SURVEY on COLLEGE MANAGEMENT SOFTWARE

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Abstract: Keeping track of your college life can be difficult! That's where College software comes in. Providing a secure and user-friendly interface for all your needs, from homework to grades. Best of all, it helps you find the perfect job once you graduate. The software also has Job recommendations with it as the recommender system aims to help users to find jobs that match their interests. Also, it may lead to a more uniform distribution of candidates over a set of similar jobs. We also consider the literature from the perspective of algorithm fairness. The placement officer is responsible for updating the placement-related information. The high amount of data stored in software needs high security, perhaps the most common way passwords cannot be used as many people feel overloaded with credentials, which in turn negatively impacts their ability to manage them securely. Unfortunately, most of these solutions do not satisfy scalability and/or usability requirements, or they are simply insecure. In this paper, we propose a scalable OTP solution using mobile phones based on trusted computing technology that combines enhanced usability with strong security.

Keywords: College Management, Recommender systems, Security, REST Framework, WebAPIs, MVC, JWT, MD5

I. INTRODUCTION

ERP Software is used at schools as well as colleges to track their daily activities and manage students, employees and library records. The software also tracks admissions, student assignments, and results as well. It provides a single interface through which you can manage all these different activities, saving time and effort.

The system will be used by four people, which are super users, college and all branches' details, owner details, Admin, Teacher, Librarian and Student, Principal, etc. Admin can log in using valid credentials and perform various tasks such as Adding a Teacher/Professor, Student, Librarian other employees and also can manage them. Super User can also add all employees and assign roles to them. We are adding a developer who will manage all technical things i.e adding course modules, designing new courses, creating new tests, challenges, etc. Teachers/Professors can log in and perform various tasks such as adding assignments, marking attendance, uploading results, view event. A librarian can log in and perform a task such as adding single or multiple books, viewing added books, requesting a book, issuing a book to students, returning an issued book from a student, and viewing an event. Students can access the system by providing valid credentials to access modules such as viewing their profile, viewbooks, view timetable, assignments, results, attendance, and events, giving exams, and solving challenges given by professors. The super user is the root node that adds the colleges into the system with their details. Also, can view/delete a college from the system. The super user is also adding different branches of the college and also adds the whole management and director detail. In this project, we are adding a technical support module for the whole college's administrative work such as a computer or any other machine repair. The proposed system is easy to understand and user-friendly too. Managing a school, university, college, or any educational institution without a perfect software solution in the present times is painful, same in the case of any enterprise or business.

Hence an appropriate solution is required which can ensure the smooth functioning of the organization as a whole, and with ERP college Management Module, this problem can simply be solved with the appearance of joblessness expanded in the present situation, there must be an appropriate framework to recruit the job aspiring candidates. People are getting too many options which make them difficult to differentiate between various jobs. This leads to information overload. To lighten this issue, an information filtering tool is presented which fundamentally filters the jobs using the candidate's profile and company needs. A recommender system is nothing but a decision-making tool that recommends products based on users' preferences or interests. It acts as an information retrieval tool that helps to filter out and prioritize the data. The framework at that point suggests that job seekers with proper jobs that are appropriate for them and matches their profile needs. The job recommender framework subsequently goes about as a middle person between the job

aspiring candidates and recruiters. Secured system login over here so we need to consider and include some factors which can secure the system account login process. So what is that we are going to do here, encrypt the passwords? Yes, that could be the only thing we can do to save our lives from the hackers who try hacking our accounts. So now the question is how, how exactly, and appropriately are we going to do this? Nowadays security is a major concern for every system we need to ensure that the software we are implementing should be more secure through double verification for authentication purposes so the passwords will be encrypted and need to decrypt by the user to gain access.

II. LITERATURE SURVEY

Predicting students' performance is a priority and is an essential sign of their understanding of the subject. In this article, a new algorithm has been proposed to solve the problem when it comes to predicting individual students' performance. When both serving at school and family tutoring are offered, ICGAN-DSVM outperforms other competitive models in predictive accuracy. Results with 10-fold cross-validation show that the proposed ICGAN-DSVM yields specificity, sensitivity, and area under the receiver operating characteristic curve (AUC) of 0.968, 0.971, and 0.954 respectively. Results also suggest that incorporating both school and family tutoring into the prediction model could further improve the performance compared with only school tutoring and only family tutoring. Results with 10-fold cross-validation show that the proposed ICGAN-DSVM yields specificity, sensitivity, and area under the receiver operating characteristic curve (AUC) of 0.968, 0.971, and 0.954 respectively[1].

An ERP system is a series of software that integrates the business functions in a company. Businesses often face a number of unique challenges and these systems provide far more than just writing solutions. Organizations can benefit from AI features that range from IT and analytics to HR, finance and other areas. The full potential of these systems can only be realized only if they are successfully implemented. If successfully implemented, ERP systems provide many benefits to those organizations that adopt them. On the other hand, if the implementation process is not successful, the venture can prove costly. ERP systems are increasingly being put in place to help manage a business and how they're used can vary depending on the company. The following literature review and study should help you better understand that process. Companies who are considering ERP software should look at the information in this paper. It can help guide the decision-making process in selecting a system that is right for them[2].

The technique proposed in the paper exploits all past job transitions as well as the data associated with employees and institutions to predict an employee's next job transition. The authors train a machine learning model using a large number of job transitions extracted from the publicly available employee profiles on the Web. To train and evaluate the machine-learning model, use the Weka machine-learning toolkit. And experimented with several machine-learning algorithms, the results are present for the decision table/naïve Bayes hybrid classifier (DTNB), which achieves the highest accuracy[3].
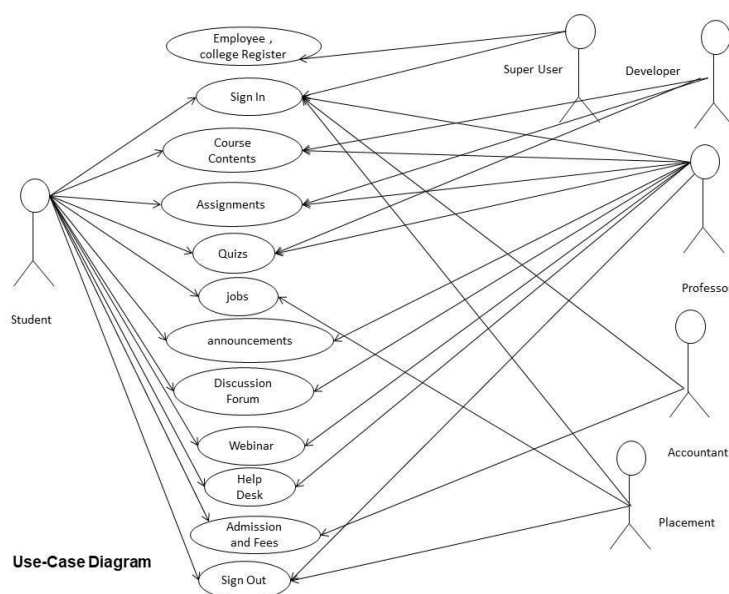
III. PROPOSED SYSTEM

Fig.1 Use-Case Diagram

IV. ALGORITHMS

We are going to use various algorithms for various operations as follow

Naïve Bayes

It is a technique based on Bayes' Theorem with the assumption of independence between predictors. Any given Bayesian classifier assumes that features for one class shouldn't affect the features for other classes. For example, if a student is successful at answering exam questions they are more likely to get the job.

Naïve Bayes also has been shown to outperform other methods of classification. Bayes theorem is a mathematical technique that lets you calculate the probability of an event after getting new information. The equation below illustrates this calculation:

Formula-

$$P(A \mid B) = \frac{P(B \mid A)P(A)}{P(B)}$$

Posterior — Likelihood — Prior — Normalizing constant

MD5 Encryption Algorithm

MD5 is a cryptographic hash algorithm that creates a fixed-length output of 16 bytes. The MD5 algorithm has been around for a little while, and some may be wondering what it is. The MD5 was developed as an improvement on the MD4 with improved security features to help it stand out from the other hashes. MD5 generates a fixed output of 128-bits. This protocol was developed to offer data security as it can take inputs of arbitrary size to generate a 128-bit hash value output. This protocol follows a 5-step encryption process that each with their own specific function.
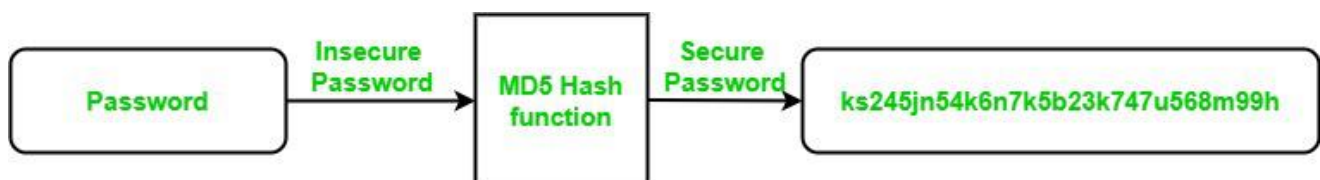
Use Of MD5 Algorithm:

Hash functions are used for information security purposes and an example of this is for file authentication in a web application. As long as the content of the information is not revealed, it can be used to check whether the file has been changed or not. Using this algorithm, you can store your password 128 bits length which will make brute force attacks impossible. MD5, like many other protocols, can create a 'message digest' from the original message

V. FUTURE SCOPE

ERP systems can help to create a platform that is both scalable and extensible, with the ability to offer new features without the need for users to understand the more technical details. The tool for starting transactions will soon become a pervasive feature that is easy to use and goes from initial analysis to inviting the user into a conversation. Vendors need to recognize that selling software and services are no longer mutually exclusive - if you want to grow, you have to sell both. Vendors who don't keep up with the changes may not survive for long. Services might no longer be offered by those in the software industry, with products becoming viewed as long-term investment that requires minimum maintenance.

VI. CONCLUSION

The project entitled College Software with secured authentication & Job recommendation is the system that deals with the issues related to a particular institution. The system is based on carrying out various tasks which go under college management. It has job recommendations embedded within the system for the e-recruiting purpose. MOTP addresses the security of a system.

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