



RFID Based Live Tracking & Attendance System.

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ABSTRACT

In some of the times, there have an increase in the number of operations which are grounded on Radio frequency Identification (RFID) systems and have been successfully applied to different areas as- care, etc. RFID technology facilitates automatic wireless identification using electronic unresistant and active markers with the separate word and username to make a pupil attendance. It's a digital result that helps seminaries effectively manage their machine line and track pupil attendance. With real-time machine shadowing, parents can fluently cover their child's machine position and estimated appearance time. The system also automates attendance recording, barring the need for homemade processes. It can shoot announcement to parents regarding machine detentions or changes in schedules. also, the system optimizes machine routers to insure effective transportation. It's for maintaining diurnal base of Attendance, the staff will be handed with the separate username and word to make pupil attendance. The Staff handling the particular subject to responsible to make the attendance of all scholars. Only if the pupil present in the particular date, the attendance will be calculated.

The student attendance report based on monthly and consolidate will be generated. Here, there is an option to apply for leave and send the feedback.

Keywords: RFID, attendance, pupil, technology, parents, operation, system, shadowing.

1. INTRODUCTION

Then, there's an option to apply for leave and shoot the feedback Keywords- . 1. preface In an period of technological advancements, the integration of Internet of effects (IoT) and Radio- frequency Identification (RFID) technologies has revolutionized the way attendance systems are managed. The ESP8266, a protean and cost-effective Wi-Fi module, coupled with RFID compendiums, provides an effective result for attendance shadowing. This system is farther enhanced by incorporating live position shadowing and a web-grounded interface for streamlined operation and reporting. Traditionally, attendance shadowing has been a primer and time-consuming process, frequently agonized by inaccuracies and inefficiencies. With the ESP8266 and RFID-grounded attendance system, associations can automate and optimize this pivotal aspect of operations, reducing executive outflow and icing data delicacy. This design aims to produce a comprehensive attendance operation system that harnesses the power of IoT, RFID, and web technology.

By exercising ESP8266-grounded bias as data collection points, druggies can painlessly record their attendance by simply swiping RFID cards or markers. These attendance records are incontinently transmitted to a web garçon, where they're securely stored and made accessible through a web-grounded gate. The website interface serves as a central mecca for directors, preceptors, and Parents to manage attendance records, induce reports, and oversee the live position of actors. The data collected by the system can be fluently converted into instructional reports, helping to council or academy make data-driven opinions. The ESP8266 and RFID-grounded attendance system, with live position and website integration, has the implicit to evolve into a largely sophisticated and adaptable result for associations and institutions the geographical equals of the machine are browsed by the GPS module and are also uploaded into an information within the remote garçon over Wi-Fi. This information is also utilised by parents, machine motorists and academy administration through a database which may be penetrated by them via a mobile operation.

2. Literature Review:-

In (1), Souza et al explores multitudinous fabrics put up for board involvement using different advancements. The board is advised to use another form of participation specifically for ordinary position institutions in consideration of this discussion. The proposed model includes factors for mobile operations and RFID. The RFID element is suggested for establishing pupil engagement in the database at the aft end. The operation portion is intended to give their families attendance information. When there's no electricity or not numerous coffers to shoot by the RFID element, the operation part is used as a backup to track the attendance.

In(2), Sutar et al. Another approach depends on gathering attendance and streamlining data in one area. The suggested system, which was erected exercising QR law technology and is grounded on exploration by Sutar et al. is a smart attendance system that would speed the attendance process by creating and surveying QR canons. The system runs as an operation on mobile bias and is erected on QR Technology. also, to assure pupil attendance in the course, Sunaryono et al. suggest" an Android- grounded course attendance system using face recognition."(10). The course information is decoded into a QR law and presented from the front of the class.

In(3), Kumar and Kumar has praposed by Global Positioning System, or GPS, enables us to determine a person's position and direction at any time, any place on Earth. In terms of knowing where humans are and how to go to other areas, people still need objects in the sky, but now satellites use them. In their work, Kumar and Kumar presented a creative position- grounded time and attendance monitoring system that was stationed on an Android mobile app. The use of smartphones helps to reduce the need for fresh biometric scanning outfit. factors of the association include a specific position, which may be located using GPS.

In(4), Sharmin Akteret.al hased praposed by pall- grounded machine shadowing system grounded on IoT is proposed the study principally concentrated on developing the API for the pall- grounded machine shadowing system. In this stage, it'll show the major database relationship. The main realities of this operation are- druggies, motorcars, available seats, current position. In order to track a vehicle in real time, the current position, the available seats are connected with seats and their ticket parcels is connected with seat parcels. In order to track a vehicle in real time, the operation uses Google Global Positioning System(GPS) API to get longitude and latitude of the vehicle as an object.

3. PROBLEM FORMULATION

3.1 PROPOSED SYSTEM:

Our venture comprises of an RFID based participation framework that permits for programmed participation stamping by utilizing RFID labels. Each understudy is given with a one of a kind authorization tag/card that's utilized to record his/her participation.

- A parcel of time is squandered in schools and colleges for manual participation methods, in such cases our framework gives an moment and robotized participation checking framework. Each authorized understudy is given with a special RFID tag/card with his/her points of interest nourished in it. The tag comprises of a built in coordinates circuit that stores this information through balancing and demodulating transmitted radio recurrence signals.[5]

- The information in this way put away in this card is the one of a kind distinguishing proof of that individual. As before long as the card is placed before the RFID peruser, the information in it is studied and participation for that student is enrolled. This can be with the assistance of an 8051 microcontroller interfaces with the peruser. In the event that it could be a understudy, at that point a affirmation is shown on an LCD screen, else a dismissal message is appeared that denies the participation.

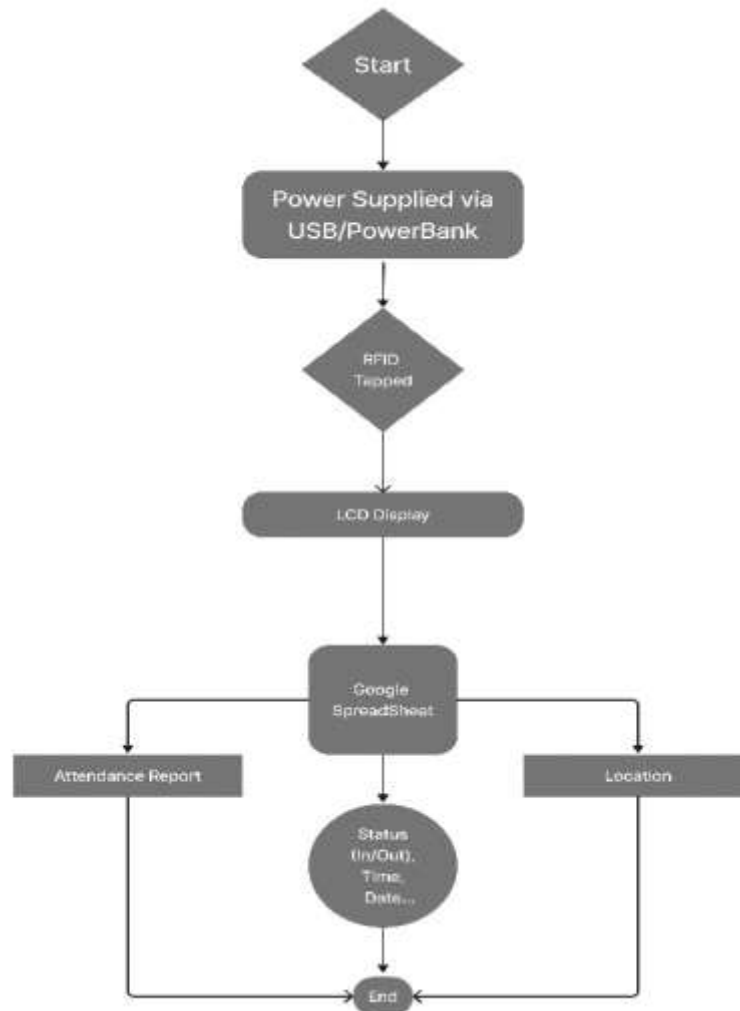
- All understudy participation status can be afterward gotten from the framework when the status button interfaces with the microcontroller is squeezed. This spares a parcel of time and exertion in understudy participation enrollment. This framework can afterward be assist moved forward by including participation sms to guardians or utilizing biometric participation systems.

4. RESEARCH METHODOLOGY & PROPOSED SOLUTION

- Hardware Components:- RFID Readers: Install RFID readers on the college buses to scan students' RFID cards as they board and exit the bus. GPS Tracking Device: Equip each bus with a GPS tracking device to provide real-time location data. Mobile Devices: Students and college staff can use mobile apps for notifications and tracking.
- .RFID Cards:- Issue RFID cards to each student and staff member, which they need to scan when getting on and off the bus.
- Database Management:- Maintain a database to store student information, bus schedules, RFID card data, and attendance records.
- Mobile App for Students and Staff:- Develop a mobile app that students and staff can use to: Receive bus arrival notifications. Check the bus schedule. +Confirm attendance by scanning their RFID card. View real-time bus location.
- RFID Card Scanning:- When a student boards the bus, they scan their RFID card at the reader. The RFID reader sends this data to the central system to record attendance.
- Live Tracking:- GPS devices on the buses send real-time location data to the central system. Users can access the location of the bus through the mobile app.
- Notification System:- Implement a notification system to alert students/staff when the bus is approaching their location. Send notifications in advance to avoid missing the bus.
- Attendance Management:-Use the RFID data to keep track of student and staff attendance. Generate reports for attendance records.
- Administrative Portal:- Create an admin portal for college staff to manage the system, track buses, and view attendance data.

- Data Security:- Implement security measures to protect sensitive information, like student data and attendance records.
- Analytics and Reporting:- Use the data collected to generate reports and analytics on bus usage, attendance trends, and more.
- Maintenance and Support:- Ensure regular maintenance of the system and provide support to users and staff.

5. FLOWCHART



6. CONCLUSION

In this design we designed and developed a real time machine shadowing system using Android plant. In this design we try to save the time of the scholars substantially who uses the council transportation service and we also tend to help them with easy and pressure mornings for a bright and peaceful day. This operation doesn't need any external tackle except a smartphone which is available to all the scholars. So, the overall cost is veritably low or no cost demanded for tracking the machine position it provides nearly accurate data in real time that makes possible for the stoner to track the motorcars. The proposed system can further be enhanced by making use of it in council machine tracking systems and also to report accidents and help in business monitoring. It can also be made compatible with IOS and Windows OS supporting systems. we've reviewed a colorful being ways of machine operation system. By enforcing those ideas, we can ameliorate the transportation safety and the quality of services of the motorcars. The system will have rearmost technology and optimized algorithms with moderate cost. This system gives the information about the machine position, appearance, routes and passenger details. The proposed system is more druggies friendly.

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