IOT Based Curriculum Module System using RFID

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Abstract **- An IoT-based CMS, we are going to manage the whole college in which the following things can be done: bus tracking, attendance monitoring, academic details of a student, details of faculty and their additional duties, placement details, conducting online classes and examination, scheduling timetables, managing internal marks, and also managing the electricity of the whole college. Each and every single data can be used for the big data analysis by using the big data. Through this, we can almost analyze the character of a student by knowing his area of interest, his favorite food based on his canteen bills, his favorite domain based on the library reference and so on. Like this by using various sources we can analyze the character of a student and this character analysis is not only for the students but also for every single person who is the part of the college. The attendance happens thorough a QR code which the faculty is able to create an attendance QR and the student is able to register the attendance thorough the QR scanner. Other methods of attendance also can be implemented as a future enhancement. This QR is mainly used because it simple and cost-efficient and no other extra sensors are needed in the QR system. The bus tracking is done through the GPS sensor which transmits the location to the cloud and the data is sent to the requested user. In the management module, there are three sets of management, which are as follows: student management, faculty management, and college management. In student management, the data of a student can be tracked, such as documents and certificates submitted, fee details, number of interviews attended, and number of companies placed. In faculty management, additional duties, certificates submitted, salary details can be managed. Regarding college management, the main thing is to calculate the electricity consumption and it can do through various sensors that can be operated from a classroom using a switch, from anywhere. The curriculum has been managed in a different module wherein the online classes and examination are being conducted, the internal mark is being managed and other online courses are also available, and scheduling examination timetable and class timetable is also done within this module, and various other features are going to be implemented as a future enhancement.**

Index Terms **- RFID, Internet of Things, Raspberry pi, Alarm system.**

I.INTRODUCTION

Online examination system facilitates seamless coordination of various aspects, from registration, creating an exam and candidate verification, as well as security and result tabulation. The exam system come with online invigilation and proctoring features to ensure a fair examination process. In this research we have proposed IOT based advanced online examination using Raspberry pi for Alarm system and border security. With the event of recent education, considering the defect of current online exam system, a replacement projection of online exam system primarily based on Raspberry pi IOT is projected, and also the key implementation techniques and ways also are represented. Internet of Things (IOT) has provided a promising chance to make powerful Examination systems and applications by leverage the growing omnipresence of wireless, RFID mobile and detector devices. a large vary of IOT applications are developed in recent years. In a shot to grasp the event of IOT in on-line examination, here we tend to propose this analysis of IOT, IOT key facultative technologies, major IOT applications in on-line examination and identifies analysis trends and challenges. Here we tend to introduce all the examiner details square measure holds on within the server.

Then if somebody needs to start on-line examination, first they ought to apply face recognition (in Open CV based) technique. as a result of its slow unwanted person conjointly enter to Wright the examination, thus this can be the simplest thanks to know any culprits square measure found or not. Then examination enter to Wright the exam, here conjointly I am applying some security. Online examination is conducting a test online to measure the knowledge of the participants on a given topic. In the olden days, everybody had to gather in a classroom at the same

time to take an exam. With online examination students can do the exam online, in their own time, with their own device, regardless of where they live. A virtual classroom is a learning environment in which students engage with the lesson material online. Information is often conveyed through voice or video conferencing with several participants and instructors connected to the same chat interface.

This platform is used to conduct assessments, aptitude tests, psychometric tests, technical tests and personality tests, entrance exams, hiring assessment tests.

II.ARCHITECTURE

2.1 Literature Survey:

Using an Internet of Things in education field has presented a great role to educate the students. By using internet of things has modified the manual teaching Procedure and the infrastructure of educational and institutions. According to Majid Bayani, Karol Leiton, Mayra Loaiza in IOT in education: Integration of objects with effective virtual academics of the students, teachers, and physical automated things will interact effectively and via efficiently using IOT.

Besides marking attendance, some systems can determine the students seating positions [15, 27–29] while the other classifies gender of students using facial features.

Curriculum based environments are gripped with digital components that make better, more efficient, and efficient learning process. Ideally, they produce an ideal action between physical and virtual realities, giving permission to students to absorb data. We can track he/she examination timetable, marks, grades, attendance, disciplines were collected in cloud data. This data can help teacher, parents better understand whether their concepts are working, who and all need additional help. The whole setup of an IOT-based educational institution can be expensive. Therefore, the cost of devices and equipment is another challenge Literature review shows that almostall of the recent studies propose completely for classroom. Introducing IOT technology with e-education is very useful for the parents and teachers as well students.

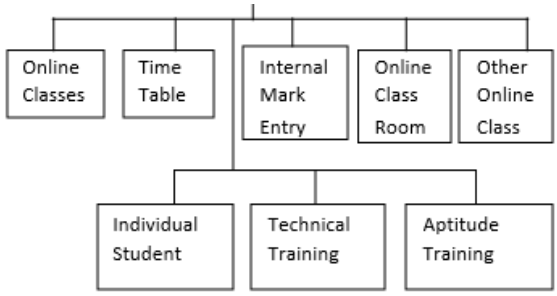
2.2 Proposed methodology:

In this research we have proposed IOT based advanced online examination using Raspberry pi for Alarm system and border security. With the event of recent education, considering the defect of current online exam system, a replacement projection of online exam system primarily based on Raspberry pi IOT is projected, and also the key implementation techniques and ways also are represented. Internet of Things (IOT) has provided a promising chance to make powerful Examination systems and applications by leverage the growing omnipresence of wireless, Radio frequency identification (RFID) investigation and deployment requires a methodology for a successful initiation and implementation. This paper will outline a rationale and deployment methodology which is divided into three phases, namely the business, infrastructure, and deployment environment. In a shot to grasp the event of IOT in on-line examination, here we tend to propose this analysis of IOT, IOT key facultative technologies, major IOT applications in on-line examination and identifies analysis trends and challenges. Here we tend to introduce all the examiner details square measure holds on within the server. Then if somebody needs to start on-line examination, first they ought to apply face recognition (in Open CV based) technique. as a result of its slow unwanted person conjointly enter to Wright the examination, thus this can be the simplest thanks to know any culprits square measure found or not. Then examination enter to Wright the exam, here conjointly I am applying some security. examination timetable and class timetable are be done within this module various features are being going to implemented in future enhancements.

The utilization of online examination software and appraisal tools has realized numerous advantages. In any case, with its numerous advantages come its orderly challenges.

In the event that the online examination system is to be compelling, at that point, it is significant that these challenges be tended to.

CURRICULUM MODULE



2.3 Challenges and issues:

Online examination is conducting a test online to measure the knowledge of the participants on a given topic. In the olden days, everybody had to gather in a classroom at the same time to take an exam. With online examination students can do the exam online, in their own time, with their own device, regardless of where they live. A virtual classroom is a learning environment in which students engage with the lesson material online. Information is often conveyed through voice or video conferencing with several participants and instructors connected to the same chat interface. This platform is used to conduct assessments, aptitude tests, psychometric tests, technical tests and personality tests, entrance exams, hiring assessment tests. IOT based campus management system are used for attendance system and bus tracking system. The college attendance is maintaining with bus system, classroom, examination, library, canteen purchase attendance recorded in the system maintenance used in an application. In bus attendance system process are generated from this module representation as student user, faculty user, admin user. when the student user registered the data and stored the recorded from the database using the cloud computing process. In the student data host into the bar-code reader then the student attendance marking proposed system using QR scanner module. The faculty user maintains attendance register marked attendance using the student individual attendance bar-code reader based on registration number scanning QR code and then the attendance register showing the message from faculty user. when the data are automated stored in database register. The admin user module is representing the view the data and updated the data through the database. The classroom attendance maintain with present and absent list are generated with faculty user register attendance using QR Scanner.

The Examination attendance and schedule list are generated with in this module representation. In student exam attendance marking the faculty user with individual student bar-code reader using scanning with in QR usage then data stored in database and attendance sheet view get the data from admin user downloaded the MS-excel format. The library attendance system is maintaining with library administrator marked attendance register through student bar-code reader using QR scanner stored data from database then view the attendance record from the admin user and student book details are placed with the attendance system them generate book bar-code usage. When the canteen purchase attendance system details using the timing, maintenance generate purchase data using student bar-code reader marking the attendance register stored automatically through the database. The bus tracking system and student tracking system are generated with using mobile Gps. In bus tracking system and student tracking system generally used with many students and staff are not aware exact timing and location of the college bus. we have planned with bus tracking system for easy facilities using mobile application. when the bus tracking from the location using the driver mobile GPS and GPS sensor. The student tracking system are mainly used for tracking the student for exact timing attendance the data specification faculty track the student mobile GPS them generally used for student monitoring purpose then data stored with cloud computing usage.

III. CONCLUSION

The respondents of the study encountered a high degree of difficulty on the existing system, which is relevant to the researchers of the study. This indicates that the respondents experienced problems in securing students records, searching and retrieving student grades, the use of manual procedures by the Registrar's Office in keeping the students record are not secured from alteration or loss, and the students encountered problems in requesting grades at the registrar's office and as well as, the faculty in submitting error-free grade sheets. The extent of need of the respondents in the development of Student Records Management System is very often needed which shows that the respondents needed the developed system in the record services and the development of Student Records Management System is highly recommended. Important features should be included in the development of the system such as login. Logout, grade sheets, reports, database maintenance, and help assistant. Majority of the respondents prefer to change the current registrar system for accurate, fast, and accessible for the students, faculty, department chairman, and the registrar itself. The Automated Student Record System is the possible solution to the problems in grade issuance, securing student's grades from alteration or

loss, in submitting error-free grades sheets by the faculty, and to maintain relevant, accurate, and confidential student's record. The objective of the study had been achieved, that is to develop an automated student record system for college level that is fast, accurate, and accessible.

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