

# Integrated College Management System (ICMS): A Friendly and Easy Approach

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## Abstract:

Integrated College Management System deals with the maintenance of the overall information about the college like Student information, Faculty information, Accounts etc. This system is used by around 45000+ HEIs (Higher Education Institutes) existing across India. Hence the name Integrated College Management System. This system facilitates the Head of the institutions/universities, faculty and the students to perform various tasks. The head of the institution/university can access the data of all the colleges and generate a report of it. The IQAC (Internal Quality Assurance Cell) coordinator/IT (Information Technology) coordinator can access the information of all the colleges under his region. The College Principal can access the overall data of his college like Accounts, and Alumni etc. The Faculty can access the data related to students. The students can access their personal information and pay the fee online through the payment gateway provided.

**Keywords:** *Integrated, College, university, HEIs, faculty, student.*

## 1. INTRODUCTION

Since there is no one single system where one can access and perform all the operations of the college, this system came into existence. This project has 5 types of login. They are **Head Office login, Regional Office login, College login, Faculty login** and **Student login**. The head of the HEIs/universities and the IQAC/IT coordinators can view and generate the reports of the colleges. The college principal can access and change various information about the college. This includes: **Student Information System, Faculty Information System, Accounts, Digital documentation, Bulk SMS service, Infrastructure, Alumni**. The Student Information System and the Faculty Information System are linked to the MIS (Management Information System) of the official concerned institutional website. In the Accounts module one can maintain day book and cash book and can also perform the transaction via cash, cheque or online transaction. The reports of day book, cash book and the transactions can be generated. The Expenditure report is usually generated once in a year. Using Digital Documentation one can store all the Documents related to students, faculty etc., and retrieve whenever necessary. Using the Bulk SMS service, the principal can send the messages to students, teaching staff or non-teaching staff. The principal can get the information about the infrastructure of the college like land details, site map etc., from the Infrastructure module. The alumni of the college can register themselves using the Alumni module.

## 2. LITERATURE SURVEY

We all know that time is the most precious thing in the world. Every HEIs (Higher Education Institutions) are having their own headquarters to monitor the education system. The administration of the existing system runs

60% (Roughly) using technology. Remaining manually. There are certain number of improvements needs to be done as per as the use of technology is concerned.

### 3. PROPOSED METHOD

Most of the HEIs are maintaining

1. **Accounts** manually.
2. **Infrastructure** details manually.
3. **Student Information System** manually (Especially online fee payment)
4. There is no **Digital Documentation System** (Records of Principal, Faculty and Students)
5. There is no **Bulk SMS Service**.
6. **Alumni** records are maintained manually.
7. There are no instant **Reports** to generate digitally.

**As a result, following disadvantages, we are facing:**

- Lots of paper work is needed to maintain the above details (Lakhs of papers).
- Accounts may go wrong due to common human errors.
- Lots of time is being wasted due to non-use of technology such as online fees payment.
- Administration is somewhat stressful due to the delayed response, as the most of the communication depends on letters.
- There is no uniformity in maintenance of many records such as alumni format, student's information through ledgers etc.
- There is no instant information available to the authorities such as Accounts information, Infrastructure information and event details of particular colleges.

To overcome all these disadvantages, here I am designing the **ICMS** software, in which all the existing system is computerized. It contains 10 modules, out of which few modules require internet connection to run and the remaining modules, we can work offline.

The Student Information System (SIS) has two sub modules.

- Online Admission
- Online Fee payment

### 3.1 Online Admission:

This sub module is connected to the UG Online Admission Process of Department of Collegiate Education.



### 3.2 Online Fee Payment:

As the user clicks on the online fee payment, the user will be redirected to the fee payment page where the user will be given the choice to choose between 3 modes of payment.

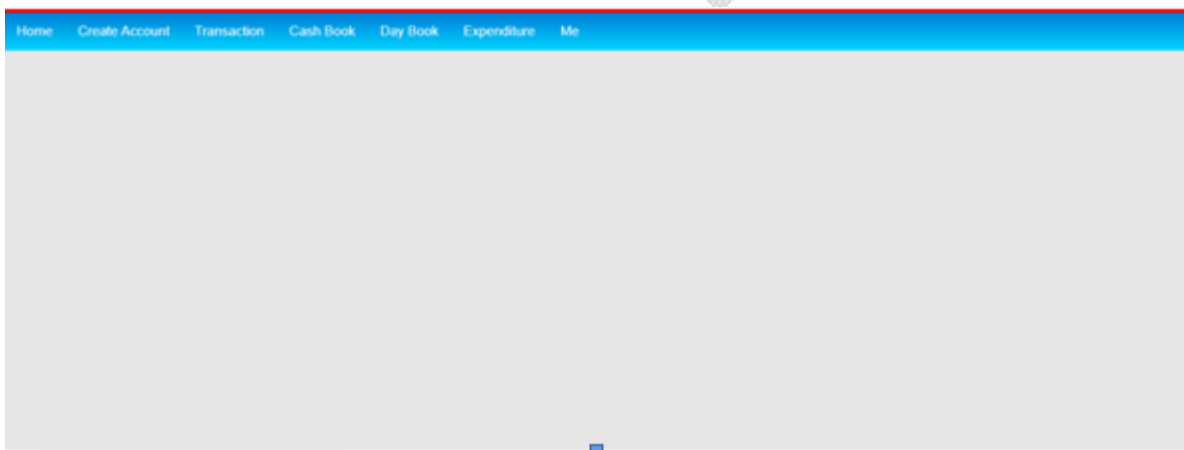
- **Cash, Cheque and Online payment**

3.3

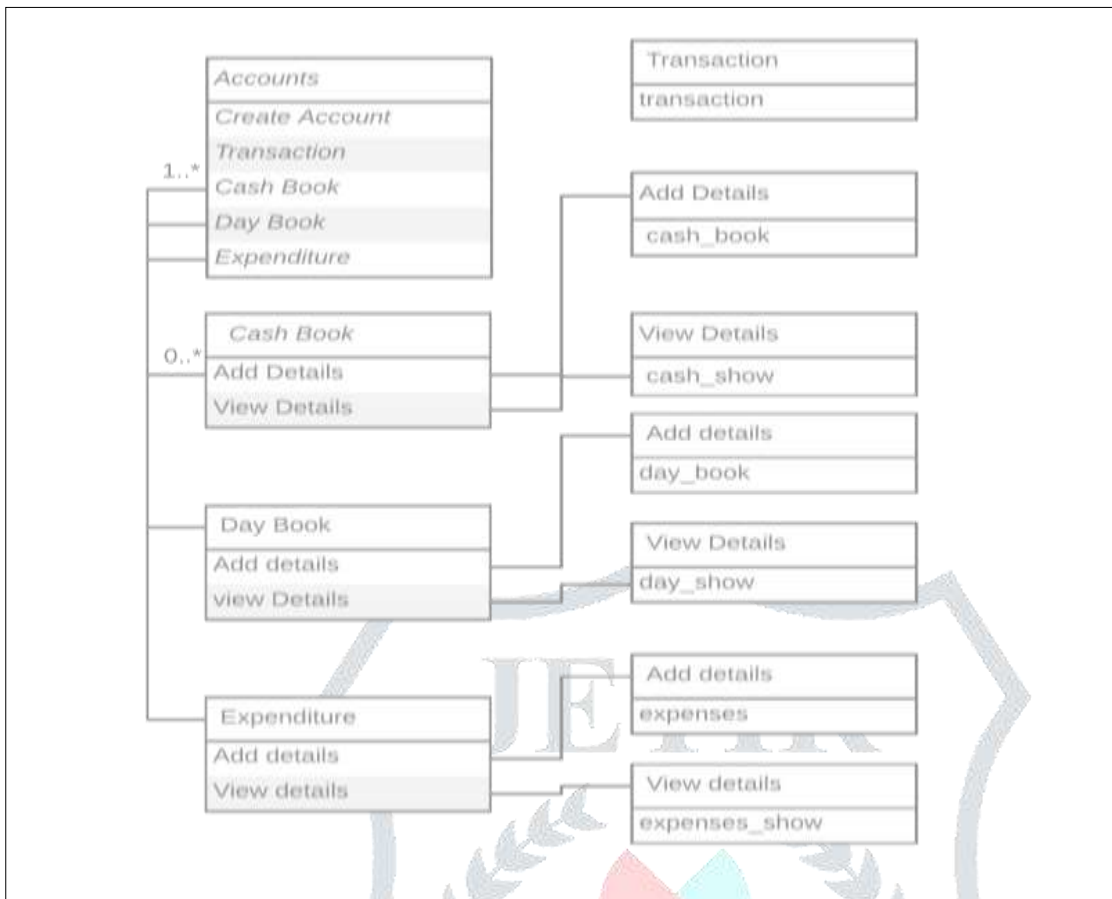
Accounts

The Accounts module has 4 sub modules. They are listed below

- **Transaction, Cash Book, Day Book and Expenditure**



Each sub module has its separate own functionality.

**DFD:****Transaction:**

Transaction helps the user to keep track of all the transactions that are being made in the respective college. The user can choose between three modes of payment i.e.,

- Cash
- Cheque
- Online Payment

The User needs to fill the transaction form and select the mode of payment to be done and click on submit button. On clicking the submit button the database will be updated with the transaction. Online payment is the only mode where the bank server is connected. The remaining two modes involves the updation of database on the localhost. The transaction number is generated automatically. The user can also upload the images of Cheque and the particulars for future reference.



**Cash Book:**

As the user hovers the cursor on the Cash book option two options appear. One is to add the cash book details and the other is to view the details. In the Add details option the user can enter the cash book details like voucher number, particulars, amount etc., This entry will be updated into the database once the concerned authority approves it by checking the approved button.



**Day Book:**

As the hovers the mouse onto the day book option, two options appear. One is to add the Day book details and the other is to view the details. In the Add details option the user can enter the Day book details like challan number and all the fee details.

**Day Book Records**

SL\_NO  Date  Challan No

Name

**Govt. Fee**

Application Fee  Admission  Tuition

Laboratory Fee  Medical Checkup Fee  Transfer Certificate Fee

Study Certificate Fee  Library Fee  Sports Fee

Reading Road

**Non Govt Fee**

College Development Fund  Students Welfare Fund  Teachers Welfare Fund

Flage  Indian Scout & Guide  Indian Red

NSS  User  Cross

OTHERS

**College Fee**

Cultural Fee  Identity Card  CDC

College Prospectus

**University Fee**

Eligibility Application  Eligibility Fee  Registration Fee

Sports Fee  Career Guide  Cultural Activities

Corpus  Indian Scout & Guide  Continuation

Examination Application Fee  Out Of University  FINE

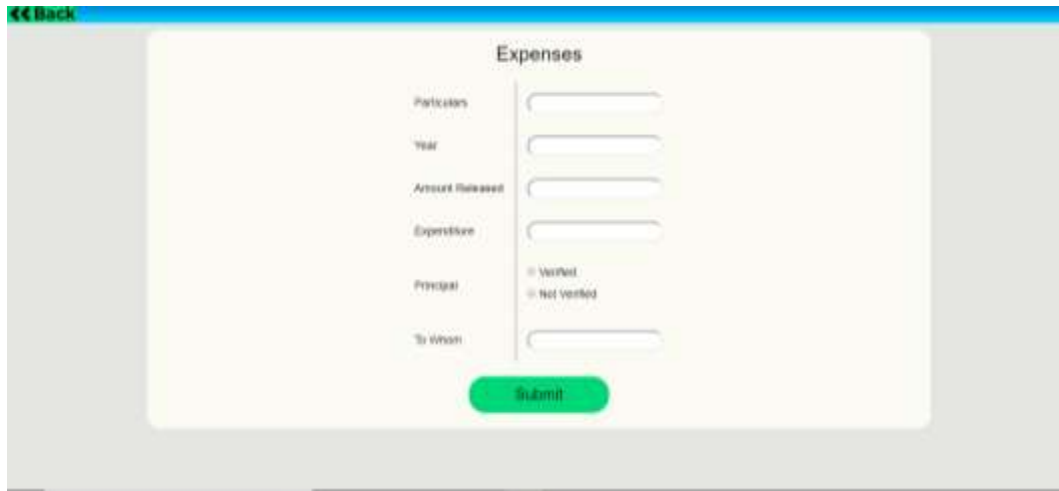
OTHERS

**Submit**

**Expenditure:**

As the hovers the mouse onto the day book option, two options appear. One is to add the Expenditure details and the other is to view the details.

In the Add details option the user can enter the Expenditure details like particulars, year etc. The money spent by the college which was sent to the college as fund by the government is noted down in the expenditure.



The image shows a web-based form titled "Expenses". At the top left, there is a blue button labeled "Back". The form itself is white and contains the following fields and options:

- Particulars:
- Year:
- Amount Released:
- Expenditure:
- Principal:  Verified  Not verified
- To whom:

At the bottom center of the form is a green button labeled "Submit".

### 3.4 Infrastructure

Infrastructure development is an important aspect that needs to be considered. The term infrastructure is comprehensive and there are number of aspects that are included in it. These include playgrounds, library facilities, laboratories, computer centres, technology, machinery, tools, equipment and so forth. The members of the educational institutions need to invest resources to bring about improvements in infrastructure. When developments will take place in infrastructure, then the individuals will be able to carry out their job duties in an appropriate manner and lead to progression of educational institutions. The members of the educational institutions need to ensure that they bring about improvements in infrastructural facilities on a continuous basis. With advancements taking place and with the advent of modern and innovative methods, it is necessary to promote infrastructure development in educational institutions. The main areas that have been considered in this research paper are significance of infrastructure, educational planning, characteristics of infrastructure, and types of school infrastructure.

It has been comprehensively understood that the infrastructure development in schools is regarded to be having a considerable influence in enabling them to achieve the desired educational objectives. When the development of infrastructure will take place in schools, then the members would also be able to carry out their job duties in an efficient manner. Furthermore, it would lead to an increase in the enrolment of students as well. The availability of infrastructural facilities has a considerable impact upon the school environmental conditions. These facilities are also regarded as one of the important indicators of ensuring a conducive and favourable learning environment for the students. During the past two decades, major emphasis has been paid upon programs and schemes, such as, Operation Blackboard, SarvaShikshaAbhiyan, District Primary Education Program and so forth. These programs and schemes have the major objective of enabling the students to recognize the significance of education and encouraging their participation (Bandyopadhyay, n.d.). Emphasis has been put upon making provision of appropriate amenities and facilities within the school environment. When these aspects are taken into consideration, then the needs and requirements of the students have to be considered.

The National Education Policy (NPE), 1986 recognized that when the school environmental conditions do not contain proper infrastructure facilities and amenities, then it proves to be a de-motivating factor to not only students, but also other members. The NPE, therefore, calls for a drive for bringing about improvements in

primary schools and also provision of support services. In accordance to this policy, the primary schools should have provision of two rooms for the implementation of teaching-learning methods and instructional strategies. Furthermore, the Right to Education Act, 2009 has recommended that every school should have proper facilities and amenities. These include restrooms, clean drinking water, playgrounds, proper environmental conditions, nutritious and healthy mid-day meals, proper boundary walls and so forth (Bandyopadhyay, n.d.). Significance of Infrastructure development in schools.

- Dr. RadhikaKapur.

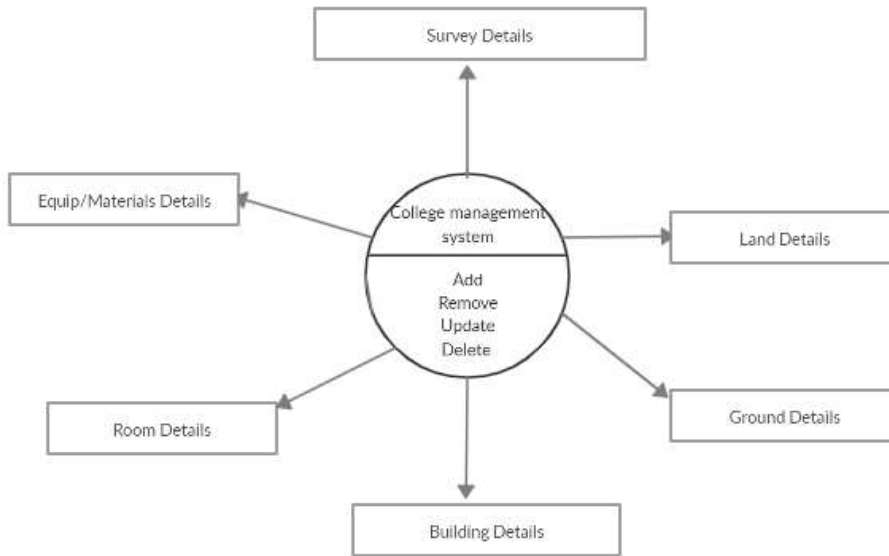
In not only schools, but in higher educational institutions as well, infrastructure development is an important aspect that needs to be considered. The term infrastructure is comprehensive and there are number of aspects that are included in it. These include playgrounds, library facilities, laboratories, computer centres, technology, machinery, tools, equipment and so forth. The members of the educational institutions need to invest resources to bring about improvements in infrastructure. When developments will take place in infrastructure, then the individuals will be able to carry out their job duties in an appropriate manner and lead to progression of educational institutions. The members of the educational institutions need to ensure that they bring about improvements in infrastructural facilities on a continuous basis. With advancements taking place and with the advent of modern and innovative methods, it is necessary to promote infrastructure development in educational institutions. The main areas that have been considered in this research paper are, significance of infrastructure, educational planning, characteristics of infrastructure, and types of school infrastructure development is an important aspect that needs to be considered. The term infrastructure is comprehensive and there are number of aspects that are included in it. These include playgrounds, library facilities, laboratories, computers, technology, machinery, tools, equipment and so forth. The members of the educational institutions need to invest resources to bring about improvements in infrastructure. When developments will take place in infrastructure, then the individuals will be able to carry out their job duties in an appropriate manner and updating the details of the infrastructure and maintaining the infrastructure. The higher authorities will be able to access the information like how many colleges, buildings, rooms, and materials are there and then the members of the college can also check and update the information.

The prime agenda of Infrastructure is to server paperless and maintain the college infrastructure information in online in which higher authorities and the members of the educational institutions can check and download the reports. The documents that are uploaded by the IT department of the college will be maintained in the servers. The Infrastructure documents and information details are uploaded by the colleges of the ICMS individually which are operated and view by the persons who are authorized and authenticated. The Infrastructure management system containing six sections.

- **Survey Details**
- **Land Details**
- **Ground Details**
- **Building Details**
- **Room Details**



➤ Equipments/Materials Details



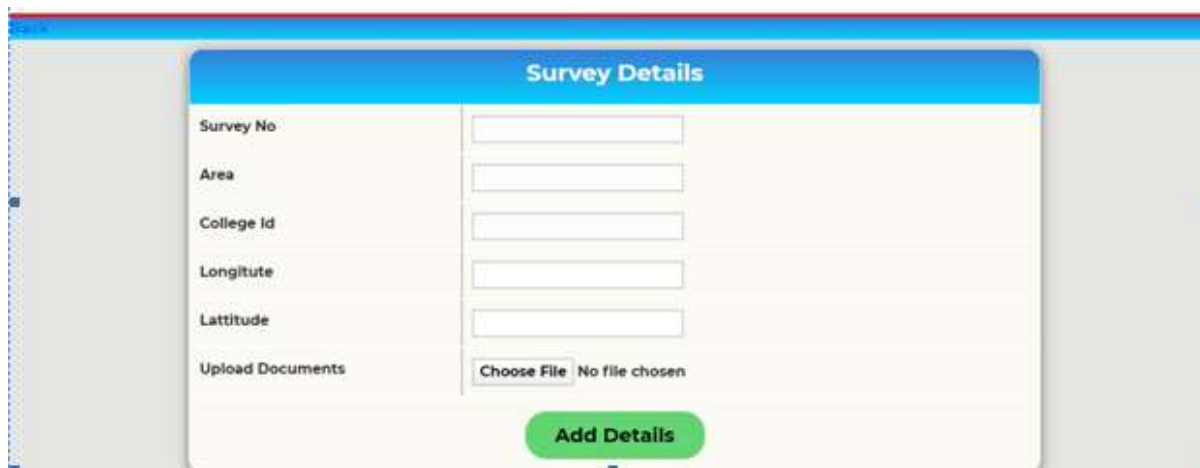
**Infrastructure DFD**

Here entering the data is first step and after entering the data it will store in database. After storing the data in database, we print it on the screen finally user can download the report in a structured manner.

**Home page:**



**Survey Details Page:**



**Land Details Page:**

Land Details

College Id

Area

Address

No of Outdoor Grounds

No of Buildings

Upload Documents  No file chosen

**Building Details Page:**

Building Details

Building No

Building Name

Area

NO of Rooms

Location

College Id

Upload Documents  No file chosen

**Ground Details Page:**

Outdoor Ground Details

College Id

Ground No

Ground Name

Area

Purpose

Upload Documents  No file chosen

**Room Details Page:**
**Equipment Details Page:**
**3.5 Digital Document Management System**

- Digital Document Management System motto is to server paperless with digitalizing the documents related to faculty and students of ICMS
- Digital Document Management System is a digital locker containing the faculty and student's digital documents. These files are stored in the servers of the ICMS to serve the colleges in handling every document of the faculty and student.
- The documents that are uploaded by the IT department of the college will be maintained in the servers until the end of the academic session.
- These documents are uploaded by the colleges of the ICMS individually which are operated and view by the persons who are authorized and authenticated.

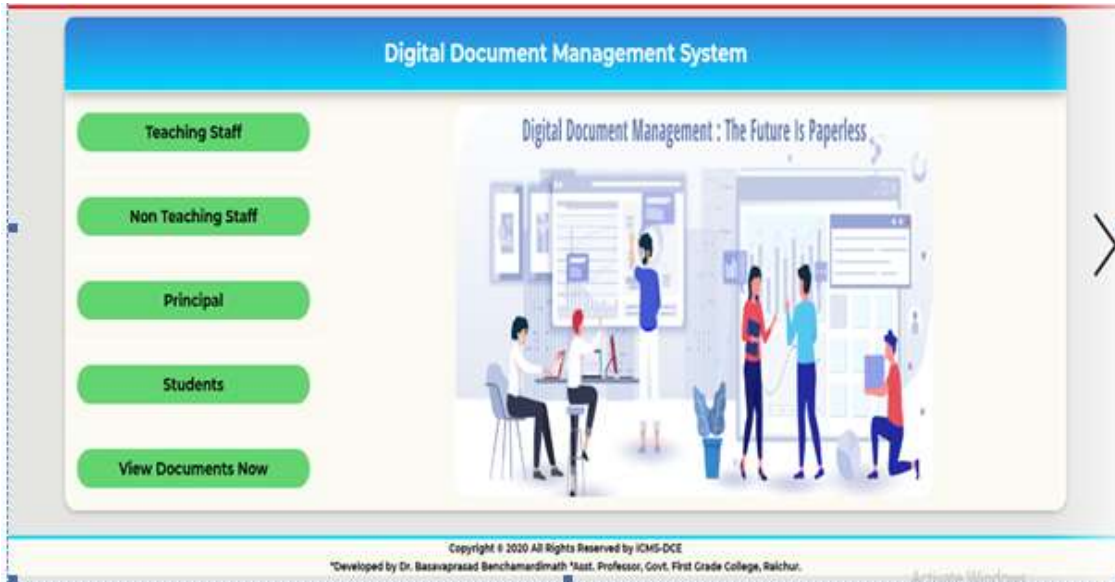
This digital document management System containing 5 sections

- Uploading teaching faculty documents
- Uploading non-teaching faculty documents
- Uploading students' documents

- Uploading principal documents
- Viewing all documents

These documents are uploading and viewing with the help of KGID/STDID which acts as the primary key for the uploaded documents in the database.

**The Homepage of the Digital Documents Management System as follows:**

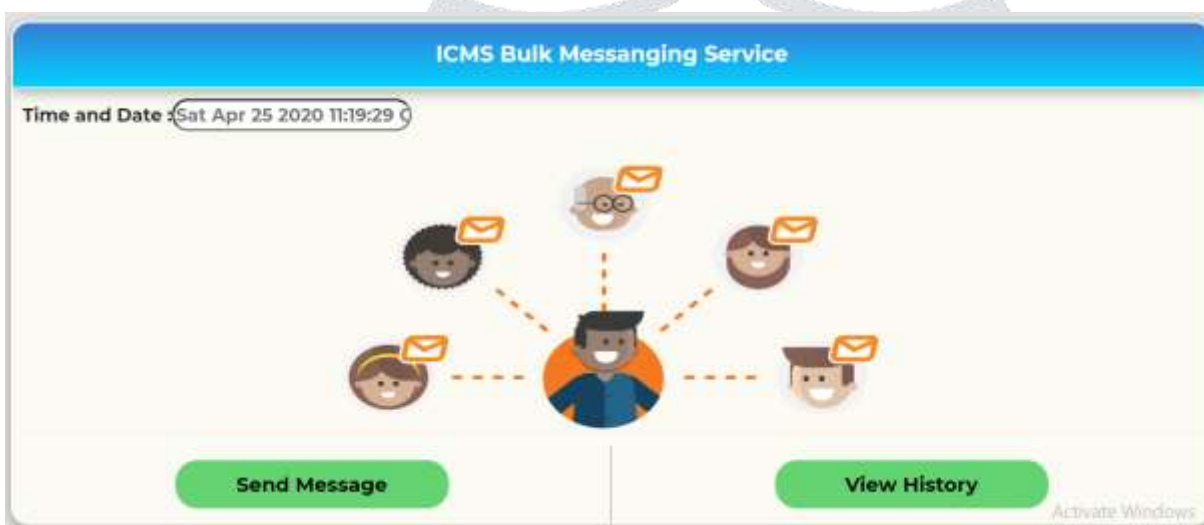


**Searching the documents as follows:**



**Documents viewed format:**

KG ID / Student ID	Description	Document Name	Photo
1392579	like 3	Appointment Order	
1392579	like 3	Orientation Course Certificate	
1392579	like 3	Department Exams Certificate	

**ICMS Bulk Messaging Service**

The bulk messaging service having two sections:

**1. Send message**


Sending messages from sender to receiver where the senders are the

- **Head Office, Regional Office, College and Principals**

Where the receivers are the

- **Teaching Faculty, Non-Teaching Faculty and Students**

The back-end API will be connected to the message box with which message content will be shared among the receiver's database contains the phone numbers csv file which is maintained by the college its department.

Those CSV FILES will be linked to the API transfer messages.

## 2. View history

It maintains the full history of messages details with time and date and the sender and receiver as follows.

Bulk SMS History				
Time	Date	Message	To	By
16:49:20	06-04-2020	bgzbdhfdghfzdfhadrheth	Non Teaching Staff	Regional Office
16:53:01	06-04-2020	Hello Everyone Happy New Year	Teaching Staff	Head Office
16:54:35	06-04-2020	Hello Everyone Happy New Year	Teaching Staff	Head Office
16:55:24	06-04-2020	Hello Everyone Happy New Year	Teaching Staff	Head Office
16:55:43	06-04-2020	Hello Everyone Happy New Year	Teaching Staff	Head Office
16:55:59	06-04-2020	Hello Everyone Happy New Year	Teaching Staff	Head Office
16:59:07	06-04-2020	Due to Covid-19 Outbreak regional lockdown is declared in college	Students	College

## Alumni

The Alumni module is where the Alumni (passed out students) of the respective college submits his/her data to the college by a given Google form through which the college can stay in contact with the Alumni and get help in any student related issues if any.

## 4. CONCLUSION

Integrated College Management System deals with the maintenance of the overall information about the college like Student information, Faculty information, Accounts etc. This system is used by around 45000+ HEIs (Higher Education Institutes) existing across India. Hence the name Integrated College Management System. This system facilitates the Head of the institutions/universities, faculty and the students to perform various tasks. The head of the institution/university can access the data of all the colleges and generate a report of it. The IQAC (Internal Quality Assurance Cell) coordinator/IT (Information Technology) coordinator can access the information of all the colleges under his region. This software prototype is unique of its kind in terms of easy, simple and flexible administration of HEIs. It can be implemented to autonomous, private institutes, Govt. Colleges, Polytechnic colleges and universities also.

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