

# Cloud based Secured and Authenticated College Information Management System

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**Abstract** – Information and database play a vital role in every organization. Feeding, storing, managing and retrieving are the key aspects of an Information management system. In the conventional college information management systems, users can check and update personal information and download academic material if any. In this project, along with the existing features, we are introducing an option to transfer their queries to the college management in a secured way. A major issue that exists in the process is whoever rising the questions, his or her identity is exposed to the management. So the students are not comfortable to share their questions and views on subject, staff and college. In order to overcome this issue, we are introducing the concept of virtual Id by which students can share their opinion in a masked manner. We are using Random number generation algorithm for the creation of virtual id for the students. Cloud acts as the back bone of the system.

**Key Words:** Information Management System, Security, Virtual Id, Random number, Cloud.

## 1. INTRODUCTION

In today's world, an enormous amount of data is generated from various sectors. One of the major problems is that the data should be securely stored without any loss. There are numerous cloud computing techniques that are employed for secured storage of data. The data is encrypted using various encrypting technique and stored securely in the cloud. Some of the cloud computing techniques used for secured cloud storage are Secured Erasure Coding, De-duplication and Public Auditing. De-duplication is a technique to avoid duplicate or redundant copies of data. Secured Erasure Coding is a technique that splits the data into fragments in order to avoid easy hacking. In Public Auditing, the users are asked to upload the files using a ring signature and later the file is encrypted using AES encryption and stored securely in the cloud. Data confidentiality and Data Privacy are ensured in all these techniques. In the existing systems, the users can login by providing their username and password and view the course materials. The users can view the notifications of other colleges. They can share their opinion in the discussion forums. However, user security and privacy is not maintained in this existing method. To overcome these shortcomings, in the proposed method, each user is provided with a virtual id by which they can login and post their queries and complaints. In this

system, user privacy and security is maintained and the management cannot view the user who registered the complaints and queries. This smart system can be used for Inter-college and Intra-college level within a university. Apart from complaint registration, various other features can be included which are discussed in the upcoming sections.

## 2. DOMAINS FOR USERS

In this website, a student from a university can have access to intra college level and inter college level. In the Intra college level, the student can see the notifications, download study materials and register complaints within the college level. In the Inter college level, the student can see the notification and enjoy other features outside the college but within the same university. This acts an added advantage for the users of this website as they are exposed to more beneficial content.

## 3. INTRA COLLEGE LEVEL

Intra College deals with activities that take place within the college. There are two domains of access namely transparent login id and virtual id. Each of them has its own applications.

### 3.1 Transparent Login ID

With this identity, the student can login to the portal. As this is normal login id, everyone from the college side can see the activities of the student. The major features are discussed below.

A student can download study material, previous year question papers and all softcopies of the academic materials. In today's world, students prefer softcopy of the documents more than hardcopies as they are easy to carry and use.

Within a college, there are several volunteering activities in which students can take part and enjoy the experience. For example, a student can involve in librarian internship role for a month or associate with the monthly magazine team. Through this website, a student can register for these internships that are available within the college.

After learning a subject, the students can assess themselves by taking up the assessments that are posted for them by their professors. This increases the quality of

learning, a student's confidence level and also teachers are more aware of the student's learning track.

### 3.2 Virtual ID

This is one of the new and important features that is introduced in this website. By using this virtual id, a student can register a complaint without exposing their identity which in turn increases the privacy and security. A student can share about the academic activities, staff or even ask for queries. A random number is used to store the query that is raised by the student.

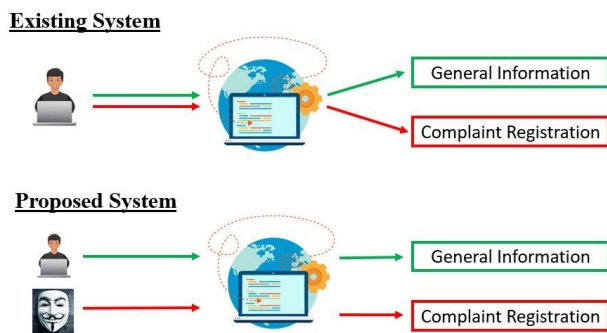


Fig -1: Virtual ID in intra college level

## 4. INTER COLLEGE LEVEL

Intra College deals with activities that take place within the college. There are two domains of access namely transparent login id and virtual id.

### 4.1 Transparent Login ID

As discussed earlier, the student can login to the portal with this identity. Since it is transparent, everyone from the university side can monitor the activities of the students. Students can check up notification in the common tab where various colleges will post information about the events and activities of their college.

Students can widen their knowledge by taking up additional courses to support their knowledge. Through this website, a student can enroll in a course, learn it, take up assessments and finally will receive an e certificate through mail. Also, this will be notified to their corresponding department.

There are several forums which will be functioning in the university level. Students can join those forums and community where they will get a chance to know more about their area of interest. This also helps them building their network. They can also indulge in posting interesting content in the community tab. They can reply to other posts but that can be done with virtual ID which is discussed in the upcoming passage.

### 4.2 Virtual ID

In the inter college level, a student can become a member of various forums and communities. In most of the cases, students feel shy to express their curiosity and hinder to ask their doubts to fellow mates. By this virtual ID, they can ask questions and queries which will be sorted by the other members of the community.

There are certain internship roles in the inter college level. For example, students can be called for correcting flash test papers of their juniors. In order to avoid bias among the students, this virtual id can be used by the students to enroll themselves in these small scale internship roles.

## 5. CONCLUSION

Thus, through this project, a secured and authenticated cloud based college management system has been developed. The concept of virtual Id has been introduced to protect the identity of the users there by reducing the transparency and the queries that posted by the users are securely stored in the cloud and it cannot be viewed by anyone. By exploiting the other features of inter and intra college level, students are exposed to a variety of benefits.

## 6. LIMITATIONS AND FUTURE DEVELOPMENT

An issue in this system would be the random number that is used for the registration of complaints. It can be optimized by employing powerful algorithms. The project can be further enhanced where other cloud computing techniques and different cryptographic techniques can be employed to store the data securely in the cloud. Also, the project can be extended from Intra university level to Inter University level by which various student communities can communicate, collaborate and consume the benefits.

## REFERENCES

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