Journal of Basic and Applied Engineering Research
p-ISSN: 2350-0077; e-ISSN: 2350-0255; Volume 5, Issue 3; January-March, 2018, pp. 227-230

http://www.krishisanskriti.org/Publication.html

Review on Web Services life Cycle Improvement by Composite Web Services

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Abstract—*The development of the Internet and Web has just significantly affected instruction, business, keeping money, amusement, government, shopping, correspondence and working life and so on. The Web Developers may confront major issues in fruitful advancement, sending and upkeep of Web Services. Further, nowadays the customer's prerequisites are expanding step by step. In this way, to give the precise and composite outcomes the designer the composite Web Services came into presence. Yet, the composite Web Services the new issues emerges and in its outcome the Web Life Cycle Activities are influenced. In this exploration paper an enhanced Web life cycle structure is proposed to diminish the fundamental issues of Web data recovery.*

1. INTRODUCTION

The web services establish in service-oriented computing which enhances the adaptability and dynamic interoperation of distributed and heterogeneous web services. The main advantages of web services are reusability and interoperability. This new idea prompts advancements of the new paradigm that empowers a collaboration or interoperation between various applications. For instance, amid web-based shopping customer get to a Web service and for online installments, an alternate Web application is required which joins the online service supplier's Web service with the installment supplier's (e.g. Bank) Web service. Thusly the life cycle of the Web service is affected and the client is unaware of the background process. In between this process client sometimes faces some issues like performance, time, and reliability in the various web application. In higher level integration process is used to manage the stack-based protocol and network protocol semantics. Subsequently, it empowers free combination of business capacities. The combination and use of Web Services should be possible in an incremental way utilizing existing dialects, stages and by receiving existing inheritance applications [1].

Web service life cycle is a main part of the web service and service computing. Web service management sis based on the consistency and security of the Web Service life cycle model.

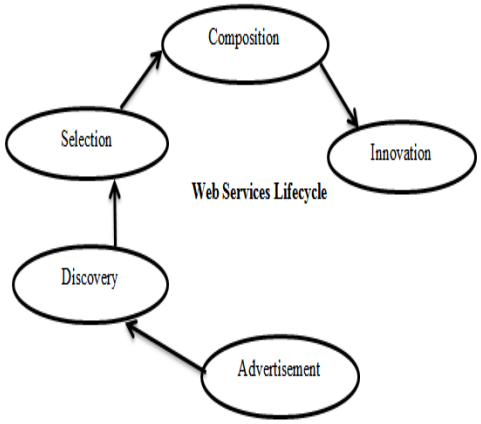

Figure 1.1 Web Service Lifecycle

2. IMPROVED WEB LIFECYCLE MODEL

In the time of latest technology like wireless devices peoples are more connected with each other by using the web and other social platforms which are totally worked on the concept of web services and internet. A single web service is not able to complete all task and not provides the desired result. A combination of web services makes a web application and provides an effective platform to use different resources on the web. Connection or interoperation of more than one web services is called as web composition [3, 4].

Various web lifecycle models are proposed by the researchers according to their requirement and to improve the performance or the other parameters of the web compositions. Ranchal, Rohit, et al. [5] presents a framework for security policies in composite web services. It provides the solution for the cross-domain distributed services in which privacy and security are main concerns. It does not provide the authority to the client to control the sharing their data and rely on service providers. Service provider gives the limited selection of security and privacy preferences.

Alsarhan, Ayoub, et al [6] Adaptive resource allocation and provisioning in multiservice cloud environment approach is proposed in this work. Service level agreement framework is proposed for price control parameter which is used to meet the quality of service demands for all classes in the market. Reinforcement learning method is used in virtual machine hiring policy which adapts the changes in System. Changes are like service cost, demand for service and system capacity. The result of this approach shows that it avoids the SLA violation and enhanced the cloud provider profit in various conditions.

Amato, Flora et al. [7] analyzed the composite services of the cloud by using workflow patterns. This approach is used to select, manage and deploy the resources for achieving the better quality of services on the cloud. Due to high complexity in the cloud, this method is applied on the IaaS layer and gives the result at SaaS layer of cloud. This method uses model transformation techniques and builds the formal models to analyze the properties. Chen, Fuzan, et al. [8] proposed a quality-aware web service composition method by using multi-objective optimization. This approach is used to help the user to make a flexible decision. This approach optimized the QoS performance as well as risk. An efficient ε-dominance multi-objective evolutionary algorithm (EDMOEA) is used to solve the proposed problem of the model.

Chernyshov, Artyom, et al. [9] introduced automatic integration system and search engine for web services. It works on the basis of web service modeling ontology and gives a semantic description. This system recommends the data and message transition and makes the connection between the web services. It also creates a subsystem of secured message exchange. This model generates a reliable and secure connection between the web services. Das, M. Swami et al. [10] proposed an approach which improves the performance of web services and cloud applications. The applications used by the users are a platform as a service, software as a service and infrastructure as a service. To develop the large-scale applications on cloud user used Infrastructure as a service (IaaS). The proposed model is used to provide the scalable and inter-operability grid of applications. The working of the whole model is based on the Map-reduce algorithm to improve the performance of the web services.

Indu, I., et al. [11] introduced integrated identity and attribute based access management system for cloud web services. Attributed based access control mechanism is used with the secret key and a lightweight security device. If the user wants to access the services it holds both the items with him. This system does not give permission to access the resources to the users who have same attributes. The result of the system provides the better prediction of an authorized user. Wang, Dandan, et al. [12] genetic algorithm is used for web services composition in the geo-distributed cloud environment. This method is used to solve the composition problem. The initial population of the genetic algorithm is generated by using Skyline. This method minimizes the service level agreements violation.

It can be observed from the literature survey various approaches and frameworks are developed for the web services. With a large amount of user information and a huge number of users and web applications still, there are some challenges which need to be an improvement. Some of them are following:

I. Web services optimization
II. Composite Correctness of web services
III. Web automatic composition
IV. Scalability
V. Time limit
VI. Transaction Failures
VII. Security

3. CLASSIFICATION OF DYNAMIC WEB SERVICES COMPOSITIONS

Classification	Capabilities	Limitations	Summary
Reconfiguration at runtime using wrappers	• It does not change the code. • It supports the distribution execution • Adapting behavior at runtime	• Non Optimal Code. • Type conflict may occur sometime.	Wrapper approach is used to make the component capable to effectively interact with new component.
Runtime Service adaptation	• Produce new service. • It includes only required functionalities. • Dynamic and safe delegation is possible.	• In this Service code is tempered • It requires knowledge of the internal of services • No distributed execution is possible in it. Recovery and monitoring is very complex. • Naming mismatch	It changes the behavior and interface of the component to adapt new changes

Language driven Composition	• It is designed to assemble components. • Standardized interfaces are used in it. • It defines higher level abstraction to better describe composition.	• Highly complicated • Recursive composition is not available.	Language specifies the component adaptation and configure coordination and policies.
Work flow Driven composition	• It is easy to control by user. • It supports the monitoring and recovery and includes the recovery plans in the workflows. • Supports the distributed execution of the composite services	• It cannot advertise the composite service. • Recursive composition is more difficult in it. • Composite services execution is failed due to unavailability of service.	It generates an executable process by building services to an abstract process.
Ontology driven Composition	• It supports semantic queries and integrates with other techniques. • Supports distributed composition and execution.	• Monitoring is very complex. • It assumes semantic prone. • It is domain specific. • It assumes semantic services.	Ontological descriptions and relationships of web services are used to compose web services.
Declarative Composition	• It is mathematically proved. • Supports distributed composition and execution. • It can reach optimally.	• It uses direct matching approach. • Based on constraints. • Working is based on complex rules. • It requires complex solvers for solutions.	When two services are composable then composability rules are used for checking them.

4. LIFE CYCLE OF WEB SERVICE COMPOSITION.

The life cycle of web service composition is consists of four phases that are explained below:

1. Definition Phase: in this phase service requester defines the requirements and preferences for the composite service. Then the requirements are decomposed into an abstract model with the set of data flow activities.
2. Service Selection Phase: In this phase, service is selected from the service registry. In this selection is based on the requirements of the composite service.
3. Deployment Phase: In this phase, service is deployed to the end users according to their need. This phase is also called as executable composite service phase.
4. Execution Phase: In this phase, the composite service instance will be created and executed by the execution engine, which is also responsible for invoking the individual service components. In this phase monitoring, logging and performance measuring tasks are also performed.

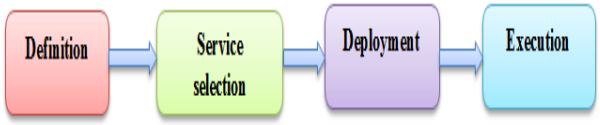

Figure 1.2 Life Cycle of Web Service Composition

5. CONCLUSION

The work displayed in this paper is a push to enhance the quality and security of Web administrations. In idea of Portable Expanded Cache Memory [2] enhances the execution of Web which likewise changes impact the life cycle of the Web cycle exercises. The center thought was inspired from different web based shopping Web Applications that are in turned into the foundation of the deals advertise. In any case, security, quality and their execution are the fundamental issues. In this work, it is attempted to enhance the execution, quality and security of the Web. For security of Web Services a security checker is proposed before WSMA objective. What's more, the interpreter will decipher the contribution from the customer with semantic procedures to give the exact and quick access to the customer

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