Online Student Database Management System

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ABSTRACT: This paper is aimed to provide a digital solution to the KLS VDIT, making it paper free campus by storing all the student related information in the digital copy which can be accessed by everyone. With this QR code function, the students, staff and parents can use the application, with minimal to no employee assistance. The QR code acts as an index to student records and is the same as the one used in Digi locker (A Govt. of India Initiative).
Keywords: QR Code, LMS.

I.   INTRODUCTION
The design and implementation of student management system is to replace the current paper-based records. College Faculties are able to directly access all aspects of a student's academic progress, attendance details and various activities of students through a secure, online interface. All data is thoroughly reviewed and validated on the server before actual record alteration occurs. In addition to a staff user interface, the system plans for student user interface, allowing users to access information and submit requests online thus reducing processing time. All data is stored on servers managed by the college administrator and ensures highest possible level of security. This system provides a simple interface for the maintenance of student information.

Achieving this objective is difficult using a manual system as the information is scattered, can be redundant and collecting relevant information may be very time consuming. All these problems are solved using student information management system, increasing the efficiency of college record management and reduce the time required to access and deliver student records. For example, when a student needs his course completion certificate it needs to check many details about the student like his name, reg number, year of study, exams he attended and many other

details, so it needs to contact all the modules that are office, department and examination and result of students. With that in mind, we overhauled the existing Student Database Management System and made necessary improvement to streamline the processes. Administrators using the system will find that the process of recording and altering the student records easier while at the same time information is maintained with efficiency. This paper will provide ease of managing the data than manually maintaining the documents.

This work is aimed to provide a digital solution to our college, making it paper free campus by storing all the student related information in the digital copy which can be accessed by everyone. Through the QR code function, the users can use the application, with minimal to no employee assistance. The QR code acts as an index to student records and is the same as the one used in Digi locker (A Govt. of India Initiative).

II. LITERATURE SURVEY

[1] "QR Code based Attendance Management System" Authors Indrani Sengupta, Nikhil Jain, Sanket Shah, Harsh Jain, Abhinav Chandrani, Assistant Professor, MPSTME, NMIMS University, Mumbai, India 2,3,4,5 Student, NMIMS University, MPSTME, Mumbai, India from International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 Volume: 07 Issue: 04 | Apr 2020 www.irjet.net p-ISSN: 2395-0072

They have developed QR code which is being displayed for students during or at the beginning of each lecture and deals with the process of attendance management and evaluation of attendance. They discussed the elimination of the current problems, while also promoting a paperless environment at the same time, and they also discussed about how the system speeds up the

process of taking attendance would save valuable teaching time.

[2] "Student Profile Management System Using QR Code", the authors Maneesh Kumar Bajpai, Fadiet, Amaret, B.E. Student Assistant Professor, Department of Computer Engineering, Shatabdi Institute of Engineering & Research Nashik, India. From International Journal for Scientific Research & Development| Vol. 5, Issue 02, 2017 | ISSN (online): 2321-0613.

There are many proposals for Automatic Monitoring Systems in the literature and in the market. Most of them do focus on applications to be installed on the lecturer device, whether a smartphone or a laptop. In the section, we will mention briefly few of these proposals. Maneesh Kumar Bajpai used the QR code in libraries. Fadiet proposes software to be installed in the instructor's mobile telephone. It enables it to query student's mobile telephone via Bluetooth connection and, through transfer of students' mobile telephones' Media Access Control (MAC) addresses to the instructor's mobile telephone; presence of the student can be confirmed. Amaret is another author who proposed using real time face detection algorithms integrated on an existing Learning Management System (LMS). We noticed that most proposals do involve applications being used by the instructor during class. Hence, if the Monitoring system requires some action from the instructor, then the class time will be disturbed each time the instructor allows some late students into the class. On the other hand, our proposal does require the instructor to do nothing extra beyond presenting the slides of the course to the students. Hence, students may register their presence at any time they wish during the class, while having in mind that registration times are recorded.

[3] "QR Code Based Smart student management system" Authors Anupam Manori, NandgopalDevnath, Nitish Pasi and Vivek Kumar Department of Information Science and Engineering and Technology, India. from International Journal of Smart Business and Technology Vol. 5, No. 1, (2017), pp.1-10.

They have developed, using punch cards, logbooks, fingerprint system, barcode, QR code and also RFID still caused problem such as providing incorrect information to the users.

[4] "Enchanging Library Services using Barcode, QRcode and RFID Technology: A Case study in central library National institute of Technology, Roukela" Authors Wasim Rahaman Library Trainee, Biju Patnaik Central Library, NIT,

Rourkela from International Journal of Digital Library Services Vol.6, July-Sept 2016, Issue-3.

[5] "Student Attendance Management System" Authors Karwan Jacksi1*, Falah Ibrahim2, Shahab Ali3 University of Zakho, Iraq Duhok Polytechnic University, Iraq University of Zakho, Iraq. from Scholars Journal of Engineering and Technology (SJET) ISSN 2347-9523 (Print) Abbreviated Key Title: Sch. J. Eng. Tech. ©Scholars Academic and Scientific Publisher, A Unit of Scholars Academic and Scientific Society, India.

III. PROBLEM STATMENT

In proposed system a student is provided with QR code embedded ID card, The information regarding Office, Academics, Library, Training & Placement all can be retrieved.

Via our observation of the current system, we found many problems, considering the lack of accuracy of the traditional student management system and possibility of students to record their complete information while, Here the complete student information can be stored in a centralized data. The questions are as followed:

1. What all benefits can we get by applying Student Management System using QR Code for students in institutes?
2. What is the effect of using the application Student Management System using QR Code on the educational process for students?
3. What are the results do we get via the application of Student Management System using QR Code in universities?
4. How can Office Administrators, faculty members, Parents, Placement Officers, Library Staff, and students accept the method of applying Student Management System using QR Code?

IV. METHODOLOGY

The process of system survey aims to study an existing system to entirely design a new system. System survey is performed to achieve mainly three aims namely:

1. Student management will help in the new system design.
2. To understand the procedures or the system clearly.
3. System analysis will be helpful for identifying the problems in the existing system.
• The Unified system interface (USI) is used for interconnection formed between different databases. This service permits the administrator to access any database. XML

data is used for communication.
- Registration Complete: After the QR code is scanned, the registration step gets completed. And the Data is stored in the database displays the complete details of student.
- Authentication: In this phase the module provides security to user and only authorized user is able to call the module and access the complete student information.
- Verification: This module is applied to verify complete student information from database.
- Updating: This module cannot be accessed by any student. Only the administrator has the authority to update, delete and edit the database.

The student profile is created using the registration number and a QR code is assigned to each student.

registered for the semester he/she is presently studying, attendance and internal marks of the subjects, he/she can also ask any queries to the staff regarding the subjects. The placement details include the data about the companies, the eligibility criteria statistics in attending recruitment of the companies, the process of recruitment, the date and time of the appointment. The placement cell updates the student complete data such as company name, location and package who got selected for a company. The exam section details include the internal and external timetables, the room allocation for the exams, it also contains the results of all semesters.
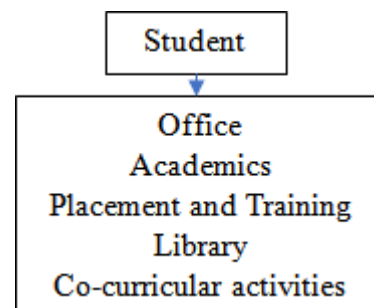

Fig 1. Modules of Student Information

The system design mainly contains the following:

STUDENT: The student is the central focus of this project. Student details can be accessed by the parents and staff. The information includes the details of college such as, course details, subject details, faculty details, training and placement cell information and exam section information where in the course details include information regarding branch of studying, the academic calendar of the college, year wise subject offered by the branch, the subject details involve the syllabus of the subjects, information regarding the staff handling the subjects, the subjects he/she presently

Fig 2. Student

OFFICE: The office is responsible for entering the new student data, promoting the student from one class to another class, from one semester to another semester and from one year to another year. Handling the student accounts like any changes regarding name, address etc. The administrator also manages the faulty accounts like entering a new faculty, assigning the faculty to the subjects. The administrator also updates the college related details like calendar of events, information regarding any other events that occurs in the college. The administrator will check all the updates i.e., student update, faculty updates, exam updates etc. The administrator has the highest level of power in the student information system.
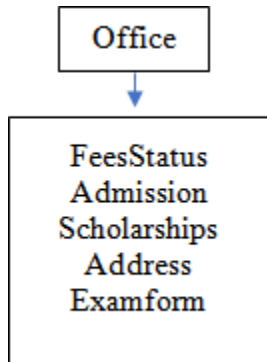
Office

FeesStatus
Admission
Scholarships
Address
Examform

Fig 3. Office

ACADEMICS: The academics maintained and also examination section is responsible for updating internal and external examination timetable. They also allocate time slots for updating the supervision list for the faculty by generating impartial schedule to equally allocate the duty and provides well-being of work if faculty supervises supplementary and classroom allocation for the students in examination. The verification of marksheet and approval of the internal marks are handled by the exam department.
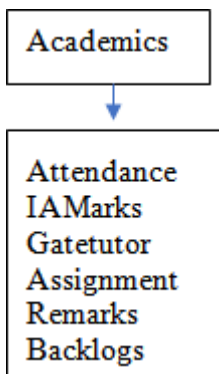
Academics

Attendance
IAMarks
Gatetutor
Assignment
Remarks
Backlogs

Fig 4. Academics

PLACEMENT AND TRAINING: The placement officer is in-charge for updating the placement related information like eligibility criteria for a certain company, arriving date for the company, which is approaching for recruitment, the list of students who are qualified for attending the recruitment process. The list of students who got placed in a company and the placement officer can go through the student information from the student database for selecting the eligible candidates list for

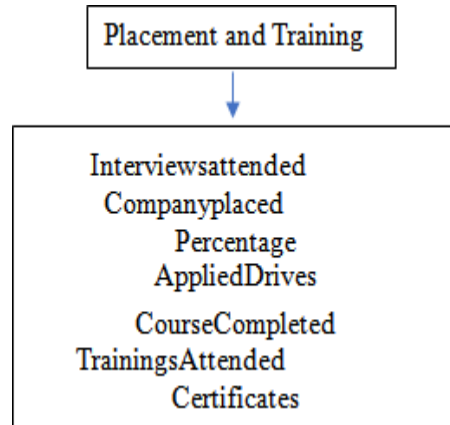placements. He also can send notifications to students regarding any information.

Placement and Training

Interviewsattended
Companyplaced
Percentage
AppliedDrives
CourseCompleted
TrainingsAttended
Certificates

Fig 5. Placement and Training

LIBRARY: The library is responsible for handling the information related to the library management, which contains student details such as book borrowed, book issued, penalty.
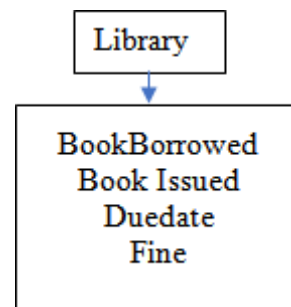
Library

BookBorrowed
Book Issued
Duedate
Fine

Fig 6. Library

CO-CURRICULAR ACTIVITIES:In this co-curricular activity it displays the student information that who is interested in which of the sports or any other cultural activities are to be displayed.
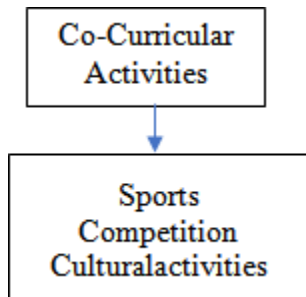
Fig 7. Co-Curricular activities

V. IMPLEMENTATION

- In this paper, the purpose of generating QR Code is to get the centralized details of the student easily by scanning the QR code, where each student has unique QR Code.
- In MS-EXCEL, the data of all the students have been stored and there itself QR Code has been generated.
- The Data-entry form has been generated to enter the large amount of data fields, in which we can access data or add new, delete, search, next, previous data fields easily.
- The students are required to scan their individual QR code assigned to them during their student registration. Based on this, student details and other necessary data will be recorded. The system will help a lot in improving student management system.
- This project has been proposed and developed for a better Databased system to help and overcome existing issues. It is fully responsive to several computer systems users. The proposed model provides data security for individual student for storing data can be accessed quickly and easily, moreover, and the QR code is automatically generated.
- The QR Code scanner which scans the particular studentQR Code and then the output that is the complete details of the studentswillbedisplayedonthe screen.
- The Data entry form where we need to entry data which displaysintheExcel sheet.
- Displayoffieldwithdataentered.
- We canSearch,addnewdata, Delete, Next, Previousoperationscanbeperformed.

VI. RESULTS

Our paper gives the complete details of the students after scanning the qrcode.We first provide University seat number(USN) as a user ID and secured with password. After entering USN

and Password we can fetch the complete student information based on the given USN. As shown in the below figure 8 and 9.This paper can be helpful for staff and parents to know their student active status. Fig 8 It is the login page consists of user_id and password
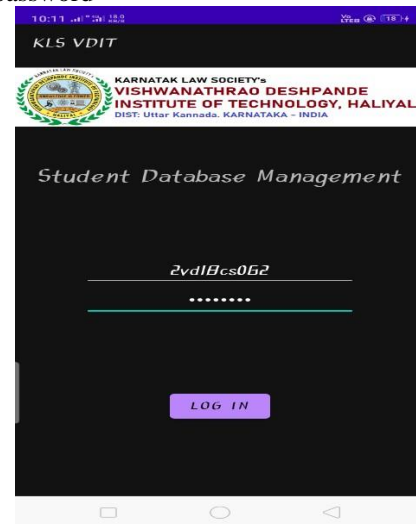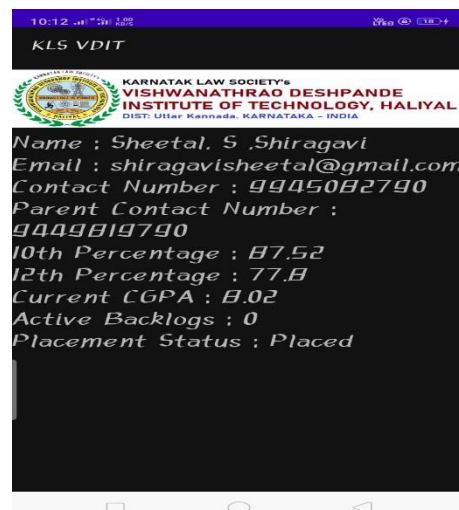

Fig 8. Login Page

Fig 9. Displays details of entered USN

Fig 9 Displays the student information such as student name, USN, email-id, phone number,10th percentage, 12th percentage, active backlogs and placement status.These all information helps staff to fetch student details and parents also can fetch the information of their ward.

VII. CONCLUSION

In this paper it concludes that, this is

going to implement QR Code for managingstudent information not only for library but also for managing overall centralized data of astudent. On recent days it is required to keep up with the latest technologies and trends,especially in the field of computer science. Educational institutions are looking forward toenhancingtheeducationalprocessusingthelatesttechnologiesbysoftwareinreducingmanualwork. Takingonnoteattheexistingsituation,wehavethought ofusingtheQRCodetechnology to efficiently benefit. For that, we have proposed a way to automate this StudentManagementSystem using QR Code.

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[5] Karwan Jacksi1*, Falah Ibrahim2, Shahab Ali3 University of Zakho, Iraq Duhok Polytechnic University, Iraq University of Zakho, Iraq "Student Attendance Management System" from Scholars Journal of Engineering and Technology (SJET) ISSN 2347-9523 (Print) Abbreviated Key Title: Sch. J. Eng. Tech. Scholars Academic and Scientific Publisher, a Unit of Scholars Academic and Scientific Society, India.