**ABSTRACT**

The Semantic Web is a major research initiative of the World Wide Web Consortium (W3C) to create a metadata-rich Web of resources that can describe themselves not only by how they should be displayed (HTML) or syntactically (XML), but also by the meaning of the metadata. The main intent of semantic web is to give machines better access to information resources so that they can be information intermediaries in support of humans. The idea is to build a network of content stored on the web and making it possible for machines to understand data and to satisfy requests from people and other machines. In order to carry out their tasks intelligent agents must communicate and understand meaning. The agent based method for semantic analysis enables computers to understand documents written in natural language. To realize the vision of semantic analysis we create markup of web services that makes them machine understandable and use-apparent. Also agent technology is developed that exploits this semantic markup to support automated web service composition and interoperability. Currently, a human must perform all the tasks in the web. With semantic markup of services, we can specify the information necessary for web service discovery as computer interpretable semantic markup at websites, and search engine can automatically locate appropriate services. The major semantic web services are automatic web service discovery, automatic web service execution, and automatic web service composition and interoperability.

**Keywords:** semantic web, resources, semantic web services, metadata, service discovery

**TABLE OF CONTENT**

**CHAPTER ONE**

1.1 Introduction 1

1.2 Objectives of the Study 2

1.3 Significance of the Study 3

1.4 Limitation of the Study 3

**CHAPTER TWO**

2.1 Semantic Web Architecture 5

2.2 URI and UNICODE 5

2.3 XML and Namespaces 5

2.4 RDF Model and Syntax 6

2.5 RDF Schema 9

2.6 Ontology 10

2.7 Rules 11

2.8 Logic 11

2.9 Proof 11

2.10 Trust 12

**CHAPTER THREE**

3.1 Agents 14

3.2 Agents and Semantic Web 15

3.3 Agent-Based Method for semantic analysis 16

3.4 Framework 19

**CHAPTER FOUR**

4.1 Conclusion 21

References 22