Review on Smart Bus System with IOT Technology

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Abstract— Smart Bus System is used for managing multiple features, but the primary feature is generated automated fee receipt according to its distance, show live location of the bus. They are analyzed for planning the bus schedules and analyzing the frequency of buses needed on a route. Our system mainly divided into three aspects 1)Student Login- Show all information about student i.e student distance, fees according to distance , Payment history. 2) Driver-Drive has access of student data, where they can see the location of every student 3)Admin-Store driver and student information in admit and they are able to mange data according to their status .Thus, smart bus is an efficient, convenient and highly reliable system which is used to reduce corruption, misused of fee receipt smart bus system has strategic planning and management, which will eventually make student journey peaceful, saving paper through digitalization and save the effort and time for planning.

Keywords: INTERNET OF THINGS, SENSER, STUDENT TRANSPORT, GPS, ANDROID

I. INTRODUCTION

Most of the student in India travels by college buses, it is safe but the major problem of the college bus transport is the inconvenience to student due to irregular timing of buses, unknown current status of buses, current location of the bus so the motivation of the project is the convenience of the people in the field of college bus transport. solving the problem by using GPS, online passes, show their fees according to their distance.

The aim behind this to remove offline ticketing processes. One may say such system is available but the major problem with available unit is either their cost is high or the whole system is not available in single unit. So, providing the whole system in single unit is main purpose of project and also at the affordable price. With the help of above system, we get current location of bus the using (GPS+GSM).

In almost every organization, school or college there is their private bus transport service is available. So, they need to keep a record of their vehicle or bus running /driving and the driver of that bus or vehicle This system will be easy to access because there is no any manual work needs to do, making system smart which works automatically. This system has first component is GPS, GPS sends coordinates and we will locate bus on map using map API that will track on mobile or desktop. There is only user need to enter vehicle number and user will get the real time location of the vehicle. This is about the tracking of vehicle. Using map data, we get travelling distance of vehicle This system also monitors student and staff who are traveling through the bus.

II. LITERATURE SURVEY

College transport is used by millions of children worldwide. However, not a substantial effort is done in order to improve the existing school transport systems. This paper presents the development of an IoT based college bus monitoring system. The development of new telematics technologies has enabled the development of various Intelligent Transport Systems. However, these are not presented as ITS services to end users. This paper presents the development of an IoT based scholar bus monitoring system that through localization and speed sensors will allow many stakeholders such as parents, the government, the school and many other authorities to keep Realtime track of the scholar bus behavior, resulting in a better controlled college bus from reference [1]

College bus transportation system plays a vital role in students' life. They provide safe and secured journey compared to other mode of transportation. The current COVID19 pandemic situation has driven the State Governments and all the college authorities around India to enforce limitations on transportation and movement of students in order to prevent the spread of disease. But taking the students education into considerations, many state governments have advised to open the colleges with proper precautionary measures. So, from reference [1],[2] a Secured College Bus Management System (SCBMS) has been introduced which monitors the health of the student and the safety measures followed by the student before entering into the bus. Alert information will be passed to the parent and the college management if a person fails to cross these two stages of screening process. Vehicle location information is passed to the parents periodically in order to prepare their child for the school on scheduled time before the bus reaches their boarding point. College bus attendance is monitored efficiently and updated to college authorities for further actions, from reference [4]

Synchronous tracking of the bus allow the youth to engage more in their routine task more time than waiting for a bus running back of its schedule with the help of the notification and also ensuring the safekeeping of every student. Nowadays answering to need of the hour, many educational institutions started pressing more towards the efficient tracking system of their vehicles ensuring safety of their pupil. The successful tracking of the bus is attained by acquiring the geographic co-ordinates with the aid of GPS module and pass the data to a remote server using a Wi-Fi module. The uploaded data will then be made available to the client whomever it may concern, through a mobile app that fetches the information and plots the whereabouts of the vehicle. The alert system triggers the microcontroller to create a push notification from the server script after scanning the RFID tag of the student by the RFID reader indicating that the student boarded the bus to the respective authorities and the parent. The effective trailing of the bus facilitates the school authorities, parents and also the drivers to plan their routines precisely at the same time making sure of the safety of the children, right from boarding to leaving the bus. The

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appliance conjointly permits the management to be informed about the emergencies or complaints,from reference [1],[3]

In almost every college, they provide their bus transportation facility. Under this, updating & maintaining daily bus records such as bus km, timing, driver and bus details. This every day activity is time consuming & there is chance of manual mistakes interference. Paper presented here describes a system that intended to overcome the flaws in the existing system & bring out accuracy, safety of records. Proposed system uses GPS & map API for the student, staff to track the bus. Additionally, biometric attendance can be recorded. From the online recorded data on central college server, admin can generate essential report, from reference [4],[5]

Suleyman Eken 2021: When it comes to taking the public transportation, time and patience are of essence. In other words, many people using public transport buses have experienced time loss because of waiting at the bus stops. In this paper, we proposed smart bus tracking system that any passenger with a smart phone or mobile device with the QR (Quick Response) code reader can scan QR codes placed at bus stops to view estimated bus arrival times, buses' current locations, and bus routes on a map. Anyone can access these maps and have the option to sign up to receive free alerts about expected bus arrival times for the interested buses and related routes via SMS and e-mails. We used C4.5 (a statistical classifier) algorithm for the estimation of bus arrival times to minimize the passengers waiting time. GPS (Global Positioning System) and Google Maps are used for navigation and display services, respective, from reference [1],[4],[2]

III. Conclusion

To overcome the mentioned disadvantages of the traditional centralized banking system, blockchain technology can be used. Blockchain provides a secure and intrusion free environment for all the transactions occurring between the nodes. This helps in reducing the transaction fee and time, which is significant in traditional banking systems. Also, as this technology is under development, there can be multiple advancement in the future.

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