



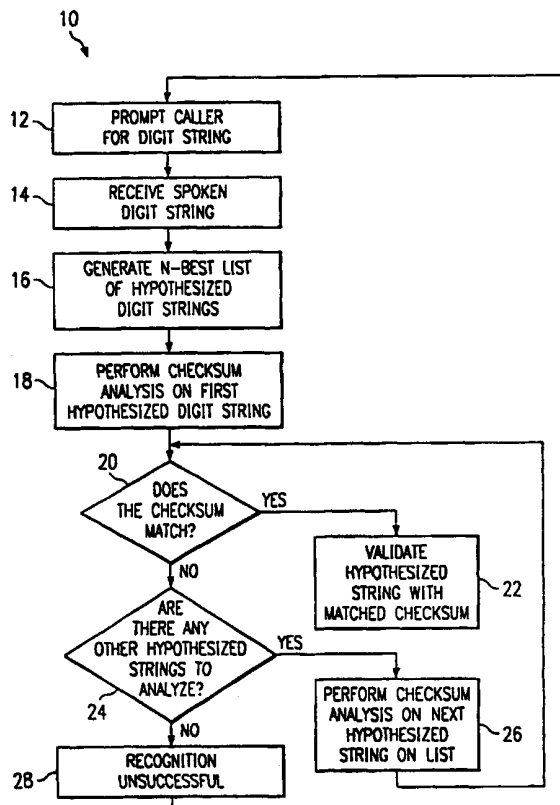
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(54) Title: KNOWLEDGE-BASED STRATEGIES APPLIED TO N-BEST LISTS IN AUTOMATIC SPEECH RECOGNITION SYSTEMS

(57) Abstract

A highly accurate technique for recognizing spoken digit strings is described. A spoken digit string is received (14) and analyzed by a speech recognizer (18), which generates a list of hypothesized digit strings arranged in ranked order (16) based on a likelihood of matching the spoken digit string (20). The individual hypothesized strings are then analyzed in order beginning with the hypothesized string having the greatest likelihood of matching the spoken string to determine whether they satisfy a given constraint. The first hypothesized string in the list satisfying the constraint is selected as the recognized string (22).



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/31311

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) :G10L 15/08, 15/04
 US CL :704/239, 243, 252, 255
 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)
 U.S. : U.S. : 704/239, 243, 252, 255, 251, 253, 254, 259, 236

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 practicable, search terms used)
 WEST seach, IEL search, NPL search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 4,882,757 A (FISHER et al.) 21 November 1989, col. 1, line 52 to col. 2, line 6, col. 2, line 60 to col. 3, line 58.	1, 13, 14, 18, 19, 25 ----- 15-17
X	US 5,606,644 A (CHOU et al.) 25 February 1997, Abstract	1, 2, 3, 13, 19, 20, 21, 25
X	US 5,222,187 A (DODDINGTON et al.) 22 June 1993, Fig. 2, col. 3, line 61 to col. 5, line 55.	1, 4-7, 13, 19, 22-25.
X	US 5,241,619 A (SCHWARTZ et al.) 31 August 1993, Abstract	1, 19, 25

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Date of the actual completion of the international search 31 MAY 2000	Date of mailing of the international search report 10 JUL 2000
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/31311

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,E	US 5,903,864 A (GADBOIS et al.) 11 May 1999, col. 2, lines 43-49.	1, 19, 25
Y	US 4,866,778 A (BAKER) 12 September 1989, Abstract	15-17
A	US 5,276,741 A (ARAGON) 04 January 1994, Abstract	8-12
A,E	US 6,049,768 A (GOLDBERG et al.) 11 April 2000, Abstract.	4-7, 22-24
A	US 5,267,345 A (BROWN et al.) 30 November 1993, Abstract.	1, 18, 19, 25
A,P	US 6,003,002 A (NETSCH) 14 December 1999, Abstract.	1, 4-7, 18, 19, 22-25