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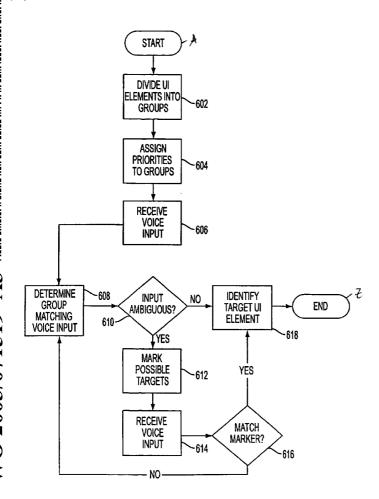
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(54) Title: VOICE-CONTROLLED DATA ENTRY



(57) Abstract: Method and systems to voice-enable a user interface using a voice extension module are provided. A voice extension module includes a preprocessor (602-604), a speech recognition engine, and an input handler (606-608). The voice extension module receives user interface information (606), such as, a hypertext markup language (HTML) document, and voice-enables the document (618) so that a user may interact with any user interface elements using voice commands.

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## INTERNATIONAL SEARCH REPORT

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Minimum documentation searched (classification system followed by classification symbols) U.S.: 704/257, 270, 270.1, 275, 258, 235; 345/746; H04M 3/50					
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Please See Continuation Sheet					
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet					
C. DOC	UMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where ap			Relevant to claim No.	
X	US 5,893,063 A (LOATS et al) 06 April 1999 (06.0	04.1999), see figures 2	, 4, 6; abstract,	1-3, 9	
Υ				<b>4-5</b> , 18-19, 21-22	
X 	US 4,829,576 (PORTER) 09 May 1989 (09.05.1989), column 6 lines 34-52, claim 15, figures 3, 12-13		52, claim 15,	12-13, 16-17	
Y	Tigutos 9, 12 19			14-15, 21-22, 36	
X	US 5,805,775 A (EBERMAN et al) 08 September 1998 (08.09.1998), figures 1,		res 1, 3;	32-35	
	column 2 line 29, column 3 lines 60-62, column 4 lines 21-43.			•	
Y			Ì	36	
Y,E	US 2003/0125956 A1 (LEWIS et al) 03 July 2003 (03.07.2003) see [0028]		]	4, 18	
Y	JAMES et al ("Speech, Voice And Translation: Voice Over Workplace (Vowp): Voice Navigation In A Complex Business GUI", Proceedings of the 5th International ACM Conference on Assistive Technologies, July 2002) see left column page 202			5, 14-15, 19	
Further	documents are listed in the continuation of Box C.	See patent f	amily annex.		
* S <sub>1</sub>	pecial categories of cited documents:			rnational filing date or priority ation but cited to understand the	
	defining the general state of the art which is not considered to be lar relevance	principle or the	eory underlying the inve	ntion	
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"P" document published prior to the international filing date but later than the priority date claimed		"&" document mem	nber of the same patent i	amily	
Date of the actual completion of the international search		Date of mailing of the	international sear	rch report	
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## INTERNATIONAL SEARCH REPORT

ategory *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	Conversa™ ("Surf The WEB With Your Voice", Product Packaging ®1998), ALL	1-41
Α	US 4,509,133 A (MONBARON et al) 02 April 1985 (02.04.1985), ALL	1-41
Α	US 5,799,279 A (GOULD et al) 25 August 1998 (25.08.1998), ALL	1-41
Α	US 4,783,803 (BAKER et al) 08 November 1988 (08.11.1988), ALL	1-41
Α	US 6,192,343 B1(MORGAN et al) 20 February 2001 (20.02.2001), ALL	1-41
A	JustVoice™ ("Voice Recognition for MS Windows™95", Interactive Products Inc. ©January, 1995), ALL	1-41
Α	US 5,812,977 A (DOUGLAS) 22 September 1998 (22.09.1998), ALL	1-41
Α	US 2001/0043234 A1 (KOTAMARTI) 22 November 2001 (22.11.2001), ALL	1-41

	PCT/US03/04479		
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INTERNATIONAL SEARCH REPORT			
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