COLLEGE STUDENT SMART CARD

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Abstract - *Nowadays Smart cards has become part of our daily life; it became popular because it is easy to use and extremely portable. Nowadays we are using Smart cards in almost every field except college field. College Student Smart Card Projects Aims to create a system in which smart card will become daily part of their life. We are developing this project to ease the work load of student's. Smart Card will contain QR/Barcode which will be unique for every student. Smart card will contain three details on it name of the student, photo of student and QR/barcode. QR/barcode will contain every information and documents regarding that unique student. This smart will also contain wallet for student's students just have to recharge their Smart Cards. This Smart Card can be recharged though any site, UPI or Wallet ex. Google Pay, Paytm, PayPal, BHIM UPI or you can just go to College office, and pay cash to recharge your card. Once recharged this Card can be used for any kind of payment within college, like in Canteen, Penalty for Late submission, Fine for Late submission of borrowed book and so on.*

Key Words: Student data, Smart card, multipurpose college ID

1. INTRODUCTION

We have been using registers, and diaries to store student data. That includes personal data of student, marks, attendance, library records, etc. in register and diaries system there is no easy way to retrieve data because of this system turns out only for logging of data to retrieve data for a single student, administrator has to search to from many registers which takes quiet time.

The smart card will reduce pressure from both student and administrators if any student came to pay fees or for any other purpose student will not require to carry any document, he just need to show his smart card as for the administrator, he does not require to search the register for student's personal information he just need to scan his/her smart card.

This card can be used in many places like canteen, library, office, etc. This can be also used for attendance management we just have place one QR/barcode reader outside/inside of class students just have to scan their id while entering/leaving the classroom for attendance. With this project we are trying to achieve maximum use of smart card as well as to ease the work for students. It is easy for students to just a carry smart card except for all Documents and Cash. When making payments through smart card student will require a pin which will be set by student themselves so even if your smart card is lost you don't have to about unwanted transactions, you can just inform the administrator and ask him/her to issue new smart card for you.

2. LITERATURE SURVEY

A. Multi-purpose Student Card System victimization sensible Card Technology:

Magnetic strip cards are accustomed to doing utile work like attendance, paying digitally storing record in information, storing scanned documents at a centralized location for ease of access of and reduces tedious manual work. The motivation is being taken from observing case wherever there are completely different cards like permit, PAN card, ID card, library and lots of additional to avoid this case the multi-purpose revolving credit is introduced which is able to contain all the small print of the user in single card.

Benefits of this method are:
- quicker and additional correct.
- Digital group action of bills and fine.
- movableness and simple access to documents.

Disadvantage of this system:
- whereas, accessing the system if the server goes down information winning would be tough.
- Initial investment needed in hardware.

B. utile revolving credit system:

Chip cards that are of ordinary size created plastic is used to store information. This plastic chip card contains details of the card owner that is in encrypted type preventing misuse or unauthorized access of information. This type of card is basically employed in ATM cards. It's terribly appropriate during a country likes Asian nation wherever population is very dense thus carrying such utile card is much higher possibility then carrying Aadhaar card, pan card, etc.

Benefits of this system:
- It provides security because it cannot be tampered thus the only thanks to access the knowledge is by victimization PIN code.
- this method is correct, quick and additional economical.
- revolving credit is being encrypted and given distinctive id; hence, the knowledge is protected.

Limitations of this system:
- Initial investment has to be worn out hardware.
- coaching has to incline to admins and students in initial part.

C. Barcode based mostly Student attending System:

This system accommodates a card with barcode written on it, this card will be directly scanned by the scholars. Usually attending is taken manually by the lecturers in colleges. There's would like of machine-controlled attending system which records attending and stores it in information and calculates and displays attending to the scholars while not any human intervention.
This method will be enforced using differing kind barcode are as follows
1. Linear Barcodes
2. Matrix Barcodes

Benefits of this method are:
- It's terribly straightforward technology compared to RFID.
- It's price effective.

3. RELATED WORK

A. Traditional system.

Traditional system uses registers and diaries to store data. So, a college has to store lot of registers and diaries to keep data. This system is too slow. Updating any kind of changes in existing data in difficult. To retrieve any piece of data stored in this kind of system is very difficult. This kind of system has very limited scope.

B. Cloud based System

Cloud based system is an upgrade added to the traditional system. In this system some IT organizations provide cloud based services for management of a student data. This system replaces registers in Traditional system because this system uses a temporary created sheet using web application to manually enter the data. In this system the process of insertion and retrieve of data become fast. The major drawback of this system it requires lot of human intervention for manual insertion and updation of data.

C.RFID based System

RFID based systems use RFID tag to identifies a user. RFID systems consist of two components tag and reader. RFID reader reads the tag and stores the information on database. Drawback of this system is proxy attendance.

4. PROPOSED SYSTEM

Proposed system uses RFID tag to uniquely identify the student. After tag has been scanned by RFID reader the contents stored in the tag will be shown to the specially created software/application installed in administrator's computer system. The data stored in the RFID tag will be Personal information of a Student, Documents of Students (Aadhar card, pan card, mark sheets) which will be scanned and uploaded by administrators.
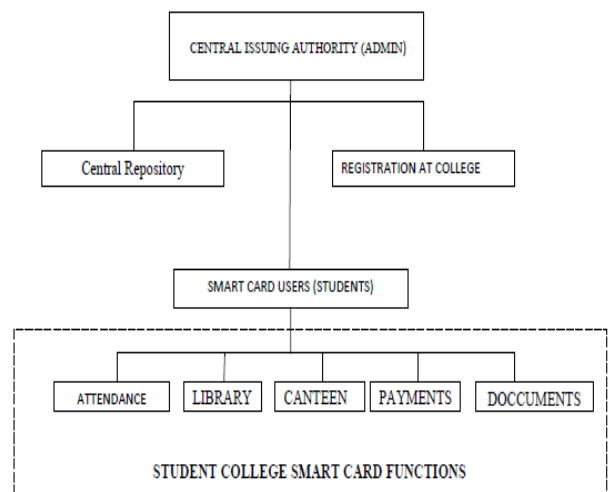
5. ARCHITECTURE OF SYSTEM

Fig.1: Basic architecture of the system.

The planned system integrates all numerous modules as shown in fig.1. It contains of various modules that square measure connected and handled centrally by planned system. The on top of figure shows the essential operating of the planned intranet system for student's group action management system: The below figure shows the essential operating of the proposed computer network system for student's group action management system.

6. WORKING

The system is divided into 1 Central module, 3 modules and 5 sub modules.

A. Central module (Central issuing module) or (ADMIN):

Working of Admin is to scan, verify and generate the smart cards for students. It is the central module or the module with the highest authority in the system. The work of Admin is to observe and maintain every other modules.

B. Central repository:

Central Repository is the central Database in which data and documents for every student is stored.

C. Registration at college:

It is the stage when the students are just admitted in the college. At this module students is register for the first time in college. Administrators scans the documents of the student and saves in the central database. At this password for payment in canteen and library also generated.

D. Smart card users (students)

E. Attendance:

This module records the attendance of every student with the help of RFID tag present in their ID card. The attendance taken using card entered directly into the Central Repository or central database. It reduced the human intervention during the manual attendance present current system. The data stored in the database can be further used for operations.

F. Library:

In this module the book keeper can assign the book to a student using their smart card using the Unique ID that would be generated during the book assign process. This module will track time period for which the book is rented and automatically generate the fine upon the particular student.

G. Canteen:

This module will be operated by the members of canteen. This module will take order from the student and take care of the payment using card.
In this module students can also be recharge their card.

H. Payment :

This module handles the payment of the student using point based system which can be recharged in canteen, library, and admin office

7. CONCLUSIONS

The Concept of student smart card is to ease the pressure of the students and the admin. We can also use this kind of systems in office for employees, in hospital for patients and doctors or staff. In this System we are combining many applications in one system.

By using this smart card student only need to carry only one card, except for large no. of documents, cash or cards for payments. Student just need to carry single card for all college or university operations. Only a single card can do many different operations from attendance to fine payment, from canteen payments to fees payment and every other operation required in daily life of student can be completed using this single card.

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