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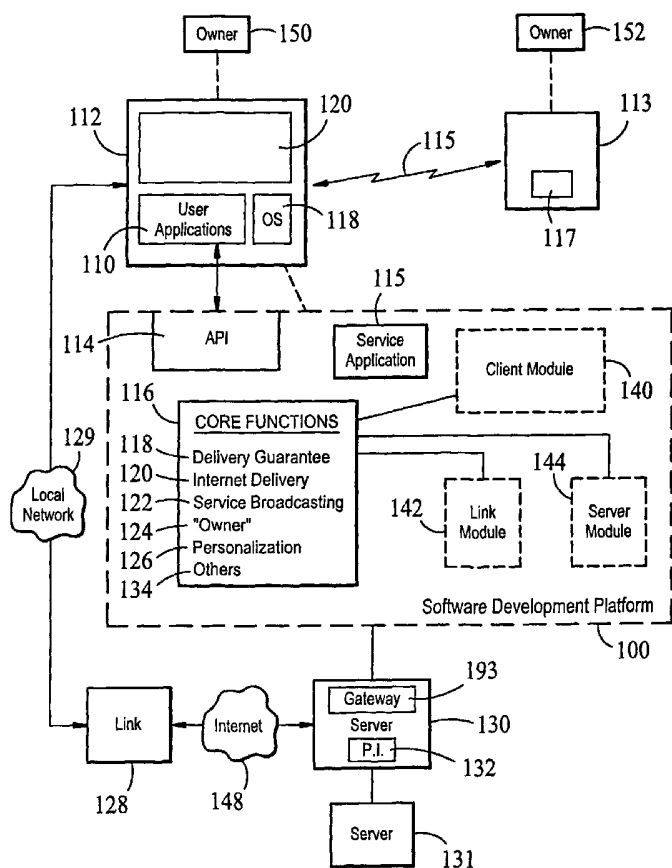
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[Continued on next page]

(54) Title: MOBILE COMPUTING AND COMMUNICATION



(57) Abstract: An application development platform (100) enables applications (110) to be created easily for, e.g., mobile devices (112, 113) that have short-range wireless communication capability. The development platform exposes a carefully chosen core set of services through an API (114). Each of the applications can broadcast its services to local and remote devices. Message delivery between devices is guaranteed even for messages that cannot be delivered directly by local short-range wireless transmission. Message delivery through other channels, including the Internet (148), can occur transparently to the user. Each device can be associated with an "owner" (150, 152), which can be a person or an entity. Services can be customized to the owner based on stored information that maps owners to devices. Information associated with each of the owners of devices can be stored centrally and used in connection with providing the services at each of the mobile devices. Virtual GPS capabilities can be provided for mobile devices that do not have GPS chips.

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PCT/US02/02851**A. CLASSIFICATION OF SUBJECT MATTER**

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US CL : 709/200

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. : 709/200, 203, 229, 238; 445/406; 713/154; 340/572.1

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)

EAST

geographic location, GPS, client, server, mobile device, link, short-range wireless, encrypt, decrypt, device id, user id..

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,E	US 2002/0078148 A1 (HINDE et al) 20 June 2002, see entire document, especially pages 1-5	1-9 and 18-22
Y, E	US 2002/0032855 A1 (NEVES et al) 14 March 2002, see entire document, especially pages 2	1-9 and 18-22
Y, P	US 6,292,833 B1 (LIAO et al) 18 September 2001, see entire document, especially col. 14 lines 1-7	10-17, 23-32 and 38-40
Y	US 5,915,214 A (REECE et al) 22 June 1999, see entire document, especially col. 6 lines 21-42 and col. 13 lines 39-54	10-17, 23-32 and 38-40

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

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"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	
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 2001/0052849 A1 (JONES, JR.) 20 December 2001, see entire document, especially page 3	45-51 and 68-71
Y,E	US 6,415,220 B1(KOVACS) 2 July 2002, see entire document	45-51 and 68-71