Abstract: A method and system (102) is provided for a multi-modal task-oriented dialog management implemented on a computer-based system. The system (102) maximizes the probability of successful task completion after a task is requested (302). Every task is associated with a task model comprising recipes, acts, parameters and modalities. Confidence measures are calculated at various levels for each task. The confidence measures represent the probability of success of the action depending on the user preferences. The most suitable recipe, act, parameter and modality are selected at runtime using the provided confidence measures (304) to maximize the probability of task completion. After each act, confidence measures are modified (312) depending on the user response, and the next suitable act is accordingly selected. Optionally, a post evaluation module (PEM) is provided for monitoring the user response and modifying the formulation for the confidence measures calculation.
(88) Date of publication of the international search report:
15 December 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette."
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : G06F 9/45
US Cl. : 703/22
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. : 703/22

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)

Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
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<tbody>
<tr>
<td>X</td>
<td>US 6,173,266 B1 (MARX, et al.) 09 January 2001; col.3, line 28; col. 1, lines 16-19; col. 3, lines 29-39; col. 3, lines 42-44; col. 5, lines 49-67; col. 7, lines 41-46; col. 9, lines 14-25; col. 12, lines 12-19; col. 12, lines 29-42; col. 9, lines 25-29; col. 11, lines 4-5; col. 11, lines 39-48; col. 2, lines 26-29; col. 4, lines 20-32; col. 4, lines 66-67; col. 4, lines 1-7, lines 16-39; col. 4, lines 7-15; col. 11, lines 20-23</td>
<td>1-10, 20</td>
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<td>Y, P</td>
<td>US 5,885,083 A (FERRELL) 23 March 1999; entire document</td>
<td>11-19</td>
</tr>
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</table>

Further documents are listed in the continuation of Box C.

See patent family annex.

Date of the actual completion of the international search

Date of mailing of the international search report
06 MAY 2005

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Form PCT/ISA/210 (second sheet) (January 2004)
Continuation of B. FIELDS SEARCHED Item 3:
USPAT; US-PGPUB; DGRENT; EPO; JPO; IBM TDB
search terms: confidence, measure, machine, learning, management, dialog, measure, computer-based, application, channel, parameter, constraints, multi-modal, modeler, estimate, accuracy, probability