RESEARCH PAPER | Engineering | Volume : 5 | Issue : 7 | July 2015 | ISSN - 2249-555X

Student Welfare Machine Operation Through RFID Microcontroller

KEYWORDS: RFID, Microcontroller, Student Welfare Machine, Smart Card etc.

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ABSTRACT *Automation is a new key to upgrade & to makelifestyle easier. Students are having various problems in collage or schools. Such as collecting documents, formats, syllabus, No douse print-outs, Bonafide Certificate & several other documents for which they roam around in the college campus wasting their precious time & time is most important.*

This article explains the implementation of student Welfare Machine (SWM), a kiosk that serves as a solution to all possible problems of students through RFID cards. RFID cards are passive address carrier those are read by the Electro Magnetic Reader/Micro-Controller Micro-controller will then perform the specific task as what they have been programmed for.

This research paper/patent is the practical implementation of the above said technology through which an individual can directly operate the Machine with RFID cards for taking print outs of any documents & can operate internet as and when required.

INTRODUCTION

Now a day's increasing number of students in colleges and their problems are rapid that causes valuable time of students & other individuals such as lectures, visitors etc.

Therefore the new technique is urgently required to reform these problems of students. Student Welfare Machine is one of the best ways to solve these kinds of problems with a single click. This Machine is composed of several subsystems. The RFID technology, computer database, power supply microcontroller, printer and inferred device are included.

This Machine serves as a kiosk for printing student related documents such as Administrative,

Academics, University documents etc for their instant use. This machine directly reduces human effort & saves lots of time.

The RFID cards and RFID reader are contained in RFID technology RFID means Radio Frequency Identification that Consists of the tags which can be either active or passive tag passive tag do not have own power supply, much cheaper to manufacture and small coil antenna is used. On the other hand active tag must have own power supply. It has longer range and larger memories. It can store additional information sent RFID reader. RFID reader is an interrogator the RFID reader contains an RF module, which acts as both transmitter and receiver of radio frequency signals. The reader generates the signal to receive the data from tag.

The received signals send to the computer system which contains Graphical User Interface (GUI) and the database of all users say students. The ID number from the tag checks with the recorded database and deduces the account after using the privileges of the facility of SWM.

The computer and microcontroller are connected with USB cable. Microcontrollers is very compatible for system the microcontroller will display the documents on the LED and can take the printout of concern documents.

II.OVERVIEW OF STUDENT WELFARE MACHINE

SWM facilitates the students as well as the faculty & the vicious too. This is a convergence technology through which an individual can save, browse & access the overall important data formats, Admit card time table etc. To save their valuable time & lesion to get the work done as early as possible without wasting their time in taking permissions from the authority.

The technology is so smart & robust that everyday persons and individual are using these cards & tokens of RFID in metro in toll plazas etc.

This is a new era of managing crowd & their preferences/ facilities required.

RFID automated systems can be classified into two modules Hardware & Software. Both modules are the complement to each other synchronization of hardware to software is very much needed. The interfacing of RFID & software module makes the experience so enriching & one step solution for the problems of the students.

III. SCOPE & BENEFIT

Student Welfare Machine constitutes two major aspects

1. Hardware Module

The automated system using RFID technology can be classified into two modules.

RFID card reader module

This module consists of passive RFID tag. The RFID reader, host system and the machine premises are composed as a module.

Volume : 5 | Issue : 7 | July 2015 | ISSN - 2249-555X

Block Diagram of Student Welfare machine

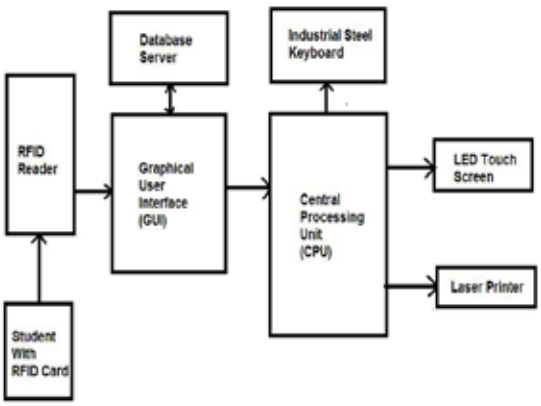

Fig. 1. Schemaic Diagram of Working of

Student Welfare Machine

(b) Computer system

1. Central Processing Unit.
2. Industrial Keyboard
3. LED touch screen.
4. Printer.
5. Hard Disk Drive.

2. Software Module

Software is again plays as very vital role in functioning the student Welfare Machine.

Some of the major aspects of the software are as follows:

1. Student Profile
2. Admin Policies
3. Management & control
4. Printing application
5. RFID reader accessing module
6. Suggestion & complaints
7. Visitors application
8. Notice board

IV. AREAS OF PROBLEMS

Unawareness of the following leads us to the major problems:

1. Availability of information.
2. Printing the desired information.
3. Accessory the information.
4. Access e-mails for personalization.
5. Time & Effort utilization.
6. Accessing USB & other storage devices.

V. CONCLUSION

This paper has mainly focused on the solution the various problems of the students for which different modules are combined to develop an important application called SWM.

By using RFID based student Welfare machine that can save, print & access the information by the student to save time & effort.

REFERENCE [1] Raj Brigdell, senior, Member, IEEE, "Introduction a MecioKlirdess architecture for Business activity sensory" IEEE | International conference RFID April 16-17, 2008. | | [2] Y. Dua and J Canny Proleclinp user Data in vbiqutors computing" Privacy Enhancing technologies, LNCS, 3424, springs 2004, PP 273-291. | | [3] Shi cho cha KevanJu. Huang – Meng Cheng "An efficient and flexible way to ported. Privacy in RFID environment with licenses", IEEE International conference RFID April 16-17, 2008. | | [4] K. Srimvasa Ravi, G.H Varuis , t. Vanisi P. Prityusha , J, FEE ISSN: 2278-3075, Volume-3 Issue-5, April 2013. | | [5] Sewon on. Joosangpark, Yon goon Lee, "RFID- based middleware system for automatic Identification", IEEE intex conference on service operators and Logistic and Information 2007. | | [6] IEEEXplore Website https:// www.ieeexplore.com |