

QR CODE-ENABLED INTELLIGENT SYSTEM FOR MONITORING SCHOOL BUS LOCATIONS

¹J.Praveen Kumar, ²G. Raveena, ³Kusuma Vishwesh, ⁴Midde Varun Kumar

Assistant Professor in department Of IT Teegala Krishna Reddy Engineering College

praveentkrecit@gmail.com

UG Scholars In Department of IT Teegala Krishna Reddy Engineering College

²graveena78@gmail.com , ³ vishukusuma2003@gmail.com , ⁴ varunmidde@gmail.com

Abstract: The secured bus tracking system is useful to avoid the existing traffic jam of private vehicles and majority of the parents consider school buses to be largely unsafe for their kids. However, the school buses which are safe and user-friendly can reduce the use of private vehicles and will eventually reduce the traffic jam in cities especially in the school hours. Using the proposed intelligent and secured bus tracking system the parents can track the school buses. This tracking system includes an Android application that can be employed to send notifications during entry and exit of the students using Barcode scanner, ensuring arrival confirmation of the student by dual authentication duration while reviewing bids and also to spend the necessary amount of time during The focus of the system is to display the feasibility of a safe and intelligent school bus using secured tracking system based on authentication procedures. It is expected that this research will regain the confidence and reliability of parents in school bus and reduce the use of private vehicles. A smart school bus will ease the tension of the parents by notifying them about their child's entry and exit in the bus and will keep the students safe also the city will not face the situations like traffic jam.

Keywords: School Bus, GPS, QR Scan, Smartphone Application, Android Google Maps

I. INTRODUCTION

The use of private vehicles causes unbearable traffic jam and majority of the parents consider school buses to be unsafe for their kids. However, safe and user-friendly school buses can decrease the use of private vehicles and will also eventually cut back the traffic jam in cities especially in school hours. All buses can be tracked by their parents using this proposed intelligent and secured tracking system for all school buses.

This proposed system contains an Android application that can be worked as to send notifications during entry and exit of the students using Barcode scanner, ensuring arrival confirmation of the student by entry and exit authentication.

The motto of research is to display the safe and intelligent school bus using secured tracking system based on entry and exit authentication procedures. It is expected that this research initiative will regain the confidence and reliability of parents in school bus and decrease the use of individual transport. A smart school bus will keep the student safe and ease the tension for parents and the city will have a smooth traffic system.

II. LITERATURE SURVEY

This paper is specially made for the student safety purpose. Nowadays, millions of children are going to school for their educational purpose. So, we need to develop a different type of system for the student safety. These systems used to track the location of bus or near by taxi. This system helps to find the exact or current location of students by using Google Map.

Child safety is most important for their parents as well as schools authorities . This application work as personal digital assistant . This paper present the working flow of the project . Smart bus tracking system project is an Android based. Morden bus tracking system generally used GPS technology for the tracking route and location of the bus via google maps. These application is easy to handled and user friendly. By using internet we can viewed bus information. The paper also purposes of security system and drive prevention system. Its totally based on google Maps and API's. It is more accurate to check or track the current location of students. This application gives brief idea aboutthe routes, bus locations with online attendance features.

III. SYSTEM ARCHITECTURE

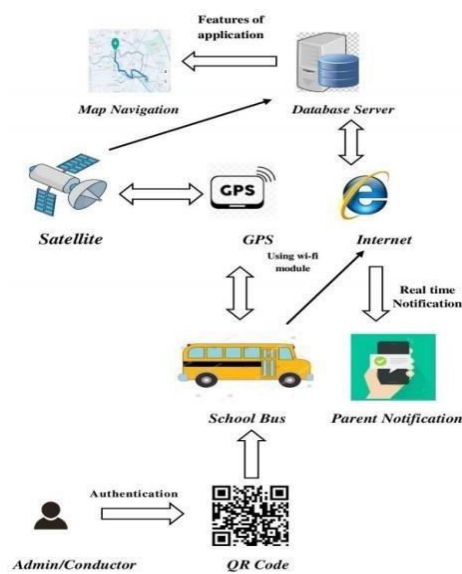


Fig 1. System Architecture

IV. PROPOSED SYSTEM

- Step 1: first student cqr code will be scanned for verification
- step2: Barcode doesn't match then it will be considered as invalid attempt. Step3: verification is done.
- Step 4: postive match occurs data will be sent to database and parents will be notified about student arrival in the busthrough sms
- Step 5: student is about to be dropped off to his or her destination point code is checked again.
- Step 6: Notification will be sent to parents so that student can't get out of bus. Else or can't be late to get out of the busthey reach at school

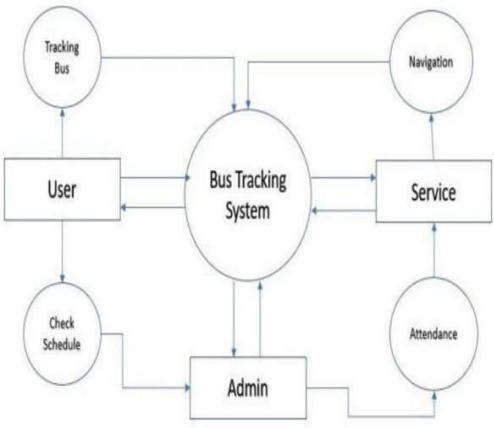


Fig 2. Proposed System DFD

Student Registration:

system admin can accessed to all authority. It interact means registration of student. Admin can add and update the student information to database.

Driver Registration:

Aadmin can add update the driver. if the information to database

QR code scan:

Bus driver getting student ID card of back side QR code scan automatically generated the student attendance and sendsms to parents via notifications in there phone.

Notification generation:

Driver scanning their QR and will be generate the notification send.

Location:

Location of user is traced. location is sent sms in URL form form.URL is directed to G-Map.exact location is detectedeasily

V. RESULT

The application is designed and implemented in Android using SQite database, allowing easy reading and editing of student, conductor and bus data.

It is a cost-effective solution with no additional hardware and associated purchase and maintenance costs, and is user friendly and simple. It also provides added security by integrating the facility to optimise routes and tracking off route behaviour. The conductor is alerted if any student is missed and the boarding status of all studentsparents as per the activity of the child which helps them notify about their ward`s status.

Once the ID of each student is scanned, the application marks the attendance and sends a notification to the parent regarding

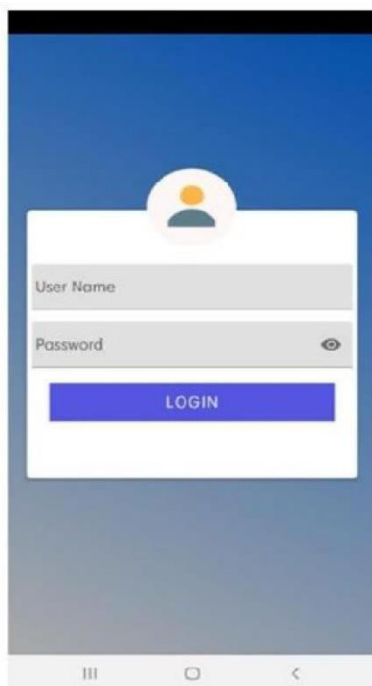


Fig3. Admin/Conductor home page

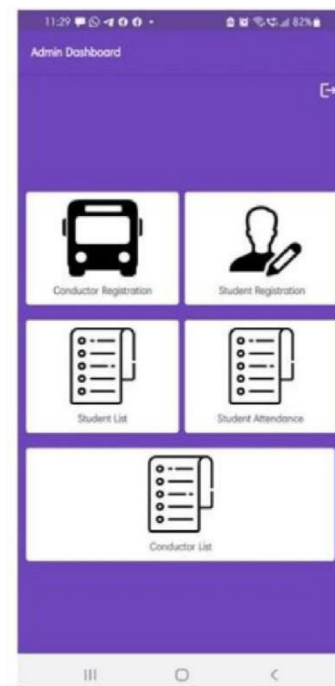


Fig 4. Admin Dashboard

7:52

Conductor Registration

Conductor name

Required *

Conductor Contact Number

Required *

Conductor Vehicle Number

Required *

UserName

Required *

Password

Required *

Register

Fig 5.Conductors Registration

7:53

Student Registration

Student name

Required *

Father name

Required *

Mother name

Required *

Address

Required *

Contact number

Required *

Parents Contact Number

Required *

E-mail

Required *

PROCEED

Fig 6.Students Registration

11:40

Student List

Roll Number :	78	
Student Name :	788	
Email :	sm@gmail.com	
Contact Number :	8554882255	
Address :	67 nsk	
Mother Name :	677	
Edit	Delete	View QR code

Roll Number :	48	
Student Name :	Rishant Patil	
Email :	rishantp23@gmail.com	
Contact Number :	7588499748	
Address :	Plot No. 12, Near Nimani Bus Stand Nimani	
Mother Name :	Namrata	
Edit	Delete	View QR code

Roll Number :	40	
Student Name :	Harshada	
Email :	harshu@gmail.com	
Contact Number :	5704852358	
Address :	Nashik	
Mother Name :	Surekha	
Edit	Delete	View QR code

Roll Number :	23
Student Name :	Rushabh Kolhe

Fig 7.Students Registration

7:52

Conductor List

Conductor ID :	28
Conductor Name :	xyz
Contact Number :	8906350210
Vehicle Number :	mh234
Edit	Delete

Conductor ID :	24
Conductor Name :	Pankaj
Contact Number :	8554883610
Vehicle Number :	MH15PB2316
Edit	Delete

Conductor ID :	22
Conductor Name :	kalyani
Contact Number :	9139698988
Vehicle Number :	124fhj
Edit	Delete

Conductor ID :	21
Conductor Name :	pallavi
Contact Number :	7507141112
Vehicle Number :	hggij
Edit	Delete

Conductor ID :	20
Conductor Name :	demo
Contact Number :	7845963258

Fig 8. Conductor List



Fig 8. Generated QR Code

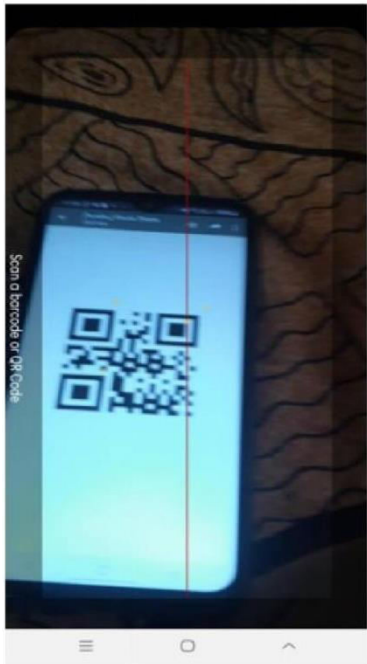


Fig 9. Scanner

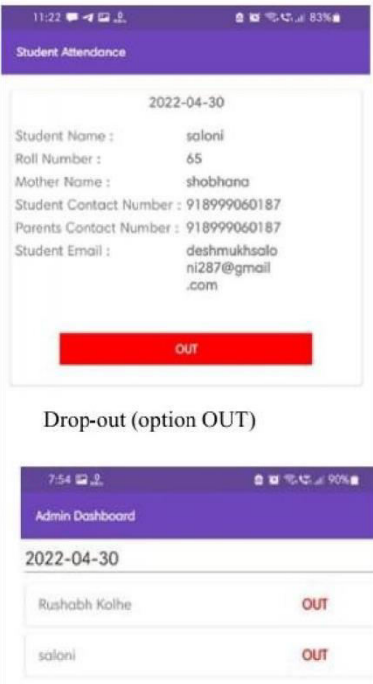
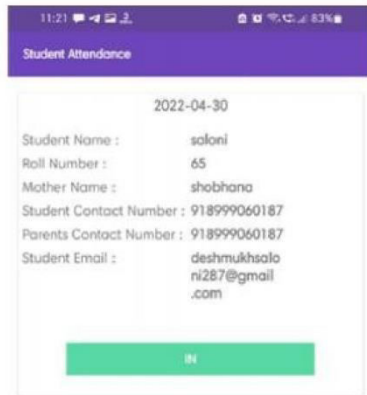


Fig 10. Scanner



Pick-up (option IN)

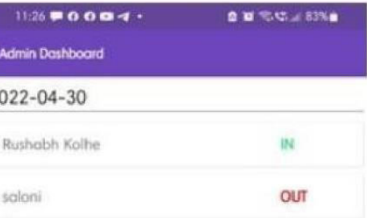


Fig .Pick-up

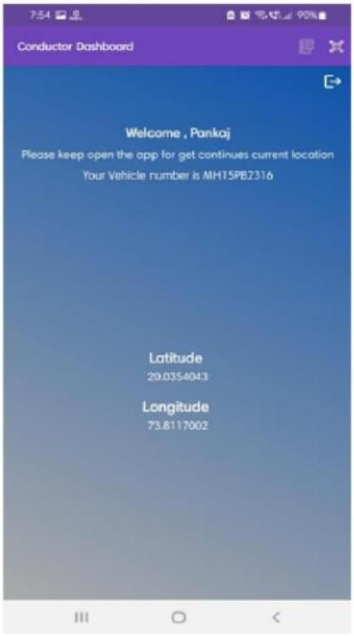


Fig 11



Fig 13 Location of conductor



Fig 12 Conductor list



Fig 14 msg notification

VI. CONCLUSION

In this Project study, a secure school bus system has been proposed for the city. This system will ensure safety and ease tension and tension of parents and will without doubt, improve the road conditions. It will also provide an easy pick up system by providing notifications to the parents . Parents will get notifications through an Android application and also this app can be used to see the current status of the bus through the google map thus, this will be easy for the parents to track the movement and the location of the bus and

get notified at the appropriate time through the msg. Hence, they will have a highly reliable, secure and intelligent system to depend on for the children's

REFERENCES

- [1]. "Android tutorials" [Online]. Available: <https://developer.android.com/training/index.html>
- [2]. "Android tutorials" [Online]. Available: <https://www.tutorialspoint.com/android/>
- [3]. "QR code integration with Android" [Online]. Available: <https://github.com/zxing/zxing>
- [4]. "About Bar Code" [Online]. Available: http://files.microscan.com/whitepapers/barcode_basics.pdf
- [5]. "ISS QR Code AIM Store: Historical Archive" [Online]. Available: Aimglobal.org
- [6]. "Android Tutorial" [Online]. Available: <http://androidhive.com>