Barcode Based Student In Out System

Mangesh Gaikwad, Sagar Wandale, Shreyas Saoji, Mayuri Ghode, Sneha Wadte

Department of Computer science and Engineering, SGBAU Amravati University/SSGMCE Shegaon, Maharashtra, India

ABSTRACT

Student in out system play significant role in order to justify in out entry of a student in a college as overall. Unfortunately, there is no automated entry exit record keeping application available in colleges.There is a need for a tool to systematically keep the students entry exit record due to increasing number of college students. The project that we are going to make is to help the Gatekeepers in our college to avoid maintaining the registry book. This project uses a barcode scanner. B.B.S.I.O.S uses Barcode scanner to take the entry exit record of students entering the college campus. Each student's ID card will have a barcode at the back side of it. This barcode contains unique data of the student such as student id. Student will scan their barcode at the gate so that the student cannot cheat. The display screen will show the entry exit record of the particular student after scanning his/her barcode. Gatekeeper and administrator will only have access to the system with their respective login ID's and passwords.
Keywords: Login Id, Student Id ,Barcode, Barcode Reader, Gate.

I. INTRODUCTION

Barcode Based Student In Out System"(B.B.S.I.O.S) is a software which utilizes barcode scanner to record and maintain the in out entries of the students. The main hardware that is to be used is the barcode scanner. This barcode scanner is used in order to read a barcode. A Barcode is a machine readable representation of information in a visual format. A bar code consists of a series of parallel, adjacent bars and spaces.

The types of Barcode are:

Linear barcodes:

A first generation, "one dimensional" barcode that is m A first generation, "one dimensional" barcode that is made up of lines and spaces of various widths that create specific patterns.

Matrix barcodes:

A matrix barcode, also termed as a 2D barcode or simply a 2D code, is a two-dimensional way to represent information. It is similar to a linear (1-dimensional) barcode, but can represent more data per unit area.

These barcodes are read using a device called as the barcode scanner.

There are different types of Barcode Scanners:

Pen Type Reader:

Pen-type readers consist of a light source and photodiode that are placed next to each other in the tip of a pen or wand. It is the cheapest barcode scanner available in market User receives push messages, which are used for promotions service by company.

CCD Reader:

CCD readers use an array of hundreds of tiny light sensors lined up in a row in the head of the reader.

Each sensor measures the intensity of the light immediately in front of it.

Smartphone Cameras:

Smartphone cameras have the ability to read both QR codes (which automatically take you to a website URL) as well as scanning a barcode to bring up product information such as price comparisons and user reviews.

Handheld Scanner:

It is a scanner with a handle and typically a trigger button for switching on the light source.

II. NEED OF PROJECT

The purpose of this "Barcode Based Student In Out System (B.B.S.I.O.S)" software project is same as it name, i.e. it is used for the recording or marking the in and out entries of students for the specific day. It is developed to manage the in out information, so that college can access accurate in out information quickly and easily as and when required, thereby improving its operational efficiency and effectiveness. Computerized software system with hardware interaction help to fulfil these goals. Computerization of the official work will help in doing a lot of manual work quickly. It will help in easy storage and access of all information, in short period of time. The development of this software project also facilitates the general administrator system to manage information of in out of employees as well as employee records exist in organization and also can access accurate information correctly and easily which leads to increase efficiency & effectiveness of the organization too. This project reduces the amount of work the gatekeepers have to do. The gatekeepers will not have to mark the in out entries manually by writting out the students name individually. The gatekeepers will not have to create a outside or inside students list manually as this will be done automatically by our system, which generates an outside and inside students list when authority requires it.The entire process of marking in out entries using our system reduces the probability of human error. The project reduces the time required for the entire process of marking the in out entries as the in out entries is submitted automatically once the student scans his/her barcode instead of the gatekeeper making the in out entries

manually by writting out the name of the student and marking their in out entries in the register.we can get any type in out record of the student just a click such as hostelwise with that particular date or past date,any specific student record of any date just using name or student id, Record between two dates, students those are out but not yet in,students those are in but not yet out if student not staying in hostel etc.
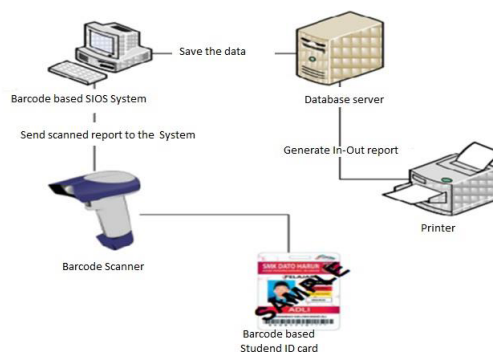
III. PROPOSED SYSTEM

Fig.   Architecture of SIOS(Student In -Out System).

Working

In out entries in colleges is generally paper based which may sometimes cause errors. Taking in out manually consumes more time. So the proposed SIOS system uses Barcode reader to take the entries. In this system, each student is issued a barcode tag. B.B.S.I.O.S use Barcode reader, Barcode tags and a computer with the software which stores the database about the entire details of the student's.

Barcode scanners consist of three different parts including the illumination system, the sensor, and the decoder. In general, a barcode scanner "scans" the black and white elements of a barcode by illuminating the code with a red light, which is then converted into matching text. More specifically, the sensor in the barcode scanner detects the reflected light from the illumination system (the red light) and generates an analog signal that is sent to the decoder. The decoder interprets that signal, validates the barcode using the check digit, and coverts it into text.

This Text that has been converted is then stored at the particular place where we desire it to be stored. The Barcode reader that we are going to use directly converts the barcode into Characters and this character is shown on the computer where the cursor s pointed at that particular moment. This data that is read form the

barcode is usually the Student Personal Roll Number which identifies every individual student. This Student PRN is then used to mark in out entry of that particular student for that particular date and time with purpose.

The entire records and the details of the student PRN is stored within the database. This can be used to mark in out record without any problem for the user.
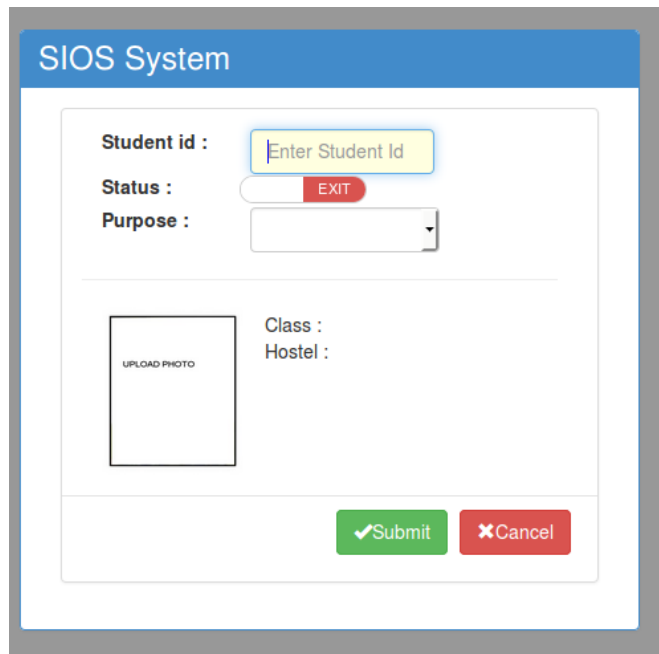
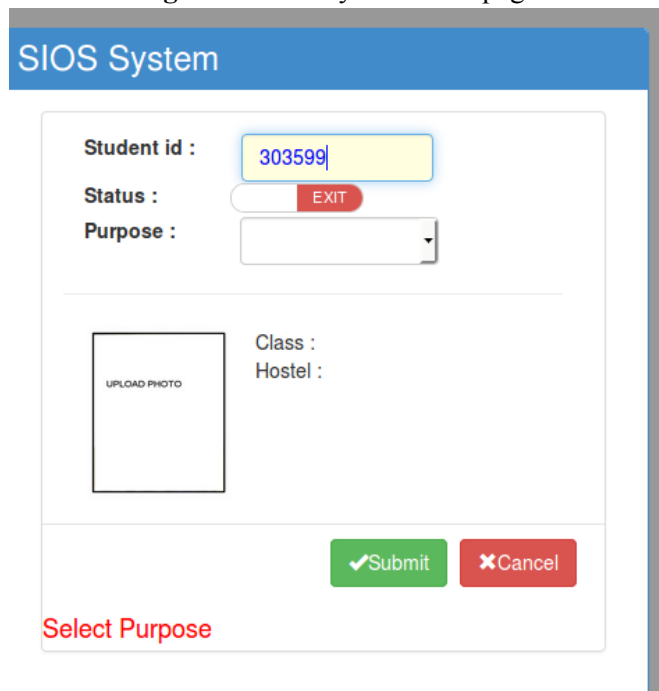## IV. RESULTS

Figure 2. SIOS system main page

Figure 3. Exit entry by notifying select purpose message

Figure 4. after selecting purpose enter on submit It will show your entries
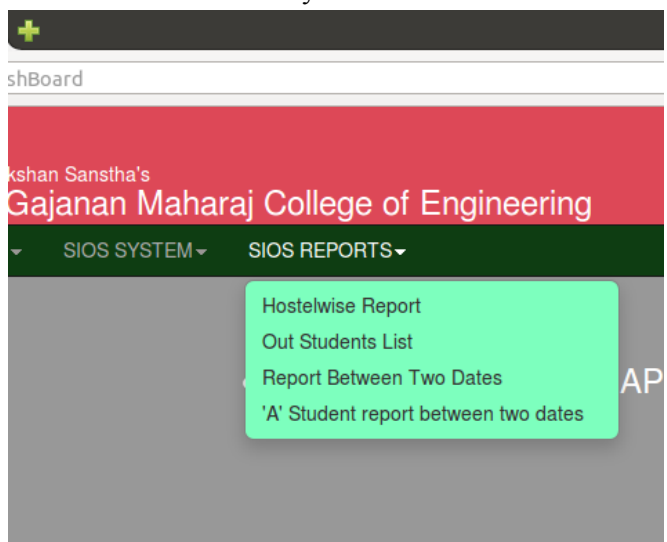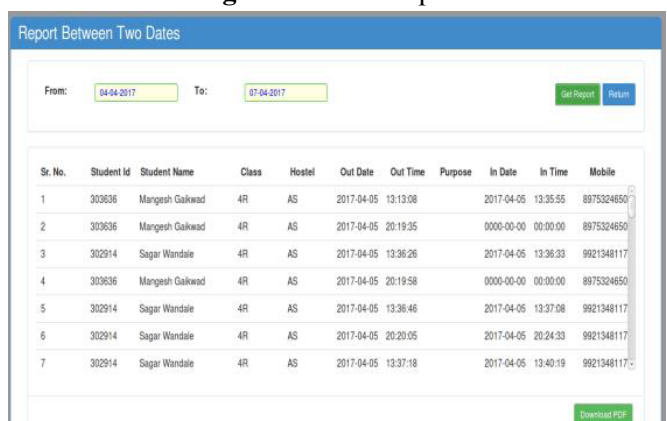

Figure 5. SIOS Reports

Figure 6. Student Report between two dates

V. CONCLUSION

Thus we have developed java application which would help making in out entries using the barcode scanner.

VI. REFERENCES

[1]. T. S. Lim, S.C.Sim, and M.M.Mansor, "RFID based attendance system," 2009 IEEE Symosium on Industrial Electronics and Applications, no. Isiea, pp. 778–782, Oct. 2009.

[2]. H. Oktavianto, "Image-based Intellligent Attendance Logging System," pp. 1–6, 2012.

[3]. BARCODE SCANNERS: HOW DO THEYWORK?http://www.waspbarcode.com/buzz/howbarcode-scanners-work