragraphs [0029] - [0065]; figures 1-4, 7-9	1-12, 22, 26-29 13, 14, 23-25
Y A	WO 2008/004641 A1 (YAMAHA CORP [JP]; NOGUCHI AKANE [JP]) 10 January 2008 (2008-01-10) Japanese language document teaching the use of dynamic time warping for karaoke performance evaluation; see english language family member US2009/0038468A1; page 5, line 15 - page 16, line 18; figures 1-6	1-12, 15-22, 26-29 13, 14, 23-25
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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Information on patent family members

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