Proposed Framework of Multi Agent System

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ABSTRACT

Multi agent system is one of the growingtechnology andvery popular these days.This paper provides a proposed framework of Multi Agent System to provide the idea how it works. The proposed framework of MAS can thus serve as a base on which to develop particular approaches and methodologies for designing,specifying and implementing complex systems.

Keywords: Semantic Web, Ontology Information Retrieval, Agents.

I. INTRODUTION

Semantic Web can be defined as linking of data between different entities that allows self-describing interrelations of variety of data available across the World Wide Web. Semantic Web structure can be described as:

Collection of data + Language for expressing that data=Semantic web.

It standardize the way of expressing the relationship that allows computers to easily understand the data and process it.There are three basic standards for Semantic Web, namely-OWL (*Ontology Web Language*), RDF (*Resource Description Framework*), and SPARQL (*SPARQL Protocol and RDF Query Language*).

The process of information retrieval starts when a user enters a query into the system.Queries can be called as formal statements

of data that requires. A single query may match to collection of objects with different degrees of relevancy. An object can be considered entity that is used to represent the information in database. Generally Information Retrieval systems identified by numeric score depending on how often or seldom the object matched the query in the database. In 1940s,information retrieval (IR) systems were used to manage the scientific literature but now almost all university, libraries, journals, encyclopaedia databases are using IR systems.[1]

The amount of data on WWW are increasing day by day and it is not necessary that we always retrieve the best quality of data every time. To retrieve best and useful data form huge website that contain bulky data various types of links are available on WWW that result effective data and information with searching and filtering. An IIR(Intelligent Information Retrieval System) is one of the best tool for machine learning programs used to retrieve data efficiently and effectively .It ensure quality search.

II. MULTI-AGENT SYSTEM

According to Wooldridge definition [2],An agent is

"a software (or hardware) entity that is situated in some environment and is able to autonomously react to changes in that environment."

A multi-agent system(M.A.S.) is an electronics machine made up of multiple interacting intelligent agents within an environment. The problems those areimpossible or difficult to solve for

individual agent can be completed with the help of Multi-agent Systems.Intelligence may include reinforcement learning, methodic,algorithmic searching, functional and procedural approach.The principle behind agent-based model is to focus on explanatory insight into collective behaviour of agent following rules rather than problems. Agent-based model typically used in online trading, modelling social structures, disaster response etc.
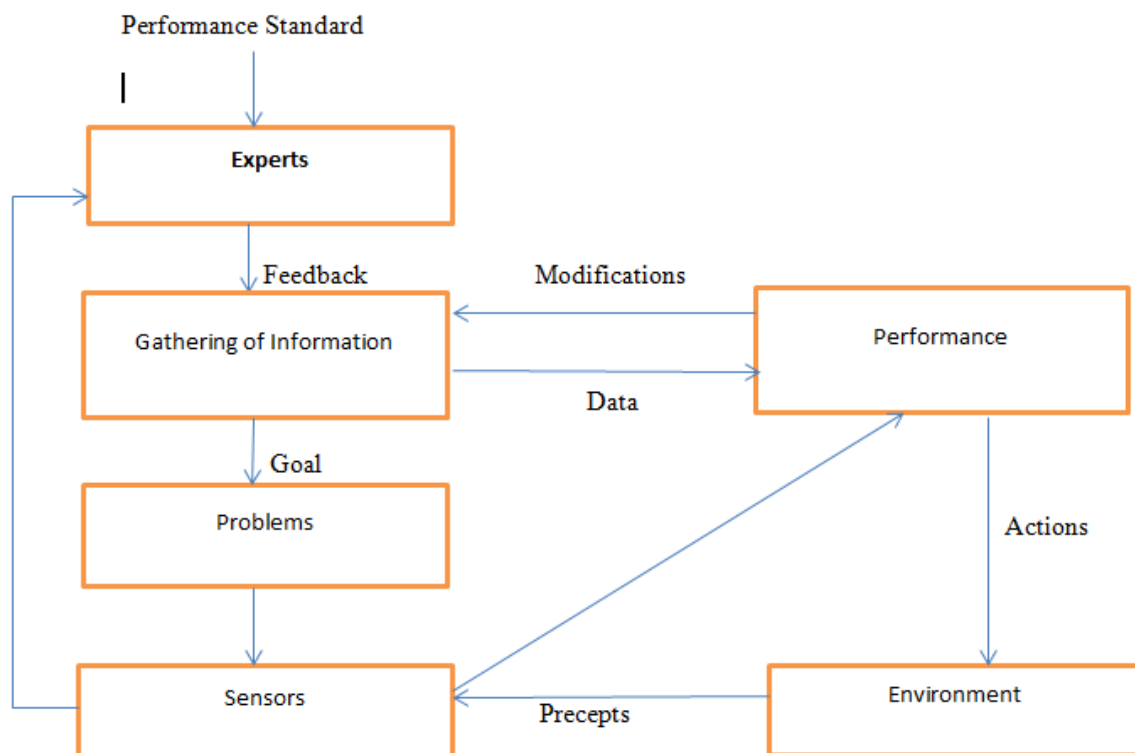

Fig.1 Proposed Framework for Multi Agent System

Fig 1.Shows the proposed framework for MAS.

 The standard of performance is checked by experts then information is gathered to enhance performance of data and modified accordingly with the help of feedback given by experts. The overall goal of MAS is to solve the complex problems resides in our environments.

Some of commonly used agent based modeling toolkits are Brahms , GAMA, FLAME, Mesa, NetLogo, SeSam,Visual Bots etc.

III. ADVANTAGES OF MULTI AGENT SYSTEM

1.MAS is very helpful in control engineering like automation, system restoration, market simulation, network control, congestion control, hybrid control, distributed control, scheduling and planning, diagnostics and condition monitoring.

2.MAS is used in Power engineering for power system restoration, automation, networking, condition monitoring etc..

3. MAS also find application in Distributed Artificial Intelligence to understand the concept of reactive and cognitive agents, Rational Agents, Reactive Agents, Finin, Estraillier etc.

4. MAS are useful for simple programming. Here a complicated program can be split into small modules and assign control of those modules to different agents.

5.MAS enhances reliability, performance, flexibility and efficiency.

IV. CONCLUSION

In general we can say that MAS is effective technique in the field of distributed systems, computer supported cooperative work, organizational theory, cognitive science, knowledge representation, software engineering, distributed artificial intelligence, sociology and organizational theory.

V. FUTURE SCOPE

Multi Agent System will prove very helpful in science and research field. MAS system will provide better communication with industry. Enhance research on architectural style and pattern. The key property of MAS is solution of Complex distributed system, computer interfaces and networked information systems.

References

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