Chapter 1

Intelligent Agents and the World Wide Web: Fact or Fiction?

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We are fortunate to be experiencing an explosive growth and advancement in the Internet and the World Wide Web (WWW). In 1999, the global online population was estimated to be 250 million WWW users worldwide, while the number of pages on the Web was estimated at 800 million (http://www.internetindicators.com/facts.html). The bright side of this kind of growth is that information is available to almost anyone with access to a computer and a phone line. However, the dark side of this explosion is that we are now squarely in the midst of the “Age of Information Overload”!!!

The staggering amount of information has made it extremely difficult for users to locate and retrieve information that is actually relevant to their task at hand. Given the bewildering array of resources being generated and posted on the WWW, the task of finding exactly what a user wants is rather daunting. Although many search engines currently exist to assist in information retrieval, much of the burden of searching is on the end-user. A typical search results in millions of hit, many of which are outdated, irrelevant, or duplicated. One promising approach to managing the information overload problem is to use “intelligent agents” for search and retrieval. This editorial explores the current status of intelligent agents and points out some challenges in the development of intelligent agents based systems.

An intelligent agent is a piece of software that performs a given task using information from its environment and acts in such a way that it can complete the given task successfully. Some desirable properties for such
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