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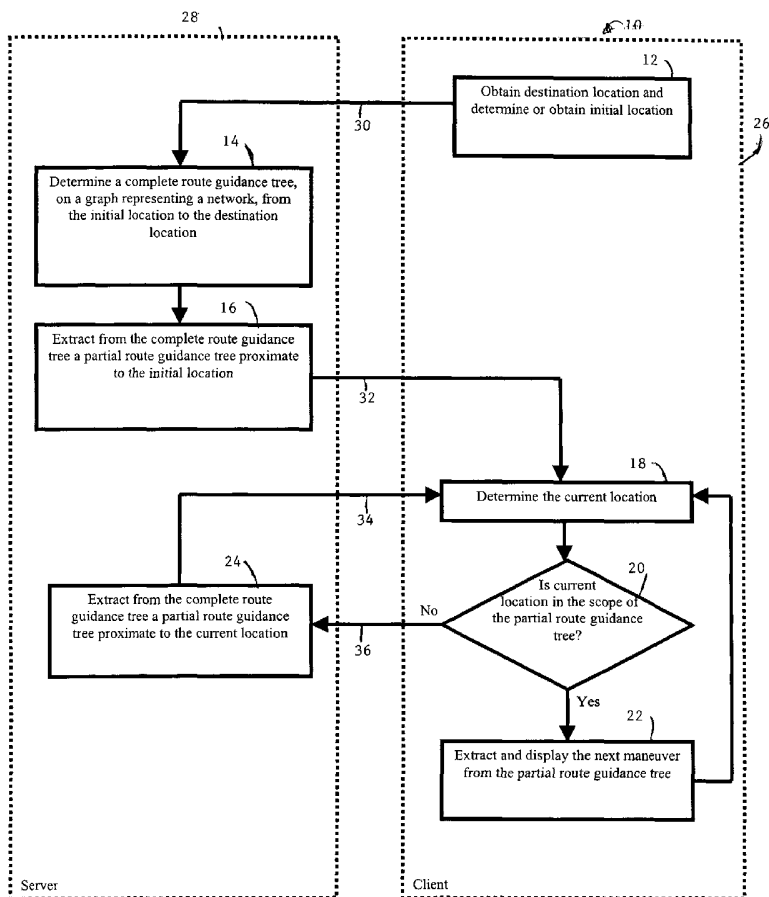
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(54) Title: THIN-CLIENT NAVIGATION AND ROUTE GUIDANCE SYSTEM



(57) Abstract: A client/server navigation system utilizes partial route guidance trees, enabling a thin, mobile client to detect route deviation and provide alternate instructions while awaiting response from a server. The system (10) consists of a server (28) containing a network database and route-calculation program; a client (26) capable of obtaining (12) its current location and destination, displaying route instructions (22), and determining when it needs additional instructions from the server (20, 24); and communication (30, 32, 34, 36) between the client (26) and server (28). The invention allows for long routes and responsive operation on a small, low-powered client despite lags and lapses in communication.

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European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/05744

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G05D 1/00
 US CL : 701/209, 208, 210, 211

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. : 701/209, 208, 210, 211; 340/988, 990, 995

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

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,537,323 A (SCHULTE) 16 July 1996, Fig. 1-3; col. 1 line 61-col. 4	1-22
A	US 5,845,228 A (UEKAWA et al.) 01 December 1998, Figs. 1-30 and abstract and claims	1-22

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

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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INTERNATIONAL SEARCH REPORT

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PCT/US02/05744

Continuation of B. FIELDS SEARCHED Item 3:

West:

navigation, guidance, route, road, map data, map information, start, departure, initial, point, destination, arrival, position, location, guidance tree, network, graph, partial, part, display, proximate