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A Naive Bayesian Mining Model for Ministry of Food Processing

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ABSTRACT

The proposed system tries to solve the problems of recording the data about the food schemes available. The main objective is to make the investors details more efficient and effective. The investor can provide different schemes to employees and the employees can decide whether to accept it or not. They can also provide feedback for employees about their work done as part of their scheme. Initially, the system will be implemented offline that means the data's are recorded manually and later on, be interlinked so that a employees and investors can access information across all food schemes in the state thus helping speedy and successful completion to work updated. The project has been planned to be having the view of distributed architecture, with centralized storage of the database. The application for the storage of the data has been planned. Using the constructs of SQL server and all the user interfaces have been designed using the Java Jsp technology.

Keywords : Dashboard, Food Processing, Schemes, Feedback.

I. INTRODUCTION

The research work titled as "A **Naive Bayesian Mining Model for Ministry of Food Processing**" is a web based application. This software provides facility for reporting food schemes to investors and employees online by the administrator. The investors accept the schemes and make it available to the employees for further functioning by using add option. Then the newly accepted scheme will be available to the employees. If the employee is ready to accept the work provided by the investor, he/she can accept it by using update option so that the other employees can understand that the work was already taken. The investor can also delete the unwanted food schemes. Any number of employees and investors can connect to the server. Each employee or investor first make their login to server to show their availability. A Naive Bayesian Mining Model for ministry of food processing is a system used to report food schemes. This research work will be done using Java as front end, and MySQL Server as back end. Currently most of the works are done manually, by computerizing all the activities related to accepting different food schemes provided by the investor to employees can be managed easily and effectively. I am also introducing data mining in my research work by mining the feedback given by the investors about the work done by the employees.

Why new system?

- ➢ The system at any point of time can provide the details of the investor and the employees.
- ➢ The system at any point of time can provide the details of schemes and its location.

The main purpose for preparing this research work is to give a general insight into the analysis and requirements of the existing system or situation and for determining the operating characteristics of the system.

The main objective of a naïve Bayesian mining model for ministry of food processing is to store and retrieve the details of different food scheme names, scheme types, location, feedback about the work done by employees etc. Any number of employees can connect to the server. This web based multi–user system is divided into Administrator, Investor and Employee.

The research work is aimed to develop a dashboard for maintain a computerized record of all the Food scheme. This system can be used as an application for naive bayesian mining model for ministry of food processing to manage the records of different schemes related to food.

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, 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 or later
- MS personnel web server, version 4.0 or later
- NetScape enterprise server , version 3.0 or later

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 Naïve Bayesian Classifier.

A. Naive Bayes Classifier

The Bayesian Classification represents a supervised learning method as well as a statistical method for classification. Assumes an underlying probabilistic model and it allows us to capture uncertainty about the model in a principled way by determining probabilities of the outcomes. It can solve diagnostic and predictive problems. This Classification is named after Thomas Bayes(1702- 1761), who proposed the Bayes Theorem. Bayesian classification provides practical learning algorithms and prior knowledge and observed data can be combined. Bayesian Classification provides a useful perspective for understanding and evaluating many learning algorithms. It calculates explicit probabilities for hypothesis and it is robust to noise in input data.

Naive Bayes classifiers are a collection of classification algorithms based on **Bayes' Theorem**. It is not a single algorithm but a family of algorithms where all of them share a common principle, i.e. every pair of features being classified is independent of each other[4].

The fundamental Naive Bayes assumption is that each feature makes an:

- Independent
- equal contribution to the outcome.

With relation to our dataset, this concept can be understood as:

- We assume that no pair of features are dependent. For example, the temperature being 'Hot' has nothing to do with the humidity or the outlook being 'Rainy' has no effect on the winds. Hence, the features are assumed to be independent.
- Secondly, each feature is given the same weight (or importance). For example, knowing only temperature and humidity alone can't predict the outcome accurately. None of the attributes is irrelevant and assumed to be contributing equally to the outcome.

Baye's Theorem

Baye's Theorem finds the probability of an event occurring given the probability of another event that has already occurred. Baye's theorem is stated mathematically as the following equation:

$$P(A|B)= P(B|A)P(A) / P(B)$$

- Basically, we are trying to find probability of event A, given the event B is true. Event B is also termed as evidence.
- P(A) is the priori of A (the prior probability, i.e. Probability of event before evidence is seen). The evidence is an attribute value of an unknown instance(here, it is event B).
- P(A|B) is a posteriori probability of B, i.e. probability of event after evidence is seen.

B. Module Description:

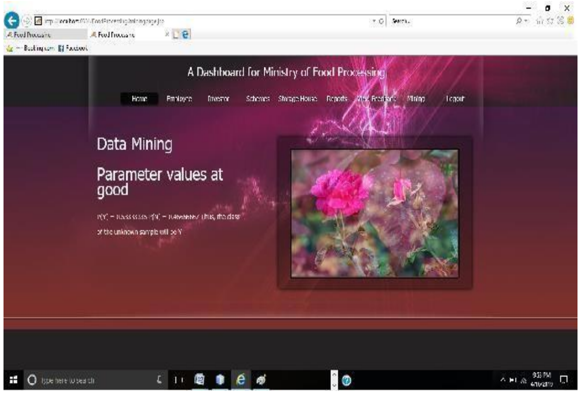
The modules involved in this project are:

Administrator : 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 This module handle the activities to add new employee, investor, scheme and also can view the feedbacks of the employees given by the investor. Here mining is also included.

Investor : This module helps to investor login. There will be a username and password to login into the system to use all the facilities. A new investor should register by admin with all his details and create an account before login. This module handle the activities to add new investor schemes for the employees and will give the feedback about the work done by the employees to mine the data.

Employee : This module helps to employee login. There will be a username and password to login into the system to use all the facilities. This module handle the activity to accept schemes from the investor.

IV. RESULTS



A Dashboard for Ministry of Food Processing

Data Mining

Parameter values at good

P(Y) = 0.53333336 P(N) = 0.46666667 thus, the class of the unknown sample will be Y

This figure 1 shows the probability value of the attributes by comparing the feedback stored in the database by using naive bayesian classifier algorithm. For example, here the parameter given is good. It compares with the data stored in the database. Here we get P(Y)=0.53333336 and P(N)=0.46666667.

V. CONCLUSION

The research work titled as "A Naïve Bayesian Mining Model for Ministry of Food Processing" is a web based application. This software provides facility for reporting food schemes to investors and employees online by the administrator. The investors accept the schemes and make it available to the employees for further functioning. If the employee is ready to accept the work provided by the investor, he/she can accept it by using update option so that the other employees can understand that the work was already taken. This software is developed with scalability in mind. Additional modules can be easily added when necessary. The software is developed with modular approach. All modules in the system have been tested with valid data and invalid data and everything work successfully. Thus the system has fulfilled all the objectives identified and is able to replace the existing system.

The research work has been completed successfully with the maximum satisfaction of the organization. The constraints are met and overcome successfully. The system is designed as like it was decided in the design phase. The research work gives good idea on developing a full- fledged application satisfying the user requirements.

The system is very flexible and versatile. This software has a user-friendly screen that enables the user to use without any inconvenience. Validation checks induced have greatly reduced errors. Provisions have been made to upgrade the software. The application has been tested with live data and has provided a successful result. Hence the software has proved to work efficiently.

VI. REFERNCES

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