

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 8, Issue 4, April 2019

Online Fee Payment Portal

S. S.Shinde¹, Vaishnavi Inamdar², Swati Burange², Prajakta Kirpekar², Mohini Budhale²

Professor, Department of Computer Engineering, JSPM Narhe Technical Campus, Narhe, Pune, India¹

BE Students, Department of Computer Engineering, JSPM Narhe Technical Campus, Narhe, Pune, India²

ABSTRACT: After surveying, target respondents i.e. students, it is observed that most of them are facing the same issues. Thus to overcome this problem internet Bank management system can be used as a feasible solution. The survey is used to get a general idea of the student's behaviour and to dig the students need. In this way, it can reduce much time required for the offline process, and get an easy less time-consuming process. Data processing is performed using MySQL workbench, web technologies like Java are used for web application. The system achieves the functions of a basic online payment method, Student database management, student issue management, personalized custom services, Secure transaction using Encryption and decryption algorithm, student information analysis and Blockchain is used to secure receipt generation process.

KEYWORDS: Blockchain, Encryption and Decryption, Information analysis, Internet banking, personalized custom services.

I. INTRODUCTION

The fee payment process totally depends upon Challan data. So, to make this process easier we are making that whole process online. Here the issue is not just about the students increasing discomfort but also increasing parallax errors. There is a good amount of possibility that when challan is filled it may happen that two candidates having same name, can get their details swapped. Thus, it is important for data to be unique for every student.

II. PROBLEM STATEMENT

To ease the fee payment process we are introducing a web application that will allow students to pay fees using internet banking.

From years the students of college have been paying fees the traditional way they used to. Student has to take the challan from office fill all that 4 parts then recheck it from office clerk. That filled receipt is then taken to bank, here it is first scrolled then the fees are paid in bank.

This counts to be a very lengthy process and during high times like when we have to pay exams fees or anything the waiting time and the queue are never ending. Thus there is a need of such an application for students as well as other office staff.

III. MOTIVATION

From many years students have been paying fees in traditional form, i.e. they have to take receipt from the office, then fill it manually then verify it from the given authority. Then they go to bank, first scroll it then pay fees. As we can see that this is a very lengthy and time consuming process. Thus we decided to make a website that can help students pay fees in minimal time without even being physically present.

This website also provides students with information about their fee status, fee structure and notify them about upcoming due dates.

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 8, Issue 4, April 2019

IV. LITERATURE SURVEY

“Secure Bank Transaction using data hiding mechanism”

This paper examines that s/m utilizes various method to secure client data & to keep convincible. Visual cryptography, Steganography is utilized for hiding messages, text or any data. Cryptography is the technique for sending the message safely to the destination while Visual cryptography is the cryptographic technique which allows visual information. This paper also discusses some other security techniques that can provide security to the user data or message. In the architecture of the banking system, the main emphasis is on the secret key. The secret key is divided into two parts. One is stored into the bank database & other is kept by the user. The Correlation method is used to take the decision on acceptance or rejection of the output [1].

“Technology Acceptance Model of Internet Banking Service for Student’s Tuition Fee Payment”

This paper suggests that Perceived Enjoyment increases the predictive power of the TAM in explaining intention to use Internet banking service in tuition fee payment. Perceived. Enjoyment strongly influenced intention rather than any other variables in the model. The impact of Perceived enjoyment on intention was consistent with the previous study of TAM. It implies that if potential users perceive Internet banking to be enjoyable, then they will be more intent to adopting this channel for tuition fee payment. Furthermore, this study found that Perceived Enjoyment also had a significant impact on Perceived Usefulness and Perceived ease of use. [2].

“Blockchain : future of financial and cyber security”

Blockchain is a transaction database which contains information about all the transactions ever executed in past and works on bitcoin protocol. It implies that blockchain is a decentralize ledger used to securely exchange digital currency, performs deals and transactions. Each member of network has access to the latest copy of encrypted ledger so that they can validate a new transactions [3].

“On The Generation of Alphanumeric One Time Passwords”

This paper examines that way of generating OTPs with alphanumeric characters, for a transaction. To secure a transaction, users proposed various encryption / authentication methods. The possible ways of implementing it with practical circuits will be analyzed. OTP is one of the authentication method (dynamic password) and by far the most successful way to provide entry for a user. Also variants of the proposed model with a concentration on improving the randomness will be undertaken. One Time Password (OTP) is a type of password that we use only once. It is valid for only one time use (use them once and throw them away). It is string of numbers automatically generated that will authenticate a user for a single session or transaction. This paper proposed a way of generating OTPs with alphanumeric characters[4].

“Design Enhance AES Data Encryption and Decryption”

The Advance Encryption Standard (AES) is a standard algorithm that is used for the encryption of electronics data. AES is the encryption algorithm used for encode a plain text into the cipher text . To encrypts the message using AES algorithm, we can send the message along with key. A key is used to mix up data so that it can be securely stored or transferred over network, and only with the key can unscramble the data. It is symmetrical key algorithm.

In this paper, we design the AES algorithm in encryption and decryption process. The Advance Encryption Standard (AES) is a standard for the encryption of electronics data. The AES algorithm includes the following function i.e. 192-bit key size, Automatic Round key calculation and Encryption or decryption functions.

This paper defines all about the Advanced Encryption Standard algorithm. Cryptographic algorithm AES is used in a variety of areas now a days. The Data is encrypted or decrypted in 16 bytes blocks. The state is manipulated internally at time of variable number of rounds. There are 10, 12, or 14 rounds needed for cipher keys of length 128, 192, or 256 bits respectively[5].

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 8, Issue 4, April 2019

V. METHODOLOGY

Using this web application the students of JSPM institutes will be able to pay their fees through online process. This web application provides us with not only online payment method but also Student database management, student issue management, personalized custom services, and student information analysis.

The main focus of this web application is on security. The transactions that are taking place from student account to college bank account should be securely processed. Hence, for security purpose we are using encryption and decryption so that the student data remains safe and block chain concept during receipt generation.

The web application will contain a login page where the student logs in with his/her respective registered email id and password. Then after logging in he/she will be notified about fee related notices like last dates and amounts for other fees, etc. In fee structure he can find out about fee structure according to his/her respective caste. The fee status part shows fee details like remaining fees and paid fees. And last but not the least you can pay fee from fee payment option.

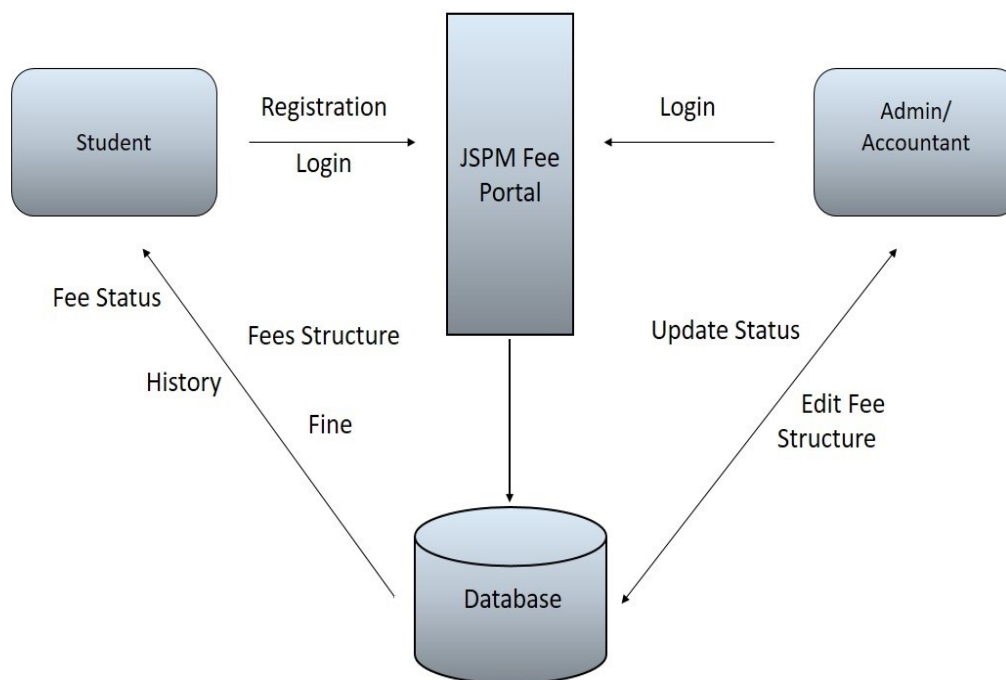


Fig. 01 System Architecture

VI. RELATED WORK

6.1 Encryption and Decryption algorithm

Encryption is the process of translating plain text into something that appears to be meaningless and random with no clue i.e ciphertext. Decryption is the process of converting that ciphertext back into plaintext. The symmetric key is used during both the encryption and decryption processes. All the data in the online bank portal is transferred using this algorithm. Student Registration data, challan data, Message and email transfer to students after fees payment, receipt generation, data stored in the database.

We will use AES for encryption and MD5 for generating hash which will be useful for maintaining data integrity[9].

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 8, Issue 4, April 2019

Advanced Encryption Standard Algorithm would be unclassified and hand to be capable of protecting sensitive information. AES comprises three block ciphers: AES-128, AES-192 and AES-256. Each cipher encrypts and decrypts data in blocks of 128 bits using cryptographic keys of 128, 192, 256 bits respectively.

MD5 (Message-Digest Algorithm) is typically a hashing algorithm that is used for producing a unique hash for every data. It produces 128-bit hash value. It can be used to verify Data integrity.

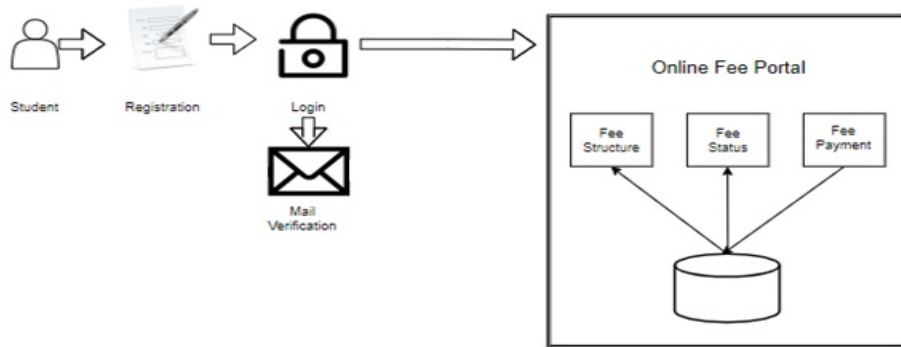


Fig.02 Registration and Login process

6.2 Block Chain

Block Chain is a chain of records linked together in form of blocks. These blocks are usually linked with the help of cryptography. Each block contains transaction data, timestamp and a cryptographic hash of previous block. Once the data is recorded, it cannot be altered without alteration in subsequent blocks which require lot of time and majority. Block chain is majorly used in bitcoins[3]. The block chain consists of 3 parts, data, time stamp, hash. The data that the receipt is going to consist will be encrypted using AES algorithm. Time stamp will contain exact time when the data is generated. And the hash of this block will be generated using MD5 algorithm. As we know a block that has receipt data will generate a unique hash using data and time stamp. This hash will go to the next block and the data, time stamp of next block together will generate a unique hash with reference to previous block.

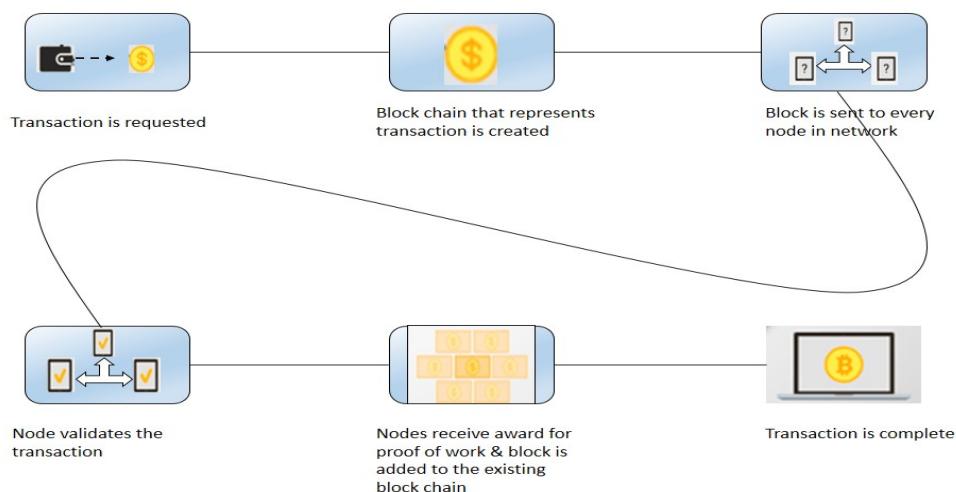


Fig. 03 Working of Blockchain

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 8, Issue 4, April 2019

Each transaction generates a hash, time stamp and data. If a transaction is approved by majority of the nodes then it is written into a block. Each block of data refers to the hash of previous block and together new hash is generated. In this way together they make Blockchain. A Blockchain proves effective as it is spread over many computers, each of which has a copy of the Blockchain.

The receipt generated after the transaction will be stored using the blocks and each block will be connected to the next block. Unique hash would be generated for every block and this hash will be stored in the next block. All the blocks connected will be distributed in all nodes, in our case admin and accountants. Thus, whenever any transaction is processed, the data will be stored in blocks only after verification from all nodes.

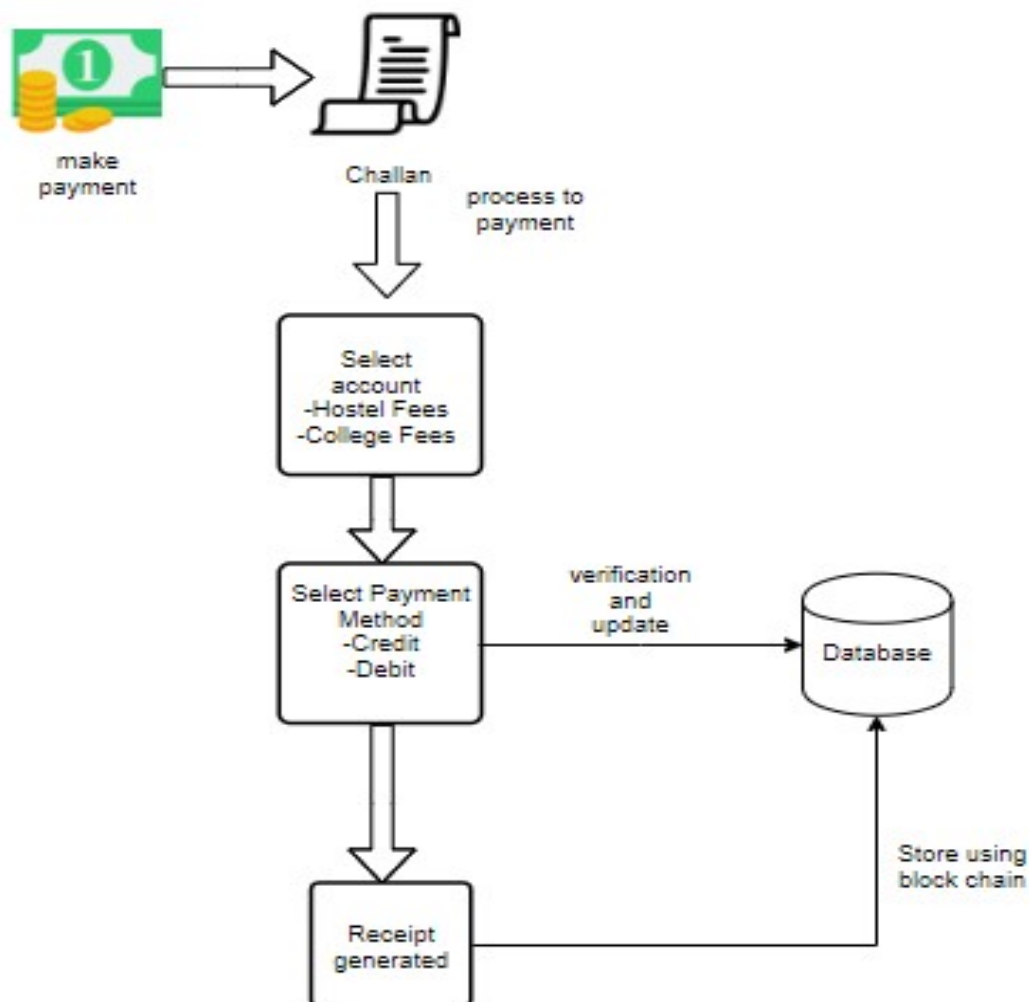


Fig. 04 Receipt generation

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 8, Issue 4, April 2019

VII. CONCLUSION

Online fee payment Portal for students, this web service provides online banking services for students like online fees payment, fees related information, fees structure, fees status, and all updated information. This website is helpful for the students to ease their fee payment process. And also motivate students to make more use of internet banking. Also the

VIII. FUTURE SCOPE

In future whole JSPM group of institutes can use this web application for Fee payment. It can be incorporated with the all JSPMs official websites.

REFERENCES

- [1] Ms.PrachiD.Rathod, "Secure Bank Transaction using data hiding mechanism",2017
- [2]Z.R.Maharoesman,I.I. Wiratmadja,"Technology acceptance model of Internet banking service for students tuition fee payment (Case Study: Public Government University)", 2016
- [3] Sachchidanand Singh, Nirmala Singh, "Blockchain : future of financial and cyber security", 2016
- [4] ShubhamSrivastava, Sivasankar M, "On The Generation of Alphanumeric One Time Passwords", 2016
- [5] Shraddha Wade, AshmikaGadikar, "Design Enhance AES Data Encryption and Decryption", 2017
- [6] AkoMuhamad Abdullah, "Advanced Encryption Standard (AES) Algorithm to Encrypt and Decrypt Data",2017
- [7] Shefaliojha, Prof.Vikram Rajput, "AES And MD5 Based Secure Authentication In Cloud Computing", 2017
- [8] IRFAN A. LANDGE, HANNAN SATOPAY, "SECURED IOT THROUGH HASHING USING MD5", 2018
- [9] RINIINDRAYANI ; HANUNGADI NUGROHO, "INCREASING THE SECURITY OF MP3 STEGANOGRAPHY USING AES ENCRYPTION AND MD5 HASH FUNCTION",2016