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Novel strategy for driving homogeneity principles in So A using Association Rule Mining Technique.

Appas Ali M^{1*}, and Sugumar R².

¹Department of Computer Applications, Anjalai Ammal Mahalingam Engineering College, Thiruvarur(Dt.), Anna University, India.

²Department of Computer Science, Christhu Raj College, Trichy(Dt.), Bharathidasan University, India.

ABSTRACT

Service oriented Architecture (SOA) is an emerging research area where the 'n' number of relevant applications are integrated together to provide an enough information for the customers and users. As such SoA has got a heterogeneous application and behind the screen, there is a homogeneous relevancy available among the above set. Identifying the homogeneity is a great task and ideology. Frequent item set technique and methodology now plays a vital role here to pick up the relevancy between the heterogeneous applications. This frequent item set provides a good integration for the SoA interfaces to run a long while with a great mileage and milestone with a high fuel to the above said vehicle.

Keywords: Service Oriented Architecture, Frequent Item Set and Heterogeneous Applications.

**Corresponding author*

INTRODUCTION

Service oriented Architecture (SOA) is required to integrate different applications in a single interface to accomplish heterogeneous tasks for the human needs. In the eventual world requirements are growing exponentially in different segmentations. Distributed applications and parallel architecture are the growing phenomena rather high performance computing system can be accomplished through this SOA. Service oriented architecture has been needed web services components for services. In the distributed applications SOA has been played an essential role. QoS has been provided greater service to the applications. Faulty QoS or violations in QoS will being degraded the applications. The whole reconfiguration is not being needed rather faulty potion reconfiguration is being enough and reduced the cost [2]. Developing SOA application is being the real challenge in this eventual market. Projects managers, team leaders, programmers and domain experts should not take it in a simple manner. Relevant applications are being identified and parallel developing scenario will be reduced the developing time. Distributed applications and parallel applications are being the main theme in this SOA development. Some principle methodologies were being considered while developing SOA [3]. Data from different segments should be first integrated with all preprocessing and clean sing and then to integrate is a vital principle and very hard to do. Web services in SOA's are very helpful to do such a type of a hard task in a simple manner. The traffic and the conjunction in the highway are being in bountiful. 'N' numbers of sensors are being incorporated in different segment of roadsides to perceive information from the environment. Heterogeneous information from 'N' number of sensors is being difficult to process and coming to an inference. To resolve this problem SOA architecture has been provided good services for heterogeneous info processing [9]. In this research paper how the resilient SOA's to be constructed for the varied applications and functionalities needed. In the manufacturing division product oriented support is being the main dogma. In service oriented architecture web service is the main creed. The new architectural model in SOA is being emerged all the way to develop and integrate manufacturing segment with web service segment. SOA clearly resolved the problem and produce the essential result for the manufacturing and assembling divisions [5]. Before the construction of SOA, analyzing the homogeneous applications and their integrations has to be made. Association mining rule and Apriori algorithms needed here for the integration of relevant applications in the SOA interfaces. Highly frequent applications should be identified for the relevant integration so that to find a vital inference through SOA interfaces using the above said methodologies.

RELATED WORKS

The Mexican secondary education students are learning their day to day lessons in the door steps using soft mobiles. Once the lesson is being too tough to the students, the topic images will be narrated in a easy manner to understand. Such types of complemented images were being generated through service oriented architecture functionalities [6]. Every organization has been got its significance way of promoting their commodities in the market. Competitions between the same segments of organizations have been needed better solutions to pronounce their products in the market arena. SOA, web service and information architecture are being the backbones in developing web service SOA's. Modeling newly derived SOA will being provided a squared service and resolves uncertainties [7]. SOA is being a loosely coupled and vibrant architecture. Day by day services are being exponentially required for the human requirements. Security safety and accessibility are being the dependent non functional activity for SOA and fault tolerance also be tested initially with some required parameters. Heterogeneous communications and reconfiguring system has been made according to the future need [8].

Applied Methodologies

Table 1: Training data set for SOA

Transactions	Items
T1	I1, I2, I3, I4
T2	I5, I2, I1, I6, I7, I8, I9, I10, I11
T3	I12, I13, I14, I15, I16, I17, I18, I19
T4	I20, I21, I18, I22, I23, I17, I24
T5	I25, I26, I27, I28, I29, I30, I31

T6	I32, I33, I34, I35, I36, I37, I38, I39
T7	I40, I41, I42, I43, I44, I45, I46, I47, I48
T8	I49, I50, I51, I52, I53, I39
T9	I54, I55, I56, I57, I58, I33
T10	I8, I59, I60, I61, I62, I63, I19

Legend 1: T1-Fabrics, T2-Glass, T3-Tourist spot, T4-Pilgrim centers, T5-Stock market, T6-Business, T7-Storage, T8-Hardware, T9-Software, T10-Hospital information system.

Legend 2: I1-Glass cloth, I2-Fiber glass, I3-Fiber reinforced plastic, I4-Hemp, I5-Fibermax composites, I6-Photography, I7-Glass bottom boat, I8-Google glass, I9-Binoculars, I10-Elevator, I11-Glass box testing, I12-Boarding, I13-Lodging, I14-Museums, I15-Ethnic enclave, I16-Island, I17-Beaches, I18-Wildlife, I19-Medical tourism, I20-Botanical gardens, I21-Historical places, I22-Theme parks, I23-Art galleries, I24-Pilgrim psychiatric centre, I25-Stock exchange, I26-Finance, I27-Dyeing, I28-Mobile app, I29-Android operating system, I30-Drpbox, I31-Epic systems corporation, I32-Softclinic, I33-E-Hospital systems, I34-Insta health solutions, I35-Care soft hospital, I36-Information system, I37-Information system and Computer applications, I38-System software, I39-Data storage, I40-Health informatics, I41-Human bioinformatics, I42-Electronic health record, I43-Computing, I44-Data model, I45-Web application, I46-Fibre channel, I47-Glass electrode, I48-Inventory, I49-Web portal, I50-Simulation, I51-Cloud computing, I52-Storage area network, I53-Electronic textiles, I54-Data bases, I55-Electronic and medical health record, I56-Big data solutions, I57-Accounting software, I58-Black box testing, I59-3D printed biological materials, I60-Optogenetics, I61-Hybrid operating rooms, I62-ECG sensor, I63-E-Textile system/remote.

Parameter specification:

Confidence min val smax arem aval original Support support minlen maxlen target
 0.1 0.1 1 none FALSE TRUE 0.1 1 10 rules ext FALSE

Algorithmic control:

Filter tree heap memopt load sort verbose,
 0.1 TRUE TRUE FALSE TRUE 2 TRUE
 Absolute minimum support count: 1
 Warning in apriori(data2, parameter = list(sup = 0.1, conf = 0.1)) :

Frequent item set generated

- {I34, I38, I39, I32}, {I38, I39, I32, I34}, {I34, I32, I38, I39}, {I33, I38, I39, I32}
- {I38, I39, I32, I33}, {I33, I32, I38, I39}, {I35, I36, I37, I34}, {I34, I37, I35, I36}
- {I34, I35, I36, I37}, {I35, I36, I37, I33}, {I33, I37, I35, I36}, {I33, I35, I36, I37}
- {I35, I36, I37, I32}, {I37, I32, I35, I36}, {I35, I36, I32, I37}, {I61, I62, I8, I60}
- {I60, I61, I62, I8}, {I60, I8, I63}, {I63, I8, I60}, {I60, I63, I8}
- {I61, I62, I8, I63}, {I63, I8, I61, I62}, {I61, I62, I63, I8}, {I61, I62, I63, I8, I59}
- {I59, I61, I62, I63, I8}, {I60, I61, I62, I8, I63}, {I60, I63, I8, I61, I62}, {I61, I62, I63, I8, I60}
- {I60, I61, I62, I63, I8}, {I19, I59, I60, I61, I62}, {I19, I59, I61, I62, I60}, {I19, I60, I61, I62, I59}
- {I59, I60, I61, I62, I19}

Here T1 to T10 represents different segments of applications. I1 to I63 represents relevant applications to the 10 segment areas are referred in detail (Legend 1 and Legend 2). Thirty three frequent item sets are generated for the given data set. The inference behind the frequent item set is the right applications to integrate in a single interface for SoA. So the association rule is the first time introduced in the SoA segment in the novel research work. The optimal integration between the applications can be found through Apriori algorithm. Trust based SOA is the essential factor for all online web applications. Still, trust is not being well established in the day today web applications rather it is not being matured [1]. Intellectual, vibrant and agile technologies are appreciated by the people in the area of service oriented architecture. Service oriented

enterprise has got a management issues in analyzing the data for procuring good information and knowledge. Deep research and knowledge based society is literally needed in the years to come [11]. In developing SOA decision aspect were being played a vital role. According to the decision and requirements in the day to day practice are being taken into account a modeling the SOA is the real essential segment. Model Decisional of Service is being incorporated in this research article [4]. SoA web portals is becoming so tough in the coming years, because of the persons has got more expectations and services. For achieving such a type of big goal are a great and the hectic task. Social media, community media, experts, persons having strenuous knowledge in this arena should share their views and ideas in the day to day practices [10] [14]. Service oriented architecture model and enterprising service oriented model plays a role in the eventual computer world. High intensity analysis should be made to find which architecture is politely needed for the organizations and in the business environments [12]. In SoA and the standard software packages are having relevance in providing services to the customers to the great extends. Identifying the primary goal of a organization and their required services are taken into account for constructing paradigm like SoA or Software packages. High level pattern are considered in giving services customers and likely to attract the market [15].

RESULTS AND DISCUSSIONS

Frequent item sets, basket analysis and Apriori comes under the phenomena of association rule mining. In SoA concept how to integrate different application, how the relation with each other in the eventual world is is the billion dollar question. In the paper, the paradigm clearly shows how different segments of application have got a relation and how to make to integrate in the same interface so called SoA. Ten different segments and their related application are treasured are connected with a relation in the same interface. In total 64 applications are being identified in the above 10 segments. Using R-tool the huge segmentation rather training dataset are compared and the results are being exhibited in the applied methodology. In SoA interface IT operations and the management operations are always very crucial. Managing such a type of a interface is literally needed in the months to come and also in the years to come. Managing SoA in terms with management purpose is the crucial task. In all the IT operations SoA services are required at the same point of time and how to integrate legacy versions with non verb service applications. Greater emphasis has given over the SoA to give the high level of services to the management [13].

CONCLUSION

In SoA the major task is to integrate the heterogeneous application under the same interface. The same task can be achieved through the association mining rule is the great fragrance in this research work. Related applications and their intricacies are being noted with a great extends for relating applications under the same roof of SoA.

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