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Julia et al.

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(54) **USING A COMMUNITY OF DISTRIBUTED ELECTRONIC AGENTS TO SUPPORT A HIGHLY MOBILE, AMBIENT COMPUTING ENVIRONMENT**

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(73) Assignee: **SRI International Offices**, Menlo Park, CA (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1261 days.

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This patent is subject to a terminal disclaimer.

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(57) **ABSTRACT**

(21) Appl. No.: **09/475,092**

A highly mobile, ambient computing environment is disclosed for serving a knowledge worker away from the their desk. The present invention allows a knowledge worker to get increased leverage from personal, networked, and interactive computing devices while in their car, airplane seat, or in a conference room with others. An Open Agent Architecture is used to incorporate elements such as GPS agents, speech recognition, and opportunistic connectivity among meeting participants. Communication and cooperation between agents are brokered by one or more facilitators, which are responsible for matching requests, from users and agents, with descriptions of the capabilities of other agents. It is not generally required that a user or agent know the identities, locations, or number of other agents involved in satisfying a request, and relatively minimal effort is involved in incorporating new agents and “wrapping” legacy applications. Extreme flexibility is achieved through an architecture organized around the declaration of capabilities by service-providing agents, the construction of arbitrarily complex goals by users and service-requesting agents, and the role of facilitators in delegating and coordinating the satisfaction of these goals, subject to advice and constraints that may accompany them.

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Related U.S. Application Data

(63) Continuation-in-part of application No. 09/225,198, filed on Jan. 5, 1999, now Pat. No. 6,851,115.

(60) Provisional application No. 60/124,718, filed on Mar. 17, 1999, provisional application No. 60/124,719, filed on Mar. 17, 1999, provisional application No. 60/124,720, filed on Mar. 17, 1999.

(51) **Int. Cl.**
G06F 9/54 (2006.01)

(52) **U.S. Cl.** **719/317; 709/202**

(58) **Field of Classification Search** **709/202; 719/317**

See application file for complete search history.

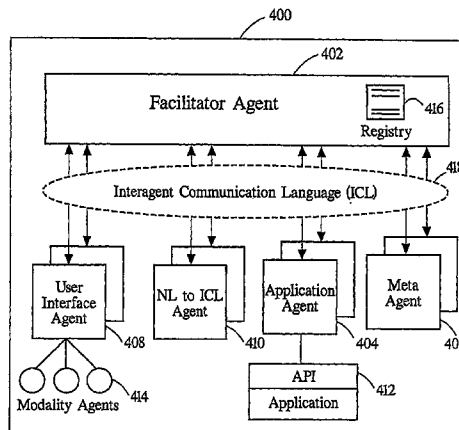
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45 Claims, 22 Drawing Sheets



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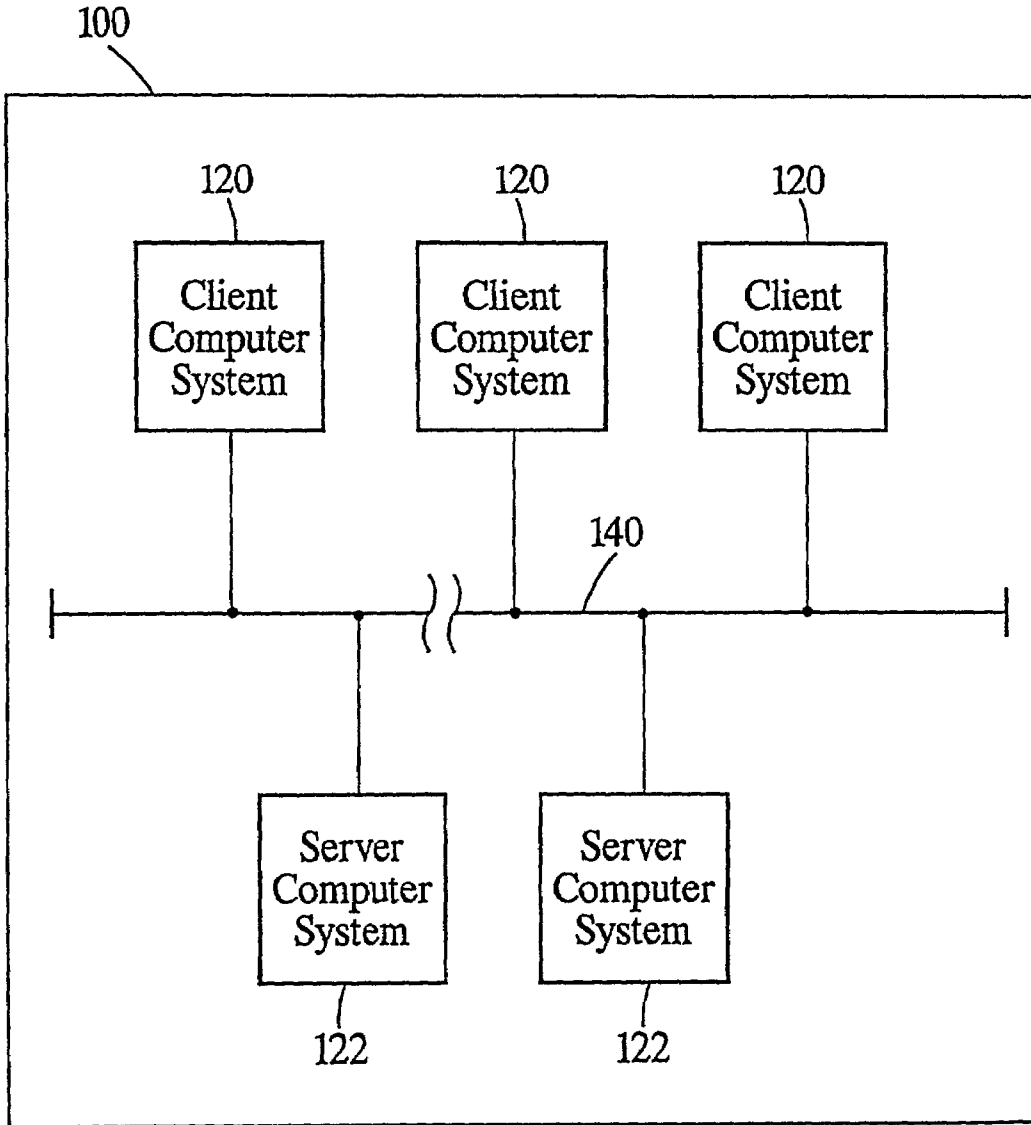


Fig. 1
(Prior Art)

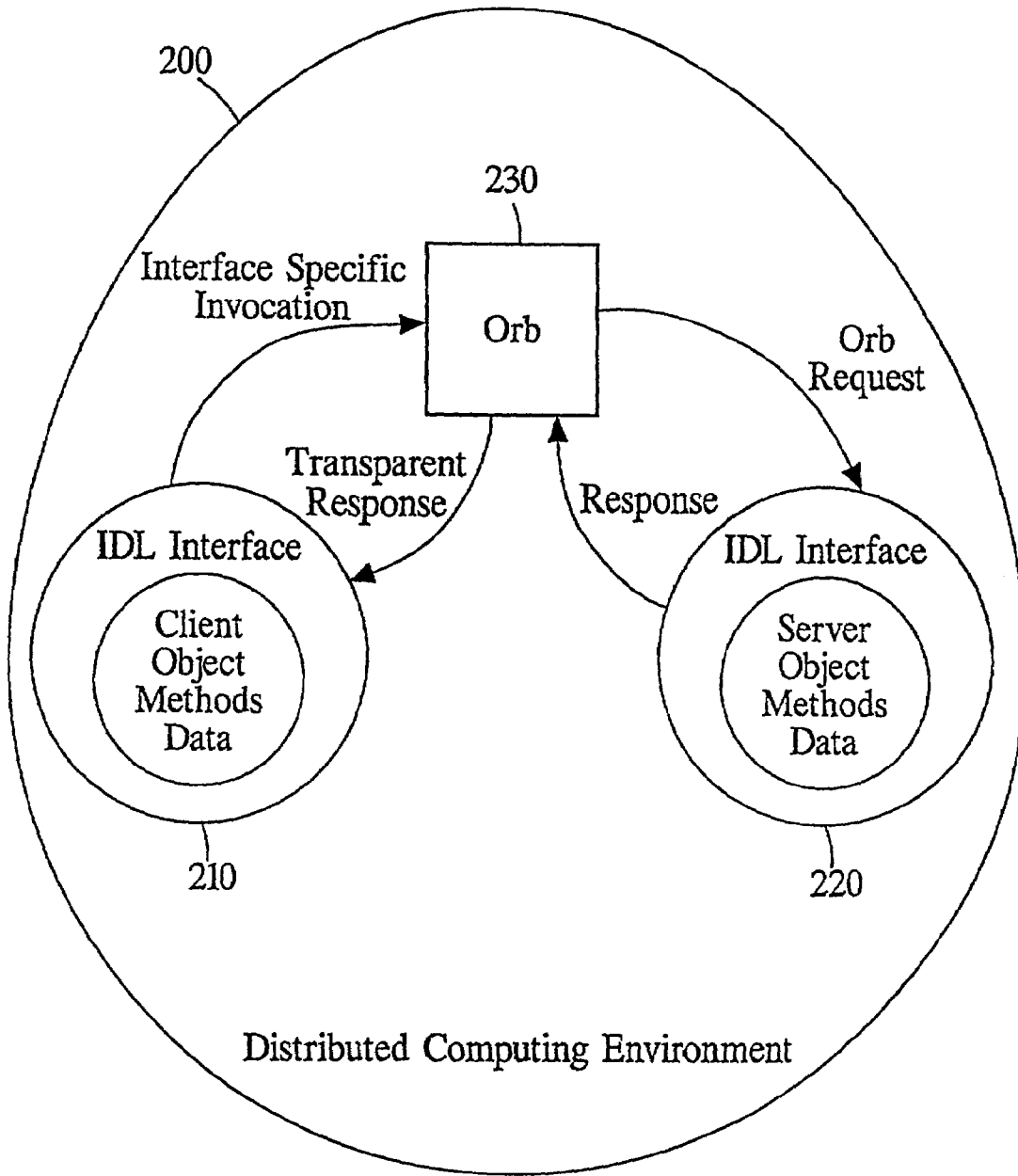


Fig. 2
(Prior Art)

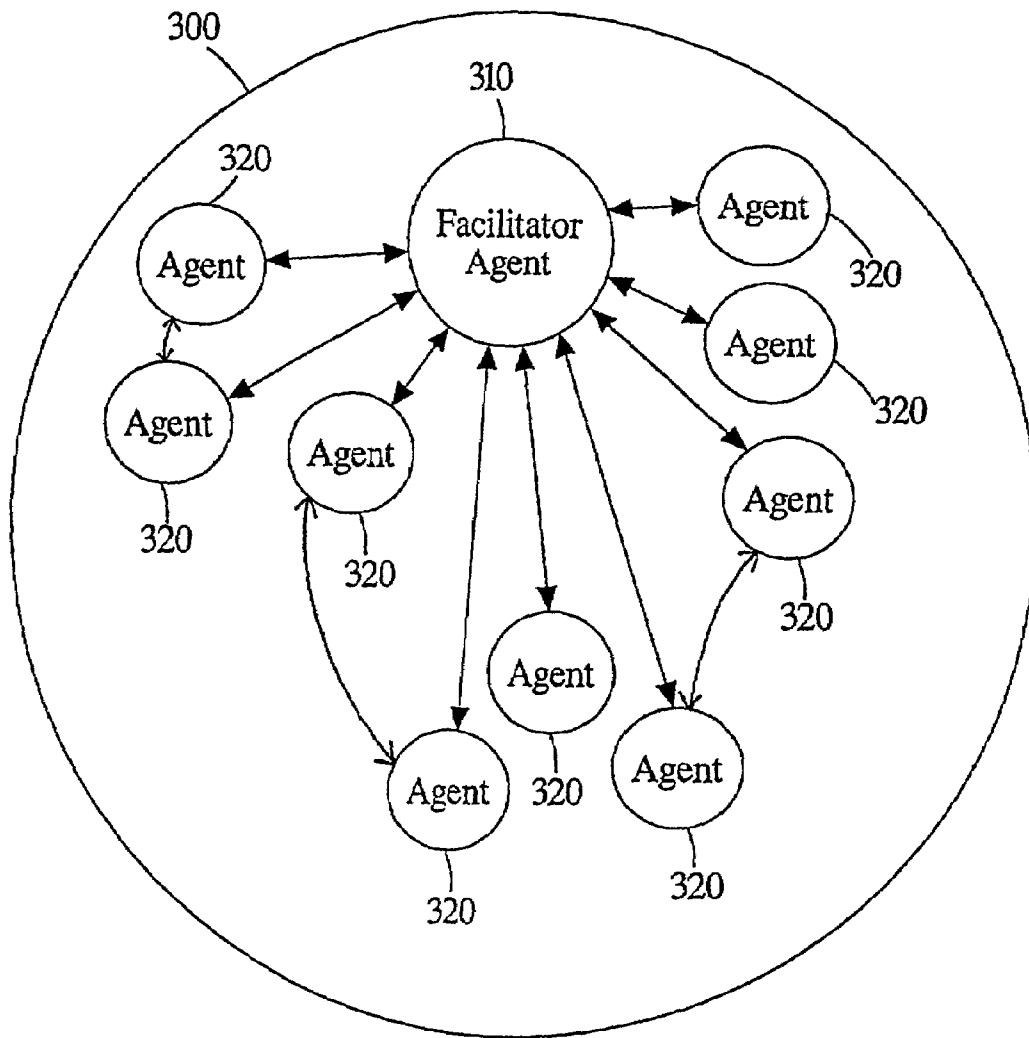


Fig. 3

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