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Online Auction with Data Mining

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ABSTRACT

Online Auction with Data Mining is carrying out the traditional tendering process in an electronic form, using the internet. In this project, we present a design and implementation of a Tender Management System by using Web services for the automation of such tendering processes. This web application provides organizations to register with this system and upload tender details. Since this application is visible from all over the world clients can log into this site and apply for tenders and submit their quotations to the organizations on the project by filling a form through online. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts. Bidders are advised to register their details, valid email address and mobile numbers as part of the registration process. These would be used for any communication from the organization. Bidder then logs in to the site through the secured log-in by entering their user ID / password. Based on the tender status such as cost, bid date and periods of using days it will buy the tender one to another customer. Otherwise it will not provide to the customer because does not meet the tender requirements. This project will be implemented using Java and MySQL

Keywords : Auction , Category, Bid , Selection

I. INTRODUCTION

Online Auction System which provides organizations/user to register with this system and upload tender details. Since this application is visible from all over the world clients can log into this site and apply for tenders and submit their quotations to the organizations on the project by filling a form through online. In tender noticed involves product status such as product type and rate level. There is no intermediate agent because it is directly notices information to user page. If they wanted, person can view the tender notice and directly apply for property. In this product rate has fixed amount. It does not provide any agent commission and any brokerage fees. It is directly delivering tender notice to web. Any User can make contracts to work then the tender is notified and selected then it is forward to the next stage. K-Means clustering algorithm, a data mining tool is introduced in this project. The algorithm is used for getting a suggestion about the bid amount and auction amount. Web based **Auction** system to source, award and manage the total procurement process. Tender administrators will supply and demand, through reverse auction, ensuring that goods are bought at the best possible price.

When a tender or bid is being called, a tender or bid number is usually issued as a reference number for the tender. The tender details would be open for interested parties to submit their proposals for the duration of the bid or tender. Once the duration is over, the tender bid is closed and sealed and can only be opened by either the tender or bid evaluation committee.

II. BACKGROUND

A. JAVA

Java is a programming language originally developed by James Gosling at Sun Microsystems and released in 1995 as a core component of Sun Microsystems' Java platform[1]. The language derives much of its syntax from C and C++ but has a simpler object model and fewer low-level facilities. Java applications are typically compiled to byte code that can run on any Java Virtual Machine (JVM) regardless of computer architecture. Java is general- purpose, concurrent, class-based, and object-oriented, and is specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere".

Java is considered by many as one of the most influential programming languages of the 20th century, and is widely used from application software to web applications. The java framework is a new platform independent that simplifies application development internet. Java technology's versatility, efficiency,

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platform portability, and security make it the ideal technology for network computing.

A list of most important features of Java language is given below.

- Simple.
- Object-oriented
- Platform Independent
- Runtime Environment
- Secured
- Robust
- Architecture-neutral
- Portable
- High-performance
- Distributed
- Multi-threaded
- Dynamic

B. MySQL

Hypertext Markup Language (HTML), the languages of the World Wide Web (WWW), allows users to produces Web pages that include text, graphics and pointer to other Web pages (Hyperlinks).

HTML is not a programming language but it is an application of ISO Standard 8879, SGML (Standard Generalized Markup Language), but specialized to hypertext and adapted to the Web[2].

The idea behind Hypertext is that instead of reading text in rigid linear structure, we can easily jump from one point to another point. We can navigate through the information based on our interest and preference. A markup language is simply a series of elements, each delimited with special characters that define how text or other items enclosed within the elements should be displayed. Hyperlinks are underlined or emphasized works that load to other documents or some portions of the same document.

C. JAVA SERVER PAGES (JSP)

Java Server Pages technology is the Java platform technology for building applications containing dynamic Web content such as HTML, DHTML and XML.

The Java Server Pages technology enables the authoring of Web pages that create dynamic content easily but with maximum power and flexibility.

The Java Server Pages technology offers a number of advantages:

- **Write Once, Run Anywhere properties:**
The Java Server Pages technology is platform independent, both in its dynamic Web pages, its Web servers, and its underlying server components. You can author JSP pages on any platform, run them on any Web server or Web enabled application server, and access them from any Web browser. You can also build the server components on any platform and run them on any server.

- **High quality tool support**
The Write Once, Run Anywhere properties of JSP allows the user to choose *best-of-breed* tools. Additionally, an explicit goal of the Java Server Pages design is to enable the creation of high quality portable tools.

- **Reuse of components and tag libraries**
The Java Server Pages technology emphasizes the use of reusable components such as: JavaBeans components, Enterprise JavaBeans components and tag libraries. These components can be used in interactive tools for component development and page composition. This saves considerable development time while giving the cross- platform power and flexibility of the Java programming language and other scripting languages.

- **Separation of dynamic and static content**
The Java Server Pages technology enables the separation of static content from dynamic content that is inserted into the static template. This greatly simplifies the creation of content. This separation is supported by beans specifically designed for the interaction with server-side objects.

- **Support for scripting and actions**
The Java Server Pages technology supports scripting elements as well as actions. Actions permit the encapsulation of useful functionality in a convenient form that can also be manipulated by tools; scripts provide a mechanism to glue together this functionality in a per-page manner.

D. TOMCAT

Tomcat is a servlet container and Java Server Pages implementation it may be used stand alone, or in conjunction with several popular web servers.

- Apache version 1.3 or later
- MS Internet Information Server ,version 4.0 or later
- MS personnel web server, version 4.0 or later
- NetScape enterprise server , version 3.0 or later

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Tomcat is a security update release. This release closes a whole that potentially allowed access to resource protected by a <security constraint > in web.xml.

III. PROPOSED METHOD

Here used data mining algorithm is K-Means Clustering.

A. K-Means Clustering

The k-means clustering algorithm is a data mining and machine learning tool used to cluster observations into groups of related observations without any prior knowledge of those relationships. By sampling, the algorithm attempts to show in which category, or cluster, the data belong to, with the number of clusters being defined by the value k.

The k-means algorithm is one of the simplest clustering techniques and it is commonly used in medical imaging, biometrics, and related fields. The advantage of k-means clustering is that it tells about your data (using its unsupervised form) rather than you having to instruct the algorithm about the data at the start (using the supervised form of the algorithm).

It is sometimes referred to as Lloyd's Algorithm, particularly in computer science circles because the standard algorithm was first proposed by Stuart Lloyd in 1957. The term "k-means" was coined in 1967 by James McQueen.

How the K-Means Algorithm Functions :
The k-means algorithm is an evolutionary algorithm that gains its name from its method of operation. The algorithm clusters observations into k groups, where k is provided as an input parameter. It then assigns each observation to clusters based upon the observation's proximity to the mean of the cluster. The cluster's mean is then recomputed and the process begins again. Here's how the algorithm works:

The algorithm arbitrarily selects k points as the initial cluster centers (the means).

Each point in the dataset is assigned to the closed cluster, based upon the Euclidean distance between each point and each cluster center.

Each cluster center is recomputed as the average of the points in that cluster.

Steps 2 and 3 repeat until the clusters converge. Convergence may be defined differently depending upon the implementation, but it normally means that either no observations change clusters when steps 2 and 3 are repeated, or that the changes do not make a material difference in the definition of the clusters.

Choosing the Number of Clusters :
One of the main disadvantages to k-means clustering is the fact that you must specify the number of clusters as an input to the algorithm. As designed, the algorithm is not capable of determining the appropriate number of clusters and depends upon the user to identify this in advance.

For example, if you had a group of people that are to be clustered based upon binary gender identity as male or female, calling the k-means algorithm using the input k=3 would force the people into three clusters when only two, or an input of k=2, would provide a more natural fit.

Similarly, if a group of individuals were easily clustered based upon home state and you called the k-means algorithm with the input k=20, the results might be too generalized to be effective.

For this reason, it's often a good idea to experiment with different values of k to identify the value that best suits your data. You also may wish to explore the use of other data mining algorithms in your quest for machine-learned knowledge.

B. Module Description:

The modules involved in this project are:

- Admin module
- User module

Admin module

Admin module has the following functions. Initially admin can login to the page. If the username and password is correct then only open the admin home menu. Otherwise it will not open the admin menu. New category is adding to the tender system. In this have Different categories of bid product such as laptop and computer.

User module
User module has information about the particular user details. Initially new user can register by giving details such as name, username, password, email id, mobile

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number and address. If already registered, user can login to the home page. Otherwise it will not enter to the login home.

IV. RESULTS

SCREENSHOTS

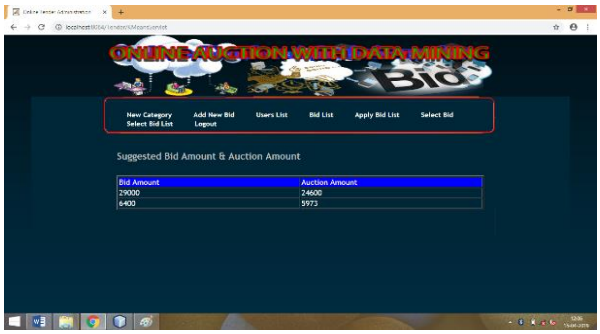

Fig 1 : Mining

This figure 1 shows the probability value of the attributes by comparing the bid amount and auction amount stored in the database by using K-Means clustering algorithm.

V. CONCLUSION

Conclusion of tender management system was support both customer and directly to the administrator, towards achieving performance and acceptance criteria as stipulated in this document, if when required and that they would facilitate the bidder on a regular basis with technology or product updates and extend support for the warranty as well. The bidder must not be blacklisted by administrator or any other organizations. The user bid submission is before the closing date. If user requirements are satisfying the bid conditions then the product is delivered to the user.

During the making of the project I developed a vast knowledge on working of the Tender Management System, and Dynamically operation of web applications. I also studied and collected information on the various fields of implementation of the system such as the technology for security enhancements, and operating site dynamically.

Bids will only be accepted from principal manufacturers of servers having full-service support offices. The bidders should submit the required documents / financial instruments as stipulated. The bidder shall provide the Registration number of the firm along with the PAN Number, as applicable, allotted by the concerned authorities. To Keep the transactions safe, we used stored procedure. Each User has different access directory for storing data, and keeping the data with respect of their region. Administrator has power to control other users and can stop or make new admin according to their workload.

VI. REFERNCES

Books

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[2] Bill Hamilton “ Programming MySQL**”** pp-425-455
[3] Charles Hampfed (2000) ‘Instant Java Server Pages’ University of Toronto.

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[4] https://www.geeksforgeeks.org/naive-bayes-classifiers/