

Dynamic Web Service Selection for People in Real World

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Abstract: Nowadays the Web Services has become the major part of every human being, So Selecting a Dynamic web service among a list of different equivalent web services still remains a challenging issue. The Internet services, is the most needed of people if there is overall poor service from the internet is provided means the usage of the web services and also the user will be lost completely. A Quality of Service is analysed based on Genetic algorithm and Ant Colony optimization, which further suggests an Dynamic path for the execution of user requests. Based on Response time, Cost and Availability the best web service is provided and also able to provide quantitative and qualitative results. Web services are most important even in government sectors because it's the easy way to access anywhere anytime. So to provide the dynamic web service from the different services to satisfy the users need and to improve the customers. In this paper, we propose a dynamic web services composition algorithm based on the combination of the Ant colony and the Genetic Algorithm.

Key words: Webservices • Genetic algorithm • Ant colony algorithm

INTRODUCTION

Web Services plays important role in every people. In early 2001-2002 the web services was introduced and were used as Intranet service, which will be used by one person. Second, the b2b service is used between companies to sell their product. Third, it is used as a b2c which is referred as direct deal with the customer from the provider without any intermediate. Finally the W3C is used as a global usage of the web services, So people can use any services from any part as internet. Through this internet many web services have been providing services to people. Genetic Algorithms (GAs) was invented first by John Holland for describing the optimization problem of choosing the best heuristic solution using the natural selection method. Genetic algorithm is observed using genes based on its characteristic chromosomes behavior. The selection will be done from the population and individual will be selected for mimic process to be achieved. The characteristic of the individual will be based on genes and their chromosomes, according to their results best will be mutated initialization, selection, mutation and crossover are the way to perform genetic algorithm.

- Initial state: Here the population will be hundreds or thousands based on their nature of problem, so typically the solution to the problem will be also more than hundred.
- Selection state: The main part of selection is to check for the best result from the different solutions for that comparison of the genes with chromosomes were handled to check the best by selection method
- Mutation state: It is also known as a change to the result we made to make new parents to the child also called virus in programming, then there will be more solution will be availed to the changed environment.
- Crossover state: This is the final method to analyse the mutated value among all the population to reach the best natural solution to the problem.

Ant Colony Optimization is defined for both natural and artificial aspects. when we take ants as natural path to optimize the best path.

First, any one ant from the colony will leave to search for its food while another ant will follow its way by some chemical foot spars in the way of first ant, the calculation between the gap between the first ant leave from place A (colony) to place B (food) is the result.

The result will be observed from the different way used by ants, well the shortest path will be the resulted needed path of the ants.

In this way while the web services were provided for the single need but the different way were used by the providers, then the customer will choose the best web services for the purpose all will be based on their response time, cost and the most is availability of the services.

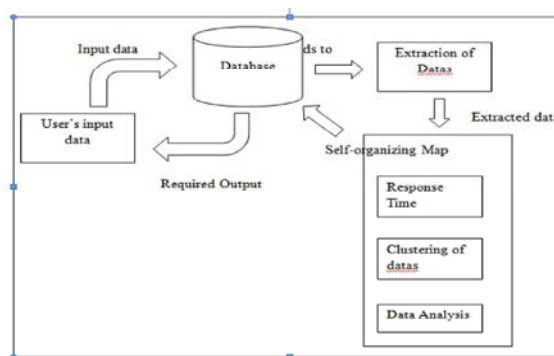
Existing System: Amount of data is overwhelming, Great cost at implementation stage, Possible in accuracy of data. Web services are owned and hosted by other organizations. So users have no way to analyze them directly. The user cannot easily access any web services. The QOS still remains a basic issue from the web users, The user frustrated due to poor response time and the Reliability also not there for their outcomes. So the people have no idea of choosing the best optimal web services to fulfill one's requirements. Because of poor performance there will be high latency will occur and customer loss, Finally the user will make some other web service.

Related Works: Nowadays Qos and Response time of web services are important and challenging research area. Many Researchers have analyzed these attributes and proposed different methods. In this part some review of the existing frameworks proposed by researchers. Web Service Reputation which in turn impacts the service uptake by consumers in the future. In this paper service-oriented value is predicted. The web service reputation is obtained based on feedback In situations where rating feedback is not available, The way to predict the reputation of the web services is FFM based on EDT. Then we introduce the semantic concept Reputation Aspect and show how to compute it efficiently.

Proposed System: In the proposed system a probabilistic model for predicting response time of web service and then selected an optimal web service at runtime from the list of functionally equivalent web services. To know the probabilistic insight of WSs, it have used GA. In our model have assumed that WS is deployed on a cluster of web servers and sometime the delay or crash during the selection of the web service is due to the inbound process is occurring in the backend. The GA and ACO are both combined and used for the web users, here the composite web service is selected using the algorithm from the cluster of services also the graph output is obtained from

the model for the better results and finally GUI is used for the graphical representation of the web services.

Architecture of the System: Software architecture [1, 2], is the way all the softwares are structured. These structure were describing the relations among the different services.

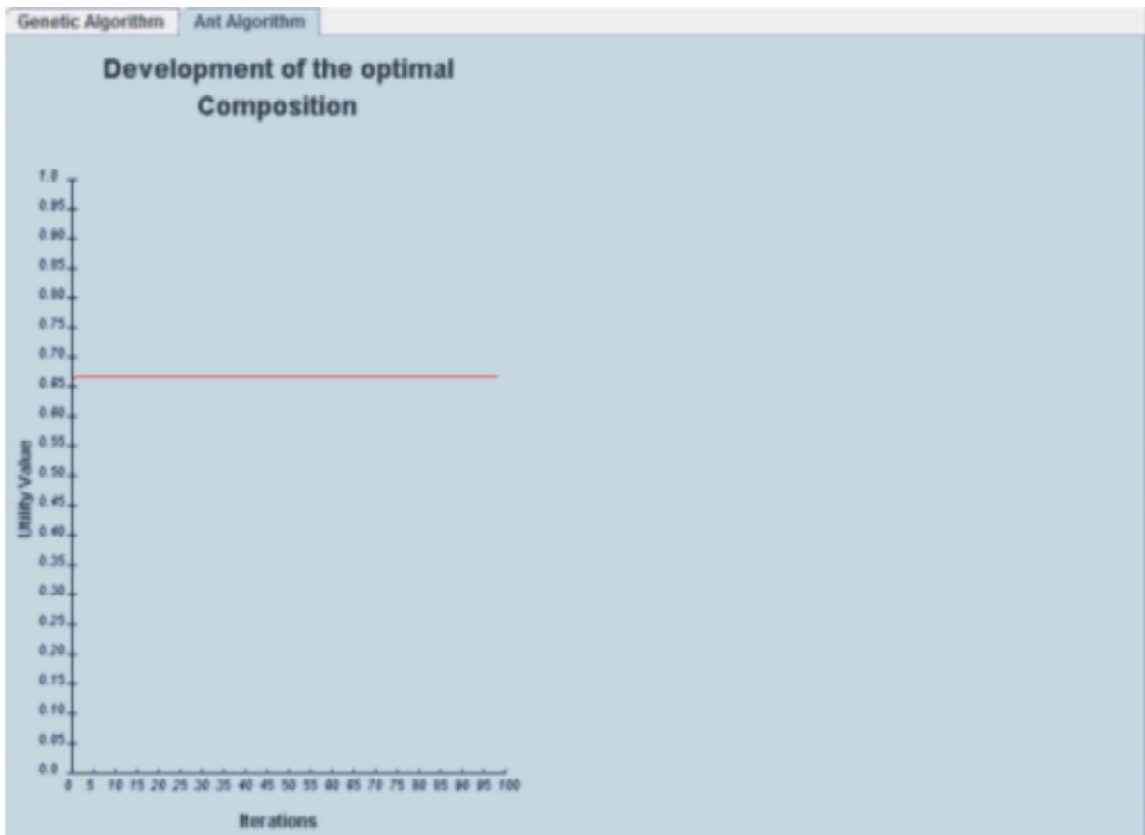
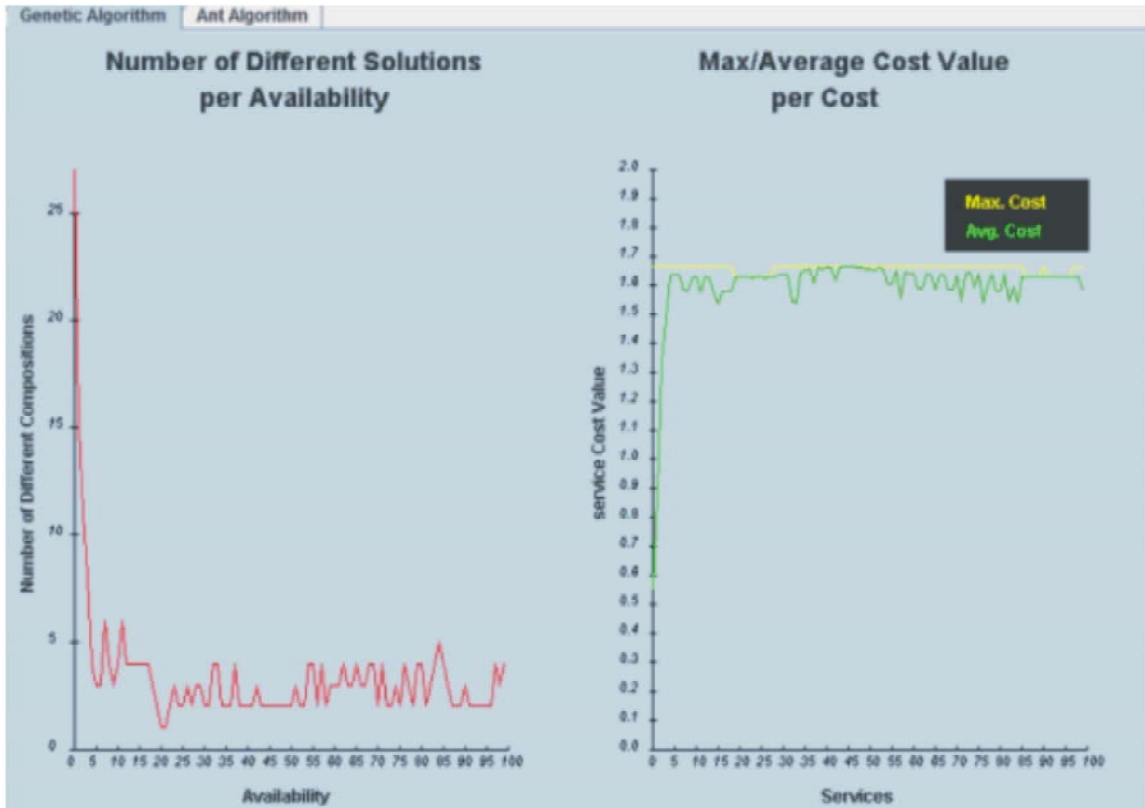


Input Data Conversion: The web services are the datas as we used in this module all the web services will be converted into a cluster form to the input data conversion method then the GA will make the crossover method to obtain the web service. This process will make the utility calculation to avail the most available web service with low cost, In this way all the web services will be evaluated based on their response time. The linked data which provide the access to the web services to be developed.

$$\text{Utility value}(\text{composition}) = (\text{costs}_{\text{norm}} * 0.34) + (\text{response time}_{\text{norm}} * 0.33) + (\text{Availability}_{\text{norm}} * 0.33)$$

Conclusion for Classifi-Cation Based QOS: The term Quality [3] of Services will be based on some extents they were Response time, Cost and Availability. Response time will be calculated based on the web service which will provide their service before the other services were occur the maximum accurate response time is measured as 5000 MS, so the web service which respond according to the measured time is the best service provider. The cost will be estimated based on the web service which provide their support to the customers with reasonable cost only be considered as best web service. For example I have fixed some amount based on the reasonable cost above 100 to 1000 as the rate to the users.

Then the availability will be based on the ranking of the services, If the services were got the high ranking among the services means is the best service. Ranking will be based on the response time and the service provide by the web service.



Gui Designing: The term GUI is used for the people to interact directly to the device which they have designed. In this way here the GUI is used for the customers to interact directly to the web services for their convenient to get the best web services from the cluster of the web services. The graphical user interface is used for the plenty of the services to be obtained at the single location for the users, finally the web service will chose by the users because nowadays everything mean to the people is web services through the internet.

Experimental Setup and Results: Optimal Web service selection based on, QOS, parameters, (RESPONSE TIME, AVAILABILITY, COST, RELIABILITY) the best web services were listed out for users their response time by calculating in MS, then the resulting web services will be provided using graph diagram for additional information about the web services. In this way the result will be analyzed according to cost also for the users' convenience, finally the best services were given to the web users.

CONCLUSIONS

A real time estimation were designed and implemented on web services. An extended Genetic Algorithm is used to avail the utility value of the given services that will developed using eclipse IDE to generate the web service to the client. Here Ant Colony Optimization is used to identify the correct path or web service using graph, overall using the GA the best web service is estimated and provided for the client effectively and successfully.

Future Works: The Dynamic Web Service for people were not fulfilled completely so the future work is to make the Web Services more efficient still and reliable and also along with some more features like according to their location all the web services should be listed out. This is my future work.

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