

A Review: Smart Schooling System

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Abstract—Smart Schooling System is a web based School Management System that enables school to use and operate many of integrated co-related modules and manage the administration of school efficiently. Due to its ever growing and competitive nature, the education sector has always been in need of Smart Schooling System to provide a quality solution to manage and serve the school resources efficiently. Information Technology sector is giving number of solutions to schools like smart classroom, distance learning, digital learning solutions and Smart School Management system to make learning easier and manage school administration effectively. The Smart Schooling System which simplify and automates schools administration process. The School Management System is accurate and reliable and can be conveniently accessed from school intranet as well as from the public areas. Yet another advantage of the Smart Schooling system is that it runs on minimal hardware and easily fits in the budget of schools. In Schooling users have role based access rights which tightly models existing schools hierarchy. Smart Schooling System is totally customizable according to the needs of school.

Keywords—Management; Bridge; Smart phone;

I. INTRODUCTION

In our view, there is problem of communication between school and parent. This reality was investigated through some observation in ministry of education. Although there are few efforts to implement smart school in private and public sector, it was realized these efforts uses different information technology infrastructure (platform), ideas and teaching material. In order to encourage for successful development of smart school, there should be a system which act as mediator between school and parent . On the other hand, successful practice of Malaysia in development of smart school has led us to investigate and analyze Malaysian smart schools' achievement. We observe and document success factors of smart school in Malaysia whereby this will help us to develop an Smart Schooling System for smart school. This research reviews four pillars of smart school including people, education material, technology and process. Main concepts of smart school are then identified [2].

In day to day life it is very difficult or not possible for parent's to be update with their ward's schooling activities as in day to day life the smart phone become very common and everything is available at are smart phones so why don't we have a system which will allow us to be up-to date with our ward's schooling activities using a smart phone. The project consists Smart Schooling System which will be beneficial for private schools of any city. The main objective of the system is to provide e-services and communication services for all the beneficiaries of the school. It provides access to the system by different users such as admin, teachers, students and their parents.

II. LITERATURE SURVEY

Imran A. Zualkernan Et. Al[3], The theory of change proposed in this paper combines the assumptions of the two programs mentioned earlier. In other words, the NB program is augmented with the SG's technologically-enhanced approach to deliver learning. For example, rather than conducting five monthly teacher training modules, now the teachers are trained every two weeks

upon the van's arrival; training is carried out using a virtual classroom environment and the content is synched with topics teachers are currently teaching in the classroom. Similarly, each teacher is provided with an Android tablet that includes all the learning content, and in addition uses a modified version of the Tangerine software to help teacher conduct continuous assessments of students' learning. The teacher carries out this assessment for each child in their classroom during the two week period between van visits. The results of these assessments are automatically transferred to the master teacher training via the system who uses these results in their mentoring activities.

Halkola Et. Al [6], The nexus of practice tells us this study is the development of the future school, encompassing the concept of a 'school in the 21st century' where children are more familiar with 'apt technology', as our interviewees put it. In the starting stages of the process, the city encouraged the local schools to submit applications for development projects. Ten schools were shortlisted as 'Smart Schools', i.e. they are good aware in technology use and The best practices renewal of pedagogic practices. from the Smart Schools were to be utilized in a new school, so-called 'Integrated Pilot School', which was under development in a new town area. This school was to be built as part of a center including a library, nursery and facilities as well as different services. Best practices from the Smart School pilot projects were to be implemented in the Integrated Pilot School and later it is implemented in other schools in the city and the whole country.

Farkhondeh Nik-Mohammadi Et. Al[4], this article aims to examine the relationship between creating smart schools and the education practice of elementary school teachers in the city of Dezful by proposing the following questions: The first question: to what extent does creating smart schools influence educational performance from the perspective of teachers? The second question: to what extent does educational system of smart schools affect educational performance of school teachers? Smart schools, with flexible curricula, teaching with new methods, having a wide range of programs and teaching methods, and giving priority to the role of the student, can be effective in eliminating or reducing the gap in education. Future information society needs people who are able to develop innovative information technology. Smart schools have mainly managed to meet these needs, because in these schools, students get to know how actually extract information, how they think and how they achieve their results are used for problem solving and development. This will require a redefinition of the role and function of new schools as the most important educational institutions in society.

Fatemeh Khojasteh Et. Al[5], This study is due to a combination of research methods in the class. In exploratory research projects, data quality is more important. The sequence data are collected primarily qualitative data and quantitative data. In this study, researchers based on the results of theoretical studies and analysis of data from the interview questionnaire construction and through the collection of quantitative data.

Dedy Rahman Wiaya Et.Al[7] This paper proposed attendance management system based on RFID. The preference of system has been developed is assimilation with existing system and efficiency of investment. Result of system implementation will be compared with other work which is using biometrics (fingerprint recognition). While several studies related RFID for attendance is used to observe student attendance. However, the proposed system requires a PC as a terminal for each RFID Reader devices so it needs of substantial investment. Several studies use RS232 interface for communication between RFID Reader and terminal. Use of RS232 interface is not flexible because it has rarely computers using the interface. Furthermore, maximum RS232 cable operation range is 45 meters using good quality cable. There is study that uses wireless communication beside RS232 for communication between RFID Reader to control circuit and database server.

Zahra Taleb Et. Al[1], Industrial society of the twentieth century has given there place to the information society of the 21th century. Therefore, the use of new technologies, involving information and communication technology (ICT) in various fields of the life such as education is necessary (Malek, 2010). The information society, with the arrival of ICT, has brought changes in education and leads to newly introduced teaching-learning approaches classified with the changing role of the teachers and learners (Niki & Avril, 2011). Entering information era and expanding the use of IT, entails a new smart schools that doesn't conform to prevalent traditional schools in Iran.

Methodology: A multimedia software for teaching multiplying section of the grade 3 Mathematics was refine by the researchers using Active Inspire (Promethean Planet), Quiz maker 6.2 (iSpring solution), and multimedia tools. from 9724 grade 3 students in Yazd in 2013, 60 students were selected from a school by using the method name as cluster random sampling method. They randomized to two same classes. After training the teacher and pre-exam, the multiplying section of grade 3 Mathematics was given in six conference every weeks by using the software in “smart class” and regularly in other class.

Rostami, Soroor Et. Al [9], In Malaysia, the smart schools idea was proposed in 1997 and became operational in 1999. Seventy-eight million dollars are ready to invest in the project, providing educational material (Puteh & Vicziany, 2004). Patterned on the Malaysian model, the smart school project in Iran was implemented in 2004. By publishing “The Road Map of Iranian Smart Schools” at the pilot stage in 2011, the project was given to other educational districts. The main aim at this stage was starting the smart schools with computers, smart notice boards, network facilities. Like many other countries, an implicit assumption seems to be dominant in the project: that by started schools with computer hardware, ICT combination will turn into a mainstream trend (Thang, Hall, Azman, & Joyes, 2010).

Andrew J. Coulson Et. Al [10], Basically this paper based on the patterns that emerge from the global evidence, policymakers should seriously consider giving universal access to minimally controlled education markets in which parents, can directly pay at least some of the fees of their children’s education. Programs intended to accomplish that objective (such as education tax credits) that have already been proposed some other developers, and partial, scaled-down versions of such programs are already working in several U.S. states (Schaeffer, 2007).

Maryam Said Et. Al [11], The proposed system will manage the entry and exit of students to and from the bus using RFID (Radio Frequency Identification) and GSM technologies to assure the entering and exiting of all students to and from the school bus in a safer manner. The process, does not require any extra action by the student and drivers. The system will do all the process and allow the student to be located while entering and leaving the bus. If the bus journey is successful from the start to end, it will send an SMS to the management to inform its departure and arrival.

Siavash Omidinia Et. Al[12], The smart school is a technology is based on teaching learning institution for building children for the Information age. To achieve smart schools educational approaches, these teaching and learning concepts should be covered: curricular, pedagogy, assessment and teaching-learning materials. ICT as second part of smart school, plays many roles in a smart school, from simplify teaching and learning activities to assisting with school management. For instance, some of technologies which can prepare a smart school might be classrooms with multimedia course ware and presentation simplify, computer laboratory for teaching, multimedia improvement center and server room build to handle applications, management databases, and web servers. Although in few years some efforts have been done for developing smart schools, there is not a pre-defined and an reliable and productive method for establishing ICT environment for smart schools. The main approach of this research is to test pertinent aspects of smart school’s concept, namely matters pertaining to teacher training, information technology (IT) infrastructure, and

syllabus design to ensure that the innovation can successfully nurture a workforce prepared to meet the challenges of the ICT era.

III. PROPOSED SYSTEM

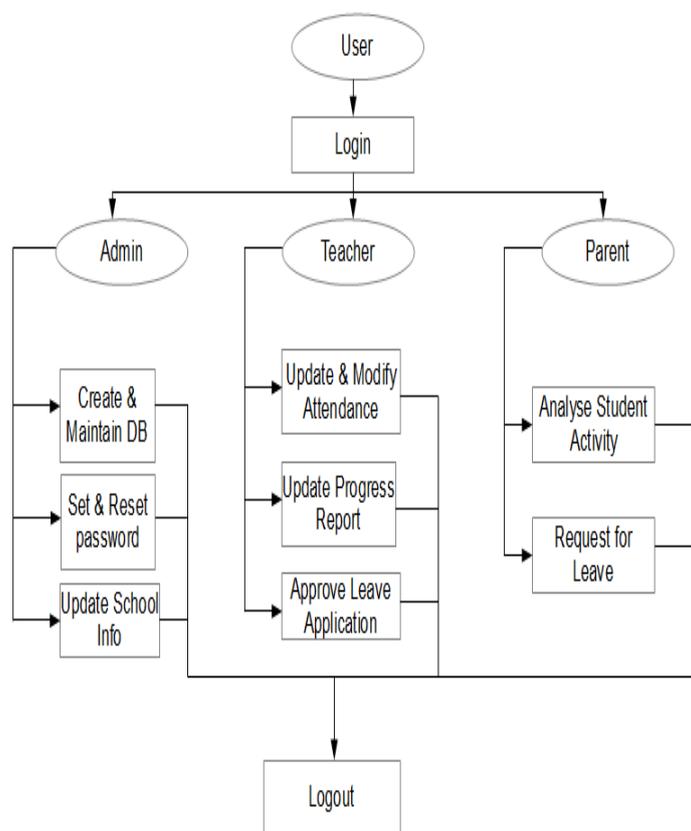


Fig 3:- Proposed System Architecture

The Proposed Smart Schooling System which will be beneficial for private schools of any city. The main objective of the system is to provide e-services and communication services for all the beneficiaries of the school. It provides access to the system by different users such as admin, teachers, students and their parents.

The proposed system will act as a bridge between the parents and school as shown in Fig. 3.

IV. MATHEMATICAL MODEL

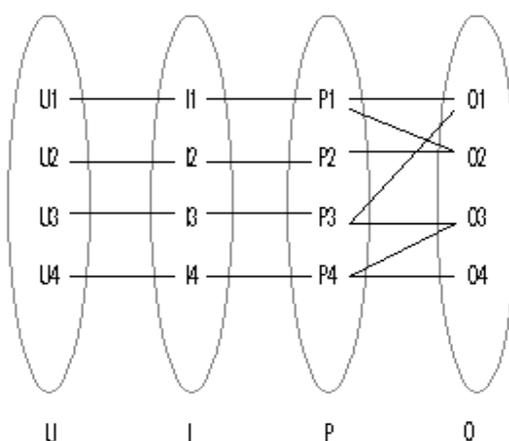


Fig 4:- Venn Diagram

Let S be a system as shown in Fig.4 that manage the Schooling System & give Continues Feedback to the parents about their ward.

Such that,

$S = \{ U, I, O, D, P \}$

Where,

U = Set of users

I = Set of inputs

= ex. Login details, personal information, signals etc.

O = Set of outputs

= ex. Login access device, lock open/close, camera on/off etc.

S = Set of devices

= ex. Android device, Blue-tooth, camera etc.

P = Set of processes

= ex. Authentication signal processing, SMS sending etc.

Single process can generate multiple outputs Ex. Successful login will result in lock open, SMS send and camera on.

V. SYSTEM FEATURES

- N-Tier Architecture

School ERP is constructed on an N-Tier architecture allowing large number of users to work simultaneously from different locations on a single database. This helps in sharing information between different departments and users on a real-time basis.

- Increases productivity and efficiency of the staff

Automation helps staff to work out things well in time helping them to give more time to take care of the other issues and problems. Smart Schooling helps organizations to handle the same bulk of work by less staff thereby allowing the rest of the man power to be deputed in other productive works.

- Reduces paper work

School has an in-built Document Management System that helps organizations to reduce their paper consumption to a enormous extent which is not just cost effective but is eco-friendly as well.

- User Friendly Interfaces

Interfaces of schooling system play an important role to make it successful and a popular solution. Smart Schooling System is designed with easy to use, interactive and user friendly interfaces that help non-expert users to perform complex functions without any difficulty.

- Ensures Data Security

Data Security is also an important factor while designing an Smart Schooling solution. Smart School ensures complete security of data. We make sure that the data isn't in the absolute access of the users.

multiple security measures have been implemented to tighten the security at the database level as well as at the application steps.

Login security and single sign-on: Users sign on once within a risk less environment and are automatically authenticated for all applications they are allowed to access.

- Security access and permissions:

Users see and access only what their individual roles and permission levels grant them. Workflows and sanction processes: Workflows and approval processes ensure proper task routing among departments.

- Easy Centralized Backup Options

Database Backup is the most vital part of any Schooling solution. Smart School comes with easy to control database-backup system. The database backup and restoration activity both are simple and easy and don't require any database expert to perform these activities.

VI. FUTURE SCOPE

The system can be made more dynamic, we can add different hardware devices such that RFID, and even we can provide all the schooling facilities online and we can also add some additional modules in existing system to make it more powerful which will also help students by providing ease in daily schooling activities.

VII. CONCLUSION

Thus we can conclude that the proposed system will bring a new revolution to the conventional schooling system. It will reduce the parent efforts to visit school regularly. It will also help parent as well as teacher to improve the student's performance. Thus the parent can be rest assured about their child's activities in school.

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