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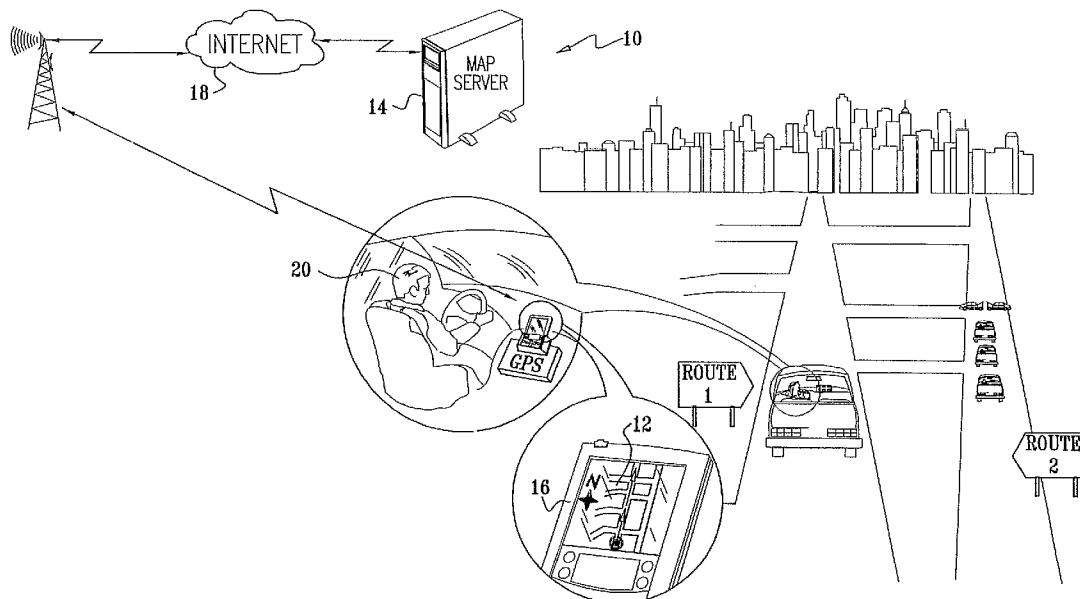
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(54) Title: PLACEMENT OF MAP LABELS



(57) Abstract: Methods and systems are presented for the automatic optimal placement text or symbol labels corresponding to graphical objects on maps. Using a map server and a thin, typically mobile client, maps are dynamically drawn and displayed at the client. Optimized labeling of map objects is achieved by dividing the task into pipelined subtasks, some being performed off-line, and others being performed in real time, responsively to changing client requests, and changes in the map viewport. Optimization of candidate label positions is accomplished using simulated annealing.

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**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/IL05/00892

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC: **G06K 9/36**( 2006.01);**G09G 5/00**( 2006.01)  
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 USPC: 345/622;701/208;382/290,291,292  
 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. : 345/622;701/208;382/290,291,292  
 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)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,565,610 B1 (WANG et al) 20 May 2003 (20.05.2003), column 1, lines 43-48; column 3, lines 26-31; column 8, lines 10-26, column 17, lines 55-60	1-31
Y	US 5,689,717 (PRITT) 18 Nov. 1997 (18.11.1997), column 3, lines 11-15; column 6, lines 3-7.	1-33
Y	US 4,571,684 (TAKANABE et al) 18 Feb. 1986 (18.02.1986), column 1, lines 60-68; column 2, lines 43-47.	1-33
Y	US 5,988,853 (KIM et al) 23 Nov. 1999 (23.11.1999), column 2, lines 25-30; column 4, lines 17-23.	5, 6, 8, 10, 11, 21, 22, 24, 28, 28, 31
Y	US 6,747,649 B1 (SANZ-PASTOR et al) 8 June 2004 (08.06.2004), column 3, lines 5-10.	8, 24, 31
Y	US 5,724,072 (FREEMAN et al) 03 March 1998 (03.03.1998), column 4, lines 47-53.	12-16

Further documents are listed in the continuation of Box C.  See patent family annex.

* Special categories of cited documents:	"T"
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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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