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Design & Development of a Passenger Monitoring System

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ABSTRACT: The objective of the proposed system is to develop an application that allows a user to monitor students using IoT. The proposed system will offer missing children is an inappropriate drop etc. This system is helpful in solving the problems of school management. Try to overcome the problems by using innovative technology. However, with currently available Internet of Things (IoT) technologies, it is possible to build systems that can provide complete visibility into this aspect of achild's life. This project presents the design and implementationof an IoT-based systemthat allows driver to track theconditions of comfort and safety inside a school bus in a real-time manner

KEYWORDS: IOT, School bus, Arduino Uno

I.INTRODUCTION

A person is exposed in his life many accidents, among which are the forgetting of children on the school bus. The school bus transports many children daily, and therefore these young people are at daily risk in the event that the means of transportation are not fit or the driver lacks a sense of responsibility.

Hence, most countries did not leave the safety of their young children dependent on the competence of the driver or their sense of responsibility, they forced these to ensure the safety of students inside school buses by applying students' monitoring devices inside the bus and specifying certain specifications for the school bus, and enacting strict road safety laws, while the application It is guaranteed by continuous monitoring.

II.PROBLEM IN EXISTING NETWORK

Leaving children on the bus is a crime punishable in many countries including Oman. The ROP has also been urging motorists to make sure that students are appropriately secured with safety belts when in vehicles." Oman is also facing a big challenge because of this problem. We will try to address these issues by developing an IoT based smart prototype. The existing system has many disadvantages related to cost, performance etc. The proposed system is going to reduce all the defects of the existing system. Broadcasts a beacon message to its contacts using FHS. Whenever a hop of FHS, i.e., a channel, is vacant, each node is assumed to receive the beacon messages from their contacts that are transiently in its communication radius.

III.METHODLOGY

The two main components of the circuit design process included in the proposed model are software and hardware design. The hardware for the block diagram in Fig. 1.1 is created by placing the microcontroller and sensors, whereas the software is created by writing and uploading program codes to the microcontroller. The system is constructed using a microcontroller that is linked to sensor modules for monitoring in the school bus. Three sensor modules' data will be monitored by the system, which will also manage three loads with separate sensor module outputs via an LCD monitor.

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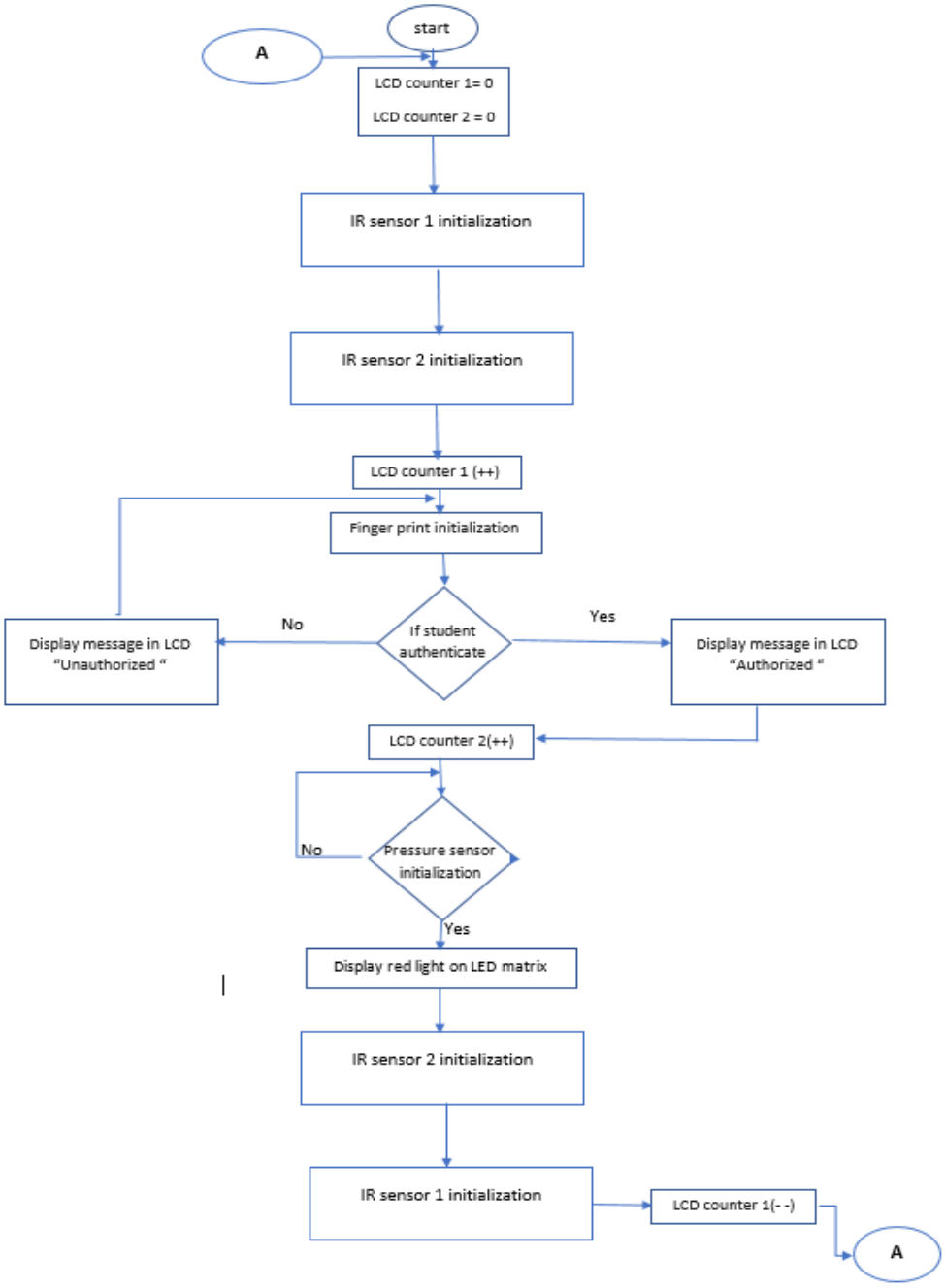
IV.PROPOSED SOULTION

It is proposed to develop an IoT based smart prototype in passenger monitoring systems for a school bus. The proposed system uses the Arduino Uno kit which provides power to the microcontroller as well as the microprocessor.



1. Figure: Flowchart

This system shows flow of process using LCD counter, IR Sensor. Figure 1.1 shows the flowchart diagram of our proposed method.

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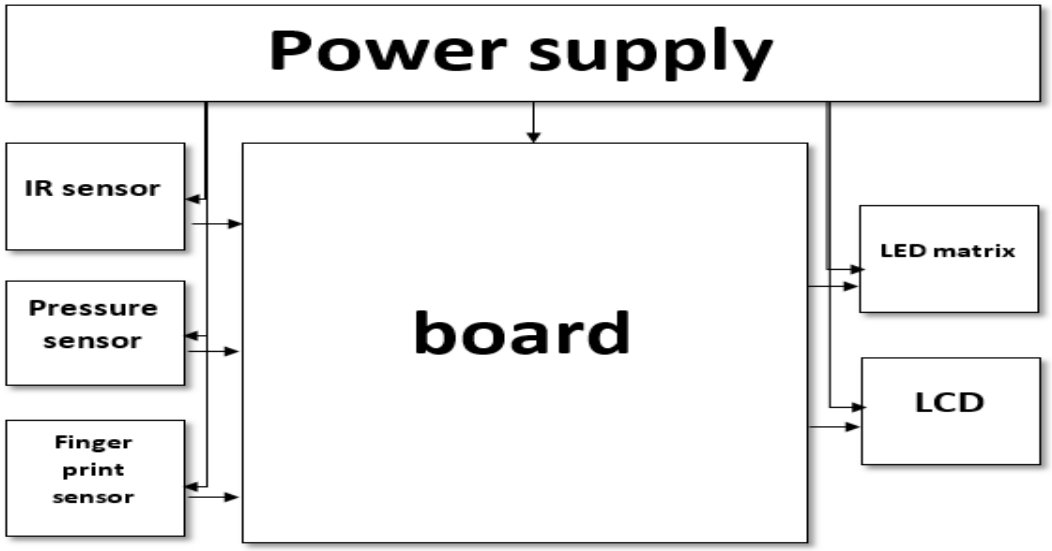
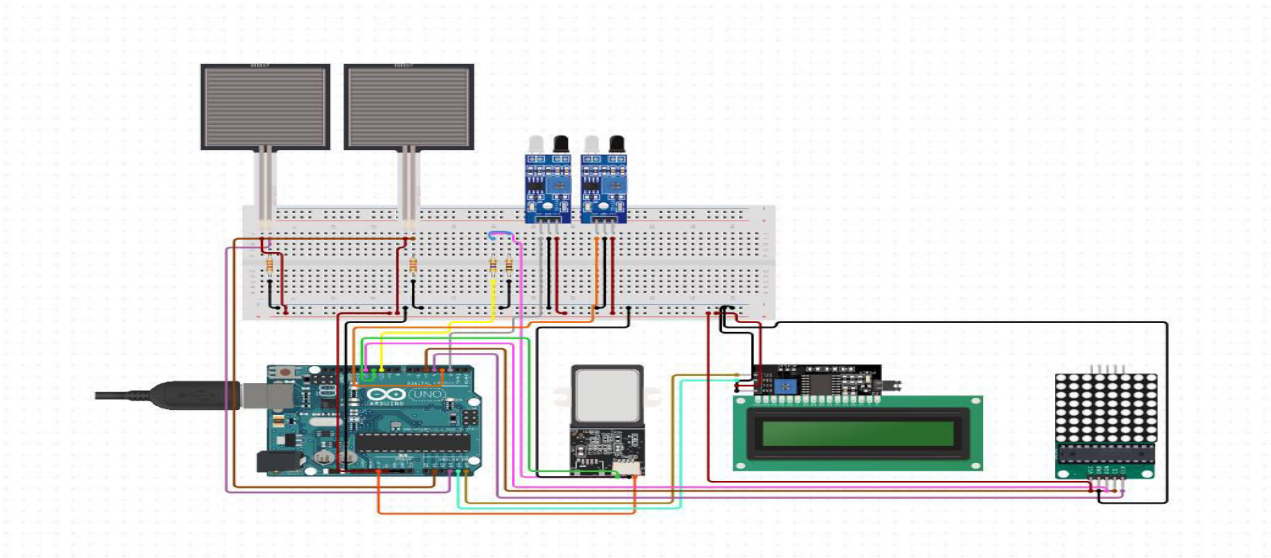


1.1 Figure: Block diagram

This system will reduce the expansion cost; will add to the elasticity of advancement. Figure 1 shows the block diagram of our proposed method.



1.2 Figure: Circuit diagram

This system shows flow of circuit design with IOT sensor and components. Figure 1.2 shows the circuit diagram of our proposed method.

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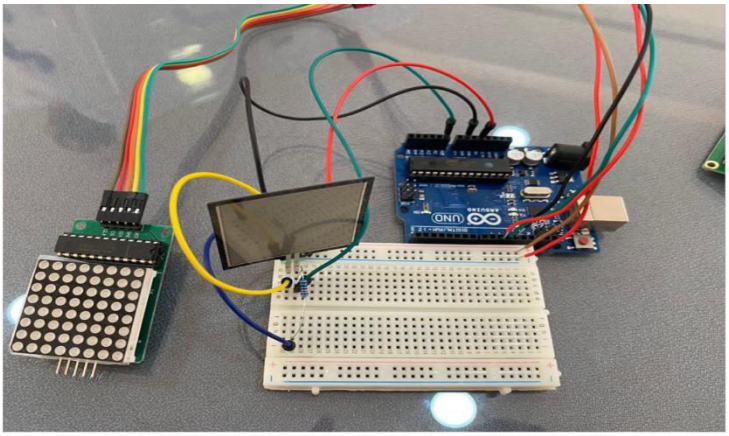
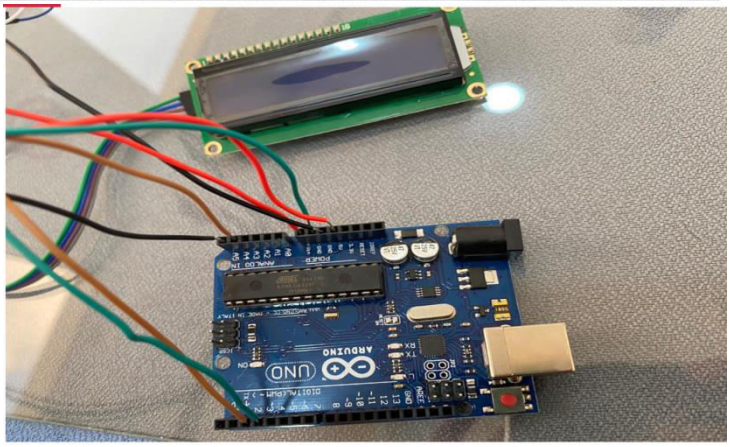
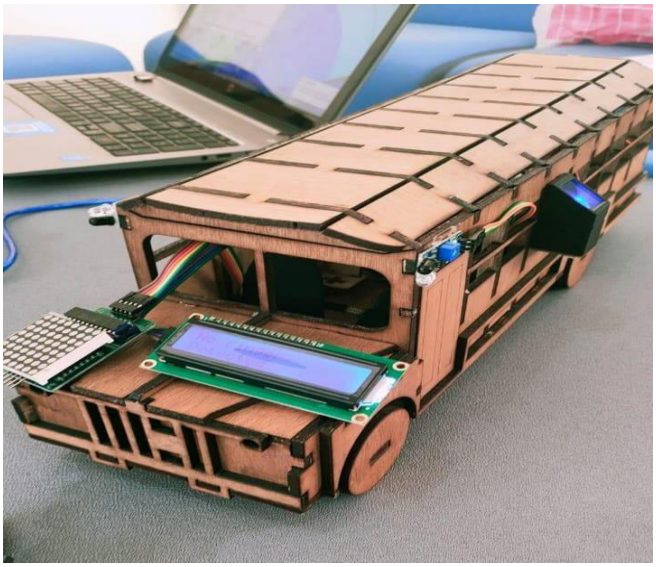
IV.RESULT AND OBSERVATIONS

The main purpose of this project is to prevent school children with all the comfort. In this paper, we present the design and implementation of a low cost but yet flexible and secure Internet based school bus automation system. As shown in Figure. 2 connectivity model which shows all the control of school bus with IOT.







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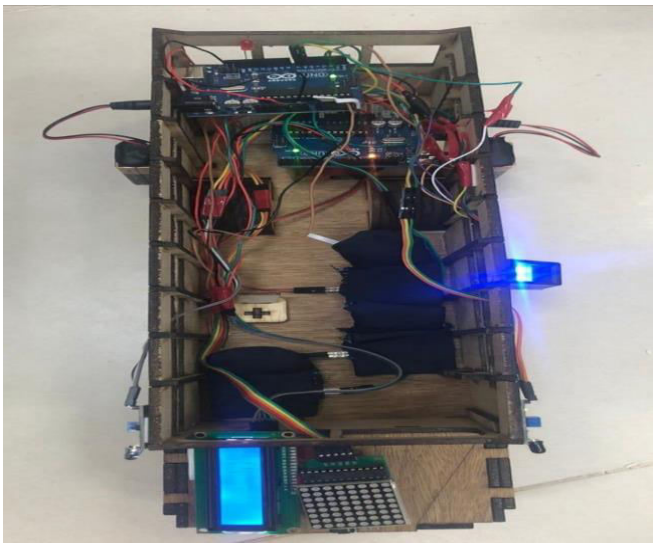

2 Figure. Connectivity model which shows all the control of school bus with IOT.

V.CONCLUSION

Despite all the efforts made to develop the school transportation sector, there are still calls for taking the necessary measures related to safety standards and the selection of experienced and professional drivers while giving them awareness sessions on road safety and laws related to school transport. We must invest in the development of global technology and employ it in a way that serves our interests and technology is now in advanced stages. It is clear that human capabilities are chasing developments, so the possibility of implementing this type of project is easy because the capabilities are available and we all encourage it. We know how much pain a person will suffer when a student is injured.The system can be further improved in the followingways:

1. Two ultrasonic sensors can be added to the system to increase detection accuracy and system availability in the event that any one of the sensors fails.

2. Another suggestion is to include a GPS device to track the school bus's whereabouts in the event that the alarm goes on.

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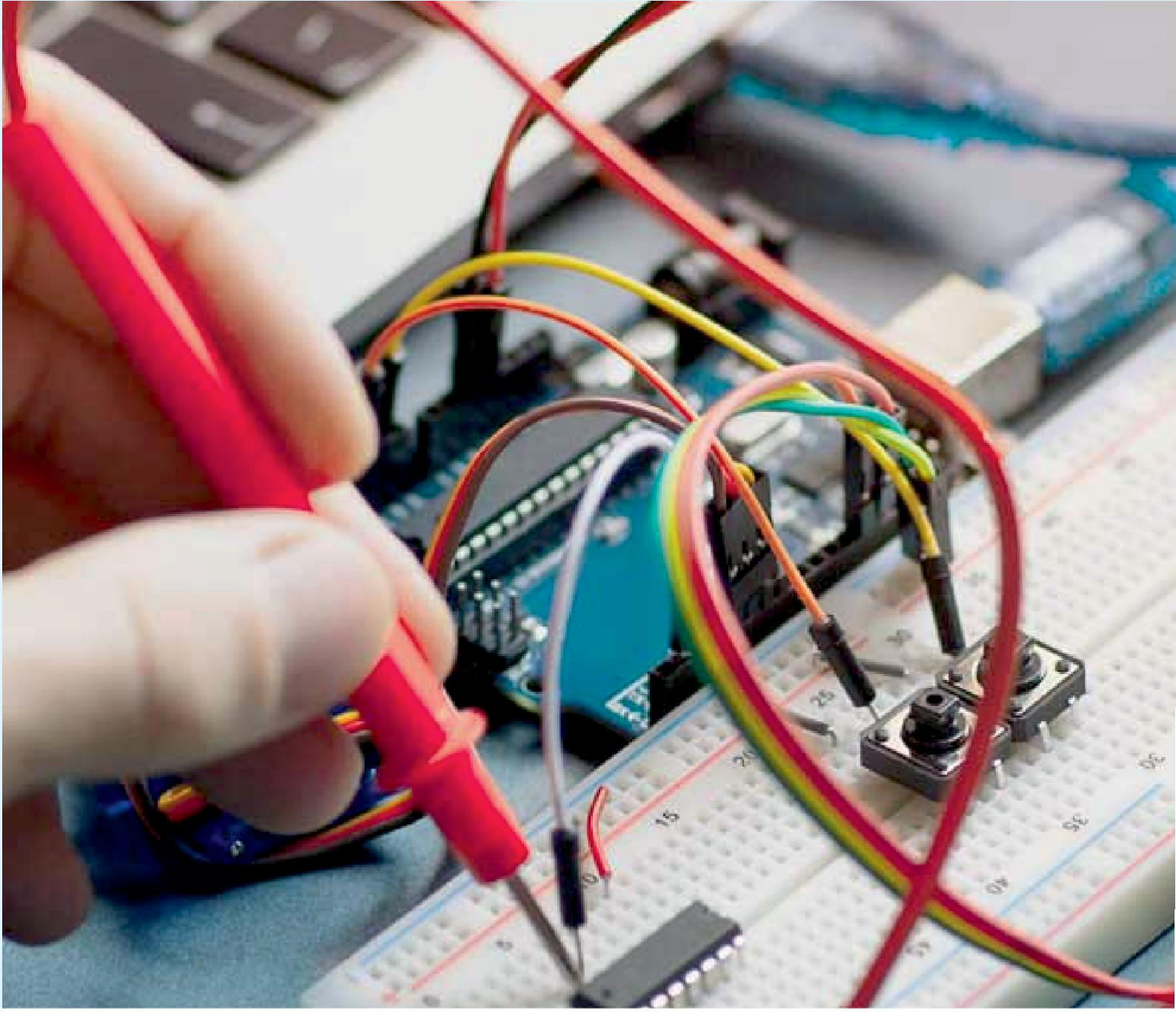

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