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College Student's Smart Card and Management System

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ABSTRACT: Smart cards are becoming a common occurrence in our daily lives. They gained popularity due to their simplicity and portability. Nowadays, practically all fields—with the exception of higher education—use smart cards. The goal of the College Student Smart Card Projects is to develop a system that will enable smart cards to become a regular part of people's lives. This project is being developed to reduce the workload for students. Every student's smart card will have a unique QR code. Three information will be on the smart card: the student's name, a photo of the student, and a QR code. Every bit of data and documentation pertaining to that specific student will be contained in the QR/barcode. The wallet that comes with this smart card is also for students who need to recharge their smart cards. Any website, UPI or wallet, such as Google Pay, Paytm, PayPal, BHIM UPI, or you can simply walk to the college office and pay cash to recharge your card, can be used to recharge this smart card. Once refilled, this card can be used for any type of payment within the college, including for the canteen, late fees for assignments and books borrowed, and so forth.

KEYWORDS: Student data, Smart card, multipurpose college ID

I. INTRODUCTION

This project is developed to ease the work of students. The projects involve the card, which contains a barcode which is nothing but a unique card that is assigned to the students. This card is useful for the student in places like library, canteen and stationary shops. This card can be used to submit important documents that will be needed by the students for any of its work.

Each time we mark an application or admission for a course or any other purpose to the universities, we have to submit all the documents all the previously appeared exams. Also, the documents have to be attached with the form along with true copy done. All this require lot of verifications and also the form becomes complicated with so many documents attached. Sometimes the staff due to his negligence can make error in verification and can lead to unexpected results.

II. MODULES AND THEIR DESCRIPTION

1. Admin Login
2. Student login
3. Account Maintenance
4. ID Scanning
5. Payment of fine
6. Payment for stationary items
7. Document Carrier

A. Admin Login:
The admin can login and can refill the balance of the student's card.

B. Student Login:
The student can login and view balance of last five transactions which will help him to be aware of the card balance andaccordingly refill whenever it required.

C. Account Maintenance:
The admin is responsible for maintaining the account of the students of holding the card.

D. ID Scanning:
The card is being scanned to deduct cash amount from the user'saccount or get the students important documents.

E. Payment of Fine:
This ID on the card can be scanned to pay fine for the library books.

F. Payment for stationary items:
The card can also be used to pay for stationary items.

G. Document Carrier:
The card's unique ID can be used to retrieve the important documents(results), of the student stored on the server. This, the student does not have to carry hard copy of the document always.

III. WORKING

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

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 are register for the first time in college. An administrator scans the documents of the student and saves in the central database.

D. Smart card users (students)

E. Attendance:This module records the attendance of every student with the help of QR Code present in their ID card. The attendance taken using card entered directly into the Central Repository or centraldatabase. 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 theirsmart card using the Unique QR 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. Payment: This module handles the payment of the student using point based system which can be recharged in library, and admin office.

IV. DRAWBACKS OF THE EXISTING SYSTEM

- Maintenance of the system is very difficult.
- There is possibility for getting inaccurate results.
- User friendliness is very less.
- It consumes more time for processing the activities.

V. LITERATURE REVIEW

Student smart card application helps students as well as staff to manage official documents management, canteen bill payments, library management in college, schools and educational institutes. It is based on INTRANET. It helps staff personnel's to manage student's attendance. it also helps students to pay their canteen bills just by using their smart card number which can be recharged through admin and can also be used in library for a book management and fine payment for a student on late return of books. This will help to overcome tedious manual work by replacing it with digital technology of smart cards. Attendance is very useful in colleges and schools to keep a track of punctuality of students as well as preparations of list of blacklist according to guidelines of university. Currently the attendance of students, entering the date into system other calculations is done manually by the staff. all this work can be done automatically using smartcards with the help of various technologies like RFID, barcode technology, QR code. Smart cards here can be used in canteens too, students can get their smart cards recharged from their canteen and office previously and then later canteen bills can be paid directly using smart card number without having the need to carry the cash. Also, payments can be made inoffice related works using smart cards such as exam fees, form fees, any kind of fine etc.

VI. SYSTEM REQUIREMENT

The project is loaded in Visual Studio Code. We used Visual Studio for design and coding of the project. Created and maintained all databases into Django, in that we create tables, write query for store data or record of project.

VII. 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 tothe 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.

1. **Analysis & Design**
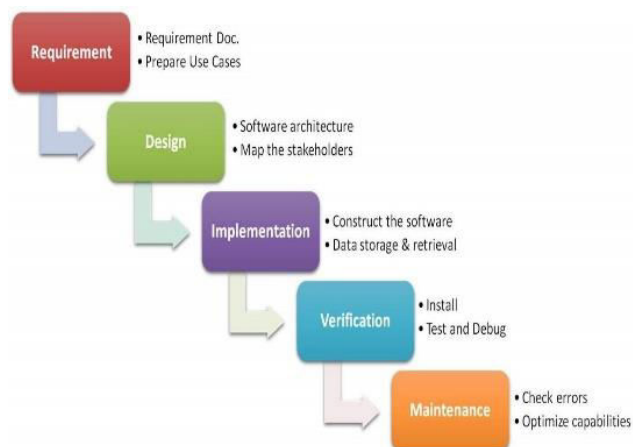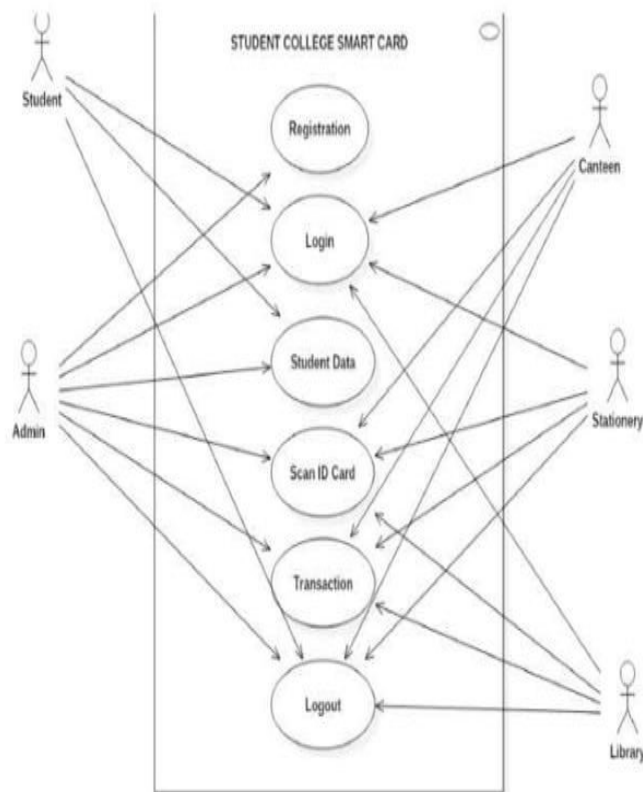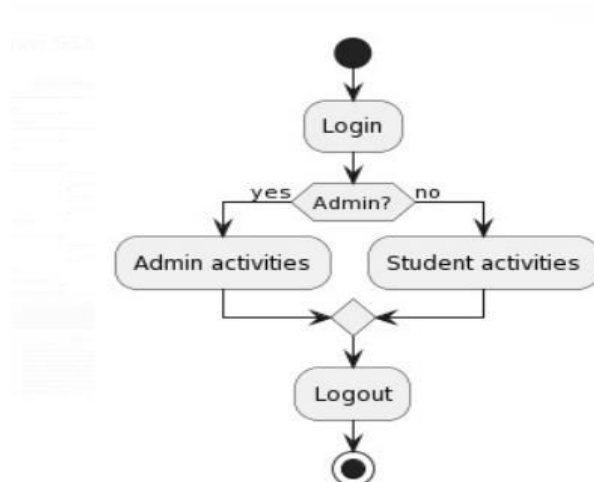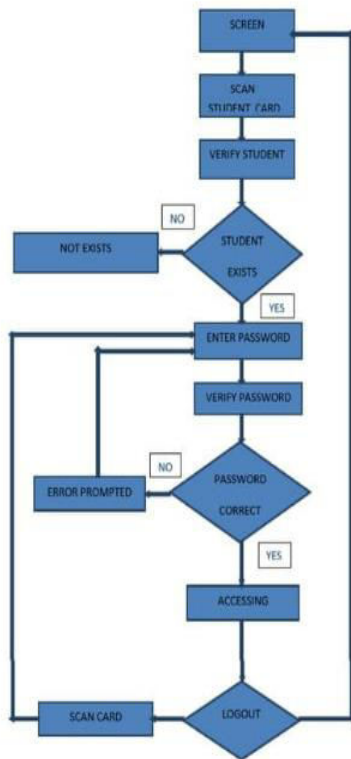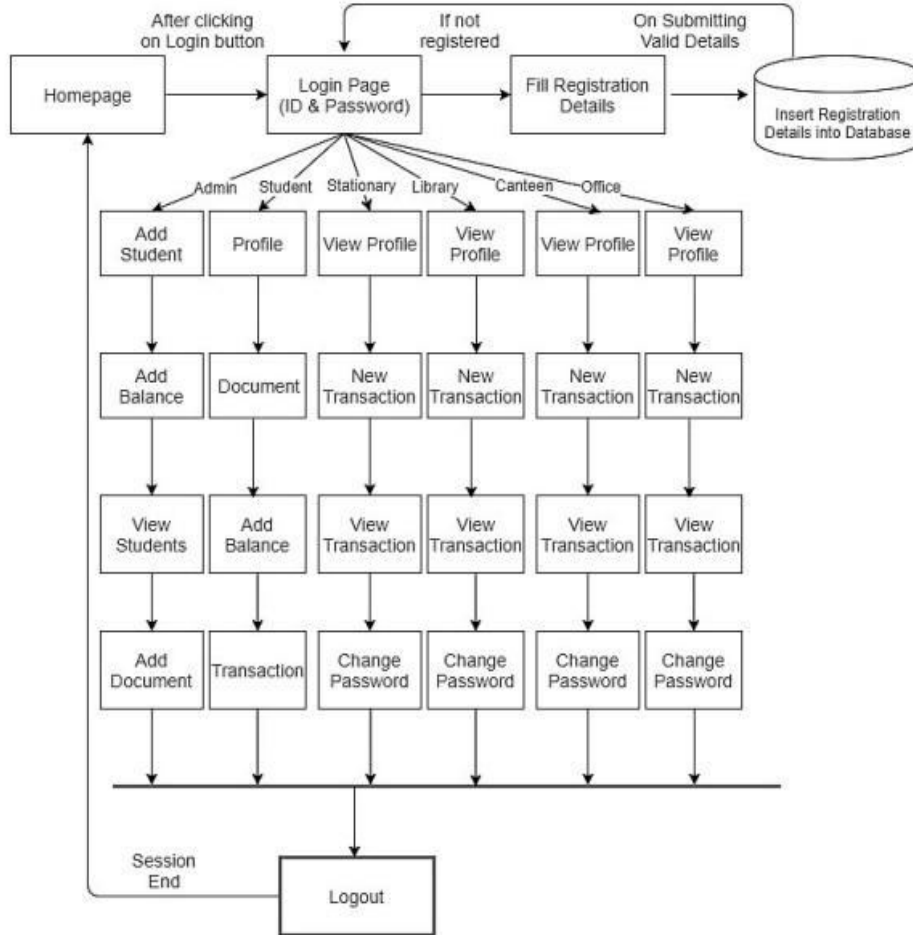2. **Gantt Chart**
3. **Project Lifecycle**

Fig.1. Waterfall Model

VIII.   ARCHITECTURE

IX.   OUTPUT
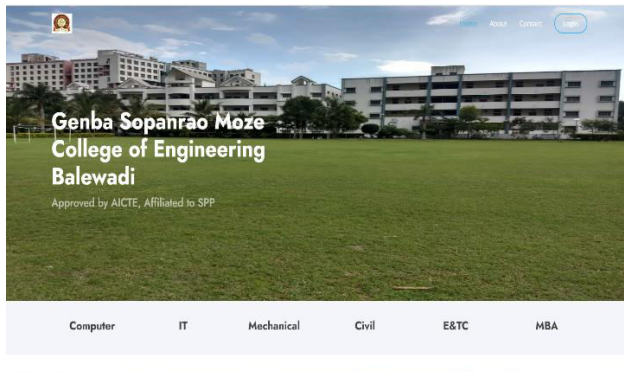
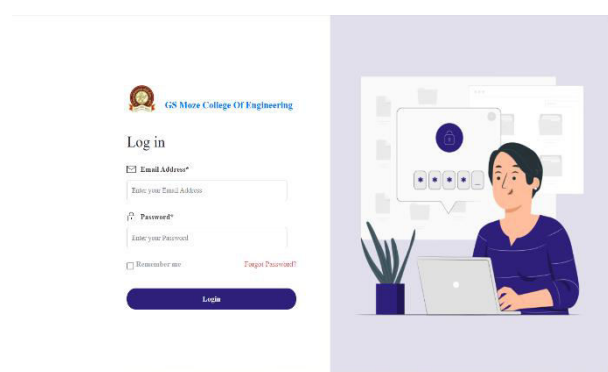Home Page   Login Page
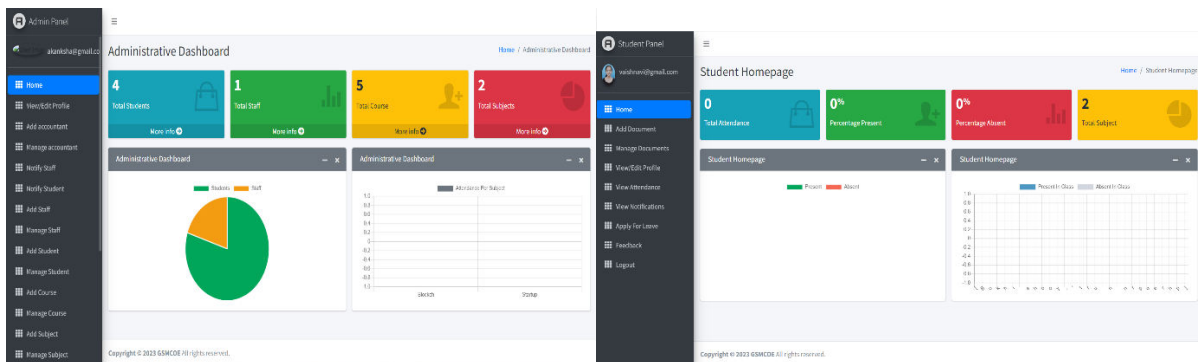

Admin Login   Student Login

X. CONCLUSION AND FUTURE WORK

This project is developed for students to ease the pressure of the students and admin.In this system we are combining many applications in one system. A unique card that is assigned to the student called "Smart Card". By using this Smart card Student don't need to carry the documents and money.

The main motive is to avoid direct cash payments at various places in college with a Smart card Compact Solution, the new way of debiting money.

Also,to minimize the risk of misplacing of original documents, this has been also secured to maintain all those documents in a Smart Card using the specialized system.

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