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A Survey on Customer-Vendor Interaction in Services Marketplace

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ABSTRACT: A services marketplace(SM) is one where discovery of services/skills forms the basis of its offering to client/customers. It has made the existing marketplace more liquid, better managed and more transparent. Often time based, services performed bring about desired results for recipients, objects or other assets for which purchases have responsibility. This paper aims to implement a sale of commoditized services in a service marketplace. Services that have economic value and are distinguishable in terms of uniqueness or brand become simple commodities in the market or for a customer. Users can use their smartphones with the help of an android application, and with just a few clicks they can connect with service providers who are willing to provide them with the service required. The ease of use is a major consideration. Service marketplaces are becoming the usual way to find help. In a services marketplace where a service is provided by multiple service providers, service offerings have to be differentiated against competitor services. The framework models and performs requests for providing services, also complex business interactions among merchants/ vendors in the supply chain.

The unique feature of bidding is implemented, which helps the vendor of the service to bid for the event with his/her price, which could be equal to or lesser than the quoted price. The services provided could range from weddings to parties to college cultural events or academic services like provision of stationary and other services.

KEYWORDS: services marketplace, quality of service, android application, web application, commoditized services.

I. INTRODUCTION

Market services are defined as those services produced for sale on the market at a price intended to cover production costs and to provide a profit for the producer. Market services comprise the following five ISIC Tabulation Categories:

- Wholesale and Retail trade, repair of motor vehicles, motor cycles and personal household goods
- Hotels and restaurants
- Transport, storage and communications
- Financial intermediation
- Real estate, renting and business activities
- Educational activities

The existing system is of people having to take time out of their busy schedule and physically go and find vendors who sell a particular service. This, not only leads to loss of time but it also leads to loss in money. A mobile marketplace is created to discover and connect with event based service providers. The clients in need of a particular service connect to vendors. This saves the user a lot of time, as he is free of the burden of finding a genuine and cost reliable vendor.

The application covers services in the event management category like photographers, cinematographers, caterers, DJs to name a few. The service will target tech-savvy professionals who do not have the time to research and connect with service professionals in their locality.

The proposed system matches customers with trusted and verified professional service providers using a unique bidding system. Once a user has posted the requirements, the vendors are notified and are given details like event type, timing, venue and budget. It involves a bidding process where the vendors can bid on a particular service required by a user. The user receives bids by various vendors and chooses to go ahead with the bid he/she finds most attractive. After the user accepts the bid, the application connects both the vendor and user. For example:



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The user requires a wedding photographer for the price of 10000 Rupees. the vendors see this and can bid on the event saying that they will provide the service at 7000 Rupees. The customer can browse through and select the vendor of his choice. Once he decides on a vendor, he can easily connect with him and they can have a conversation regarding the event and can proceed further. This helps the user and makes it extremely convenient for him. The application also lets the user chat with the service providers to further define his/her requirements.

The project is secure as all the vendors who register are checked and verified. Since the existing system has many drawbacks such as waste of time and money and sometimes it isn't secure as well. The new system devised, has a set of advantages that solve the problems mentioned below. They are:

- Time efficient
- Safety and security
- Cost friendly
- User friendly
- Offers and discounts

II. RELATED WORK

Plenty of research has been carried out in this field. By referring various transactions books and conference papers, a lot of information can be obtained regarding this topic.

1. Differentiating Commoditized Services in a Services Marketplace

Harshavardhan Jegadeesan 1, Sundar Balasubramaniam

This paper talks about differentiating the commoditized services in a services marketplace. These differentiations occur due to competitor services. Differentiation helps to grow market share. The paper also includes "flavouring aspect" where there are service flavours which are the same capability offered under a different term of offer.

- Service Availability: Deals with spatial (location) and temporal availability concerns of a service.
- Service Pricing: Deals with pricing and payments details for a service
- Service Promotion: Deals with promoting service consumption by customers and market segments
- Service Privacy: Deals with protecting consumer information and ensuring confidentiality

2. An Agent-Based Service Marketplace for Dynamic and Unreliable Settings

Lina Barakat, Samhar Mahmoud, Simon Miles, Adel Taweel, and Michael Luck
Department of Informatics, King's College London, London, UK

This paper proposes a probabilistic, multi-valued quality model for services, capable of capturing uncertainty in their quality values by assigning each quality attribute with multiple potential values (or ranges of values), along with a corresponding probability distribution over these values.

This paper presents a probabilistic QoS learning model, tailored towards dynamic and untrustworthy service environments, where each service is associated with a software agent, able to learn, based on past performance information.



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3. A Marketplace for Business Software with Certified Security Properties

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In this paper, a certification-aware Business-Software marketplace where the contents of the software products have explicit, transparent, and verifiable certificates that are viable and security properties are introduced. It makes sure that the security purpose of the application is satisfied. Making all possible transactions are secure.

4. Improving the Performances of Internet-Based Marketplace for Technology

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It is an online approach for promoting technology transfer. Internet-based market for technology has limitations in completing transactions owing to characteristics intrinsic to technologies as subjects of transactions and allows the room for improving its role and function.

III. EXISTING SYSTEM

Services marketplace, is a marketplace of services where vendors provide various services to a user. There is a vast range of services ranging from plenty of categories. Web services have been discussed from very different angles, with the most important streams of research focusing on either technical or business aspects. The technical research stream is mostly concerned with enhancing Web service concepts and architectures, the business literature focuses on the emerging Web service-based business applications and their economic potential.

Historical evolution

In the early days of the dot.com era, Web services registries were considered the key technology for facilitating global e-commerce. Hence, the publication of the first version of the UDDI specifications in 2000 inspired the launch of several Web services directories and registries. In analogy to the DNS database, a public implementation of this UDDI specification was conceived as a master directory of e-commerce services. Four large software vendors, namely IBM, Microsoft, NTT COM and SAP, implemented nodes of this Universal Business Registry (UBR), which formed a global distributed business directory. Besides these four UBR nodes, a dozen other commercial Web services directories were launched in or around the period 2002/2003, most of them by Internet startups.

Web services - The business perspective

The business literature focuses on the emerging Web service-based business applications and their economic potential. Many business experts emphasize that Web services in combination with a service-oriented architecture may resolve many of the existing conflicts in today's information system landscapes by offering a higher degree of standardization and interoperability combined with higher flexibility. Many business experts emphasize that Web services in combination with a service-oriented architecture may resolve many of the existing conflicts in today's information system landscapes by offering a higher degree of standardization and interoperability combined with higher flexibility

The Web services ecosystem as electronic market

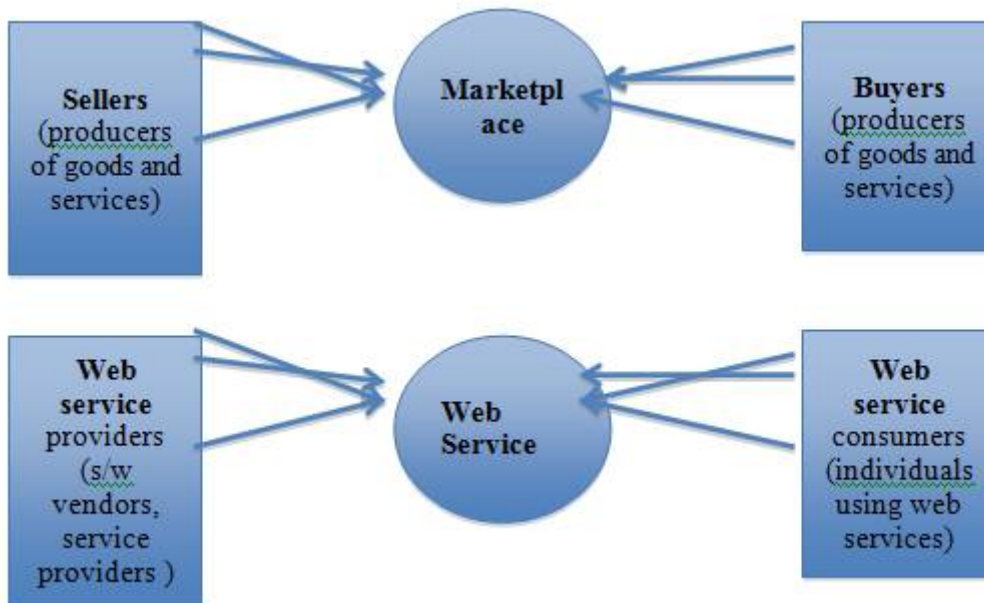
From the very beginning, Web services have been associated with the idea of online service discovery (Alonso et al., 2003). This is manifested by the integral role that directories storing service descriptions play in Web services architecture. Directories allow service providers to register new services and service consumers to search for and locate services. In a centralized approach, they are hosted and managed by a trusted entity. Since directories establish many-to-many interactions between organizations that publish Web services and organizations, which consume Web services, Web services ecosystems show typical characteristics of an electronic market. From the literature, a market represents a

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social arrangement, which allows buyers and sellers to carry out a voluntary exchange of goods or services. Similar to a physical marketplace, an electronic market serves three main functions, namely to match buyers and sellers, to facilitate transactions and to provide the institutional infrastructure for business.



IV. LIMITATIONS OF EXSISTING SYSTEMS

Service providers being autonomous and self interested, may choose to act maliciously and announce false quality of service (QoS) capabilities in order to increase their own profit by attracting more customers. Even in cases where the providers are fully cooperative, it might be difficult (or simply not possible) to guarantee specific quality values for a service, because of their dependency on various run time factors.

The products are usually accompanied with descriptions of their functionality, it is hard for customers to reliably determine whether their security needs will be satisfied by a given product, (a) because its security properties are not expressed explicitly, or (b) because of lack of assurance that those properties are actually enforced. Often, the vendors cannot be trusted with the services they provide and there is no clarity of their identity. This could lead to fraud transactions and violation of the customer personal information. Many of the existing service providers do not track the customer's location to provide the services or connect to the vendors closest to him. This would further lead to waste of time.

V. PROPOSED SYSTEM

The purpose behind the proposed system is to remove the errors present in the existing system. This solves all the problems that exist. The features of the system are:

- Data integrity will be maintained
- DBMS will be used to store and maintain data.
- All transactions/interactions will be secure.
- Time efficient.
- User-friendly system.
- Saves money.

The system aims to present a service marketplace where software products have explicit, transparent, and verifiable certificates of the services provided. There is no doubt that service marketplaces are becoming the usual way to find

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help. The ease of use is a major consideration. For example, consider trying to get a number of quotes from house painters. Without an online tool, the user would have to find and contact some painters, extract quotes, send them specifications. Using an online marketplace, the user can fill in the specifications online and let them contact the customer with the quotes.

Today, most Internet users are worried about protecting their personal information, which may be gathered by Web services. This concern can have a profound influence on finding a way for applying privacy aware policies on Web services. In this regard, there are just a few accessible Web services on the Web, which usually provide users with simple operation and are not able to apply the user preferences.

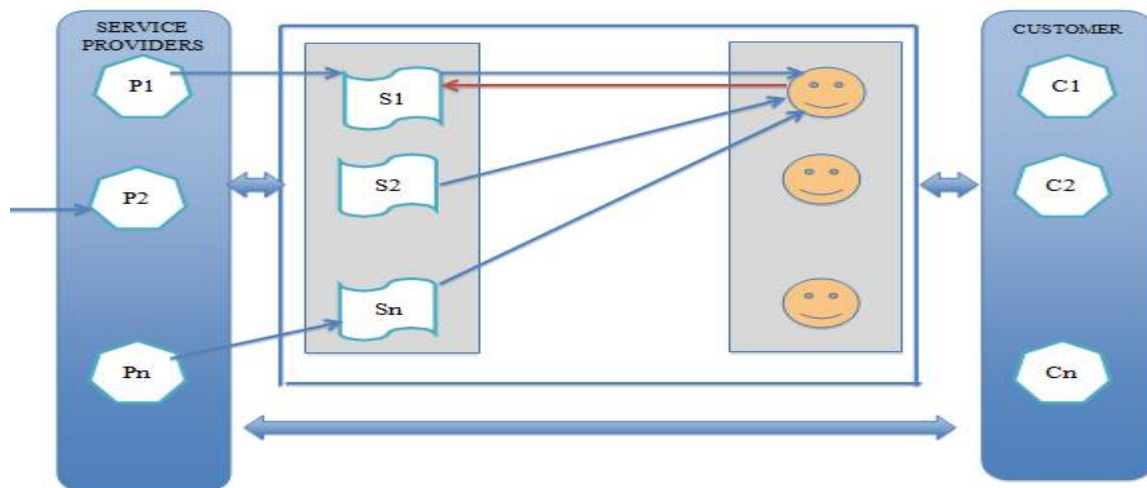
The user updates his need of required services using the various categories provided along with his budget. The service providers, all have to register themselves along with the service they provide on the website. The service provider or the vendor can view / have access to all the events that are requested by the users.

The unique feature that differentiates the existing systems from the proposed system is the concept of bidding. The customer quotes a price for the selected service and submits a form. This information is sent to all the vendors providing the service requested by the user. The vendor then bids on the service. The customer selects the vendor that suits him/her the most. The concept of bidding helps the customer to find the best service and a vendor according to his budget.

The application makes use of **AWS Identity and Access Management (IAM)**, which is a web service that helps the user to securely control access to AWS resources. IAM is used to control who can use the AWS resources (authentication) and what resources they can use and in what ways (authorization).

The system makes use of **Lead based model**. In a lead based model, professionals (suppliers) pay to send quotes to customers. The platform makes introductions between customers and professionals based on the specific needs of a project. Professionals who confirm they are interested and available make bids for customers to choose from. The actual cost of this pay-per-quote model depends on the type of service the customer is looking for.

The application also provides the concept of Location based service. **Location-based services (LBS)** use real-time geo-data from a mobile device or smartphone to provide information, entertainment or security. These are services offered through a mobile phone and take into account the device's geological location. Location based services typically provide information. Location services will be used to detect the users location to find the services that are available near the client based on the client's request. They are a general class of computer level services that use location data to control features. As such location based services is an information service and has plenty of uses in a services marketplace. With the expansion of the smartphones and tablets market this has advanced and is highly important.





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This paper has 2 Perspectives:

- The user.
- The vendor.

The user

They consist of the following modules:

a) Registration

The user would have to register on the given website with his credentials like an email, a password of his choice and a security question for password retrieval.

b) Login

The user will have to login to the application using the secure user name and password.

c) Select event

Under this module, the user is given a list of events and services from which he is allowed to select the event or service he needs.

d) Set budget

Here, the user is able to set a particular budget that is suitable for him.

The vendor

They consist of the following modules:

a) Registration

Here, the vendor or the provider of the service, registers on the website, along with the details of his service. Security measures will be taken to prove that the service is legitimate with reviews and testimonials from previous satisfied customers.

b) Finds services requested by the customer

Here, the vendor is tasked with finding the service that he is looking to cater to. these are the services that are requested by the customer.

c) Bids on an event

The vendors final task of the initial phase is to bid on an event with his quoted price. Initially we notice that the user sets his budget, based on this price, the vendor now quotes his price.

Finally, if the user is satisfied with the quoted price of the vendor, they are able to connect and can exchange details or chat regarding the details of the event.

VI. CONCLUSION

The application is one that deals with the categorisation of services in a services marketplace. It is developed to make the process of finding a particular service for a related event, easy.

In the already existing system, it is difficult for a user, to search and find services easily. It is a time consuming process that needs a lot of time and hard work.

Services are made easily available, with the vendor himself contacting the user with the best price that can be offered. Hence the system uses the marketplace of services, bringing together users and vendors, putting them in touch with each other.

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