

# ENHANCED SERVICE COMPUTING USING ARTIFICIAL REASONING & NAVIGATION.

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**ABSTRACT:** Web service and E business have gained popularity in delivery of service. Most of users today use them as an alternative means of acquiring and rendering services. It comprises of using available technology to present services that are distributed in nature. This involves publishing discovery and consumption. This paper will focus on reasoning techniques to be included in web services. It will enhance interactive nature of web service delivery to users also encourage understanding between users and providers. Enhance data mining will ensure proper and standard way of acquiring information that will be used in reasoning. Navigation will be automated with this in place.

**Index terms:** E Business, Web services and Reasoning techniques.

## 1.0 INTRODUCTIONS

Web service describe a standardized way of integrating web based applications using the XML, SOAP, WSDL and UDDI open standards over an internet protocol backbone. It provides a platform for companies to implement a solution using new technology to determine success and return of investment ROI. It gives functionality to build and interact with distributed application by sending extensible markup language. Various online applications have been developed using this technology and covers almost all aspect of live presently.

Web Service composition is a key challenge to manage collaboration among Web Services. Service composition refers to the technique of composing arbitrarily complex services from relatively simpler services available over the Internet (Chakra borty, Joshi 2001).

Consider the example of a business trip. The service provider may integrate existing services such as airline ticket, hotel reservation and/or car rental services. To integrate or compose these services is not a difficult task but to achieve efficient and better service is a challenge.

Integration of both data and business processes with market constitutes business partners that have desired expertise and capabilities. They have enhanced service delivery from static nature of display to dynamic nature which is more interactive. It provides users with capabilities of purchasing online and although query system.

Most system although they are interactive in nature they provide users with what expertise's feel like. With Artificial intelligence available presently it's important for computers to be able to do what human does presently and do it best. User should not be made to understand that they are interacting with a system but they should feel like they are interacting with sales person directly.

Doubts should never be allowed to accumulate in their mind, before leaving they should be convinced that what they needed as been solved. Hence need of this enhancement to enable answer doubts users may have concerning service delivery on the web.

## 2.0 Existing system

A Web service is a software system designed to support interoperable machine-to-machine interaction over a network. It has an interface described in a machine-process able format (specifically WSDL). Other systems interact with the Web service in a manner prescribed by its description using SOAP messages, typically conveyed using HTTP with an XML serialization in conjunction with other Web-related standards. They include.

## 2.1 Agents and Services

A Web service is an abstract notion that must be implemented by a concrete agent. The agent is the concrete piece of software or hardware that sends and receives messages, while the service is the resource characterized by the abstract set of functionality that is provided.

## 2.2 Requesters and Providers

The purpose of a Web service is to provide some functionality on behalf of its owner a person or organization, such as a business or an individual. The provider entity is the person or organization that provides an appropriate agent to implement a particular service.

## 2.3 Service Description

The WSD is a machine-process able specification of the Web service's interface, written in WSDL. It defines the message formats, data types, transport protocols, and transport serialization formats that should be used between the requester agent and the provider agent. It also specifies one or more network locations at which a provider agent can be invoked, and may provide some information about the message exchange pattern that is expected. In essence, the service description represents an agreement governing the mechanics of interacting with that service.

## 2.4 Semantics

The semantics of a Web service is the shared expectation about the behavior of the service, in particular in response to messages that are sent to it. In effect, this is the "contract" between the requester entity and the provider entity regarding the purpose and consequences of the interaction

## 3.0 PROPOSED SYSTEM

This paper addresses how to improve web service model to do what human is doing better at the moment. Specifically we propose use of artificial intelligence techniques to achieve experts in delivery of services in the web. Results from extensive tests conducted on publicly available sites which show that service afforded to users sometimes leave them with answered doubts on their mind.

With the navigation system proposed it is very easy to clear all questions a user can have in mind about a service that is offered to them. Data mining techniques will enable retrieve information from system database continually when need arise. Summarization clustering classification is some of the techniques that will be essential for the success of this system.

Reasoning in this system will be either forward backward and sometimes it will involve both of them. Reasoning with user is the basic principle of the proposed system. When services will be delivered to users they need to reason with system has if its sales person there with them. This will definitely clear all doubts users have.

Combining different technology principles will ensure achieving set goals of having system do what human beings do better at the moment.

## 4.0 ARCHTECTURAL DESIGN

The Web services architecture is interoperability architecture: it identifies those global elements of the global Web services network that are required in order to ensure interoperability between Web services.

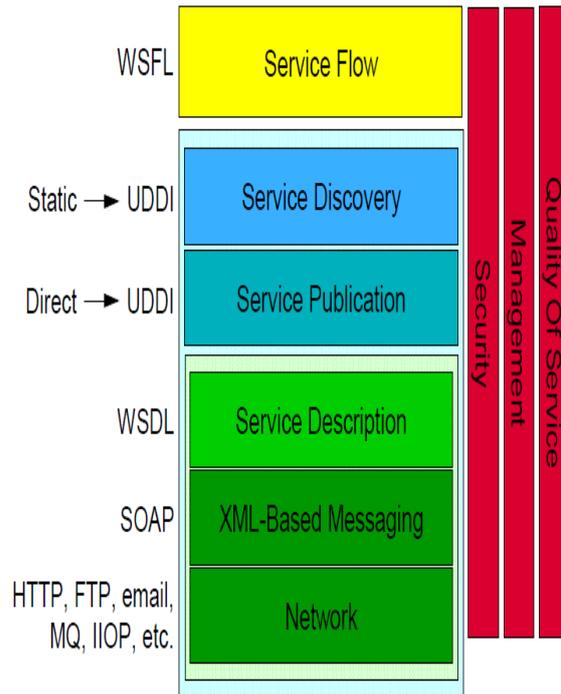
Architectural consist of web services, consuming application and the network. They work together to form and inter opera ability. The proposed system enhances available architecture and makes its function to be more detailed and quite convincing

Flow of information is in either sides this is quite dependant on the method of reasoning that is applied at a particular time. Backward reasoning means a system data will flow to the left side, forward reasoning data will flow to the right side and combined will move on both sides. With system in place left or right side will signify goal state and initial states. Extraction depends on the request of the user if its purchasing online it means it will be forward but to get reason to why it must be backward and combined if the process is continuous.

Data mining techniques are used to capture as a lot of knowledge and maximize user access to knowledge they include summarization clustering regression classification modulation and division. They ensure amount of information available is enough to sustain user's requests.

Extensive markup language (XML) that defines a set of rules for encoding documents in a format that is both human readable is used as bases of web development. Xml schema ensures that interoperability is achieved. Exchange of information between the user and system will be based on schemas.

DIAGRAM 1



## 5.0 IMPLEMENTATION CONCEPTS

### 5.1 Knowledge base.

This is a computer system that reasons and tries to use knowledge base to solve complex system problems. Includes knowledge representation explicitly by use of tools such as ontology's and rules than implicitly via codes the way conventional computer does

Knowledge base will include inference engine and knowledge base.

Knowledge base will represent facts that are in the world i.e. prices qualities reasons .which will be represented in some assumption anthologies. The inference engine will represent logical assertions and conditions about the world i.e. IF-THEN RULES.

### 5.2 Use of logic

Reasoning with users will mean application of logic in order to generate knowledge. It uses procedural and declarative techniques in order to model different reasoning strategies. It will depend on attachments in order to give solution to users who want reasons to why. Logic will involve deductive reasoning to draw inferences from available knowledge. Inference engine may support forward reasoning or backward reasoning .if this will occur recursively it will be referred as chaining.

### 5.3.0 Reasoning mechanism

Reason mechanism will include a search to solve the problem that has been brought forward by user. Purpose of a search is to discovery path from problem space to an initial goal state.

Search plays an important role to solve many artificial intelligence problems. In many problems the sequence of steps required to solve is not know in advance but must be determined by systematic trial and error exploration.

This paper will categorically deal with search algorithms that are constraint satisfaction in nature. Reasoning will have a goal that user wants to be satisfied. Through interaction and mining data from the knowledge base solution can always be arrived at.

Data mining techniques ensures that information can be retrieved from the system fast enough to respond to users request. Enhanced techniques of association can help us identify question user want to be responded more often and acquires answers to questions in advance. Classification can help classify problems with similarity for easy handling user requests.

Navigation is enhanced by use of data mining techniques; system will have steps of process execution that will be controlled. User navigation will always depend on what knowledge they want to acquire from the system. Interaction gives users a chance to have direct authority over system and to feel they have control over the process

**DIAGRAM 2**

1	4	7
2	5	8
3	6	9

### 5.3.1 Rules

- Square 1 empty and square 2 contain file n
- Square 2 empty and square 1 contain file n
- Square 1 empty and square 4 contain file n
- Square 4 empty and square 1 contain file n

→

### 5.3.2 Reasoning forward from initial state

Start from initial configuration at a root of a tree. Generate the next level tree by finding rules on the left side and use the right side to create the next level. Take the nodes generated and apply rules on the left side to match it. Until a configuration like goal state is found.

### 5.3.3 Reasoning backward from initial state

Build a tree move sequence from goal state. Generate next level by finding rules on the right side match the root node. Use the left side node for this second level tree. Generate next level by finding rules on the right side match the root node. Continue until node that match initial state is found.

## 6.0 CONCLUSION

In this paper we discuss about reasoning with web services and various ways to mine data from the knowledge base. Knowledge base will store information and various techniques are provided to retrieve it depending on reasoning needed. It is essential to reason with system to display intelligence in machines. web services need intelligent system to interact with users in their daily operations. They capture knowledge and expertise used once and can use it later to solve similar case. Knowledge of multiple expertises can be integrated at least theoretically to make systems experts more comprehensive than that of an individual.

This system will not be subjected to human fatigue and illness can be less prone to error inconsistencies and mistakes. Neural networks can be used to discover new solutions through pattern discovery. This approach also proves highly effective in a number of fields including finance information technology management and health care.

Users can be left with no doubts or worries because all the queries will be attended online. Much research has been done on interoperability of distributed system service delivery and semantics. Hence this paper is important for future references and developments, to achieve high level reasoning capacity. Efficiency and functionality will in turn be increased in web service and E-services.

## REFERENCES

- [1] Sandeep chatterjee James Webber. Developing Enterprise web services: An architect's Guide prentice Hall Nov 2003.
- [2] George F luger "Artificial intelligence " 4th edition Person Education publication, 2002
- [3] Elaine Rich and Kelvin knight, "Artificial intelligence "Tata McGraw Hill Publishers Company Pvt Ltd, Second Edition 1991.
- [4] web service conceptual architecture WSCA IBM GROUP by Heather Kreger
- [5] web services Definition language (WSDL) [www.ws.org/TR/wSDL](http://www.ws.org/TR/wSDL)
- [6] Data mining and Data science [www.kdnuggets.com/websites/index.html](http://www.kdnuggets.com/websites/index.html)