

# Bus Stand Automation

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*Abstract: In our project we are designing and implementing such a system which are helpful to villagers or blind peoples so we create automated transportation system. We are implementing GSM tracker for tracking and notifying bus location. Which will be useful for those like time management peoples. Also, we used RFID system for automation of bus stand which are helpful for bus stand staff they do not cross check every time that bus is arriving or not. Also, when bus arrives it will give announcement of bus arriving and departure to passenger and also notifying with GSM system. We use Arduino Uno for controlling all the aspects. The main motive to create this project for peoples like student who goes to college at sharp timing or office employees because it early 5 minutes knows that bus is coming or not because of GSM module.*

**Key words – Solar Base Automation, GSM Set, LED, display.**

## 1. INTRODUCTION

All existing transport management system is no outdated, because of number of populations increase likewise number of vehicles also increase but those vehicles controlling system is still same. There are required some automation for manage the work load of stand. Because of automation work load will reduced, then man power will work efficiently. Now a day some automations are existing but those are either in door automation or internet-based automation. This automation not supported both aspects. As per our nation there are lots of people are illiterate. That mean they can't able to read any board or any message from IoT which is provided through existing systems. They face very bad experience in day today life. Because of that miss communication the miss bus. In India many of people not have smart phones, or they don't know how to use smart phones, so this IoT based system is not work for those people. In our project we will cover in-door automation and also GSM based automation for transport system. We will be implementing indoor automation for announcement of bus arriving through RFID tag with display. Also provide a SMS based acknowledgement to passengers who waiting for bus away from bus stand.

## 2. OBJECTIVES

- To promote composting at household level and reduce the pollution of environment to certain extent.
- Promote the use of natural fertilizer over artificial as far as possible.
- To efficiently utilize the organic kitchen waste Smart compost machine.
- Energy efficient machine
- We are going to display which type of fault comes at machine.
- easy to operate.

## 3. LITERATURE REVIEW

**Jan van Dike**, The City Mobil project "Towards advanced transport for the urban environment" aims at achieving a more effective organisation of urban transport, resulting in a more rational use of motorised traffic with less congestion and pollution, safer driving, a higher quality of living and an enhanced integration with spatial development. This paper describes a certification procedure for automated transport systems, developed in various European research projects and completed in the City Mobil project. The paper also describes the first experiences with the procedure. Furthermore, the paper describes experiences with certification processes of automated systems in various countries where systems have been introduced.

**Matthieu van der Heijden**, one of the major planning issues in large scale automated transportation systems is so-called empty vehicle management, the timely supply of vehicles to terminals in order to reduce cargo waiting times. Motivated by a Dutch pilot project on an underground cargo transportation system using Automated Guided Vehicles (AGVs), we developed several rules and algorithms for empty vehicle management, varying from trivial First-Come, First-Served (FCFS) via look-ahead rules to integral planning. For our application, we focus on attaining customer service levels in the presence of varying order priorities, taking into account resource capacities and the relation to other planning decisions, such as terminal management. We show how the various rules are embedded in a framework for logistics control of automated transportation networks. Using simulation, the planning options are evaluated on their performance in terms of customer service levels, AGV requirements and empty travel distances. Based on our

experiments, we conclude that look-ahead rules have significant advantages above FCFS. A more advanced so-called serial scheduling method outperforms the look-ahead rules if the peak demand quickly moves amongst routes in the system.

#### 4. APPLICATIONS

- Use this application local public and private transport system
- GSM based system is useful in railways also.
- It is a solar based ecofriendly project.

#### 5. BLOCK DIAGRAM

In this design we used ATmega328P microcontroller. In input section commanding sensors are placed for give command to microcontroller. As input sensor we placed push to on switch for giving signal to the microcontroller. In output section we used three application first is GSM based communication system. Second is LCD display. Third is Audio announcement. All system will be powered by solar panel. Right now, we are using dummy solar panel but when this system will be implemented real time then we will powerup all system through solar panel. Also, we try to whole building will powerup by using solar panel. In solar system we used hybrid solar power system in that on grid and off grid system will we used.

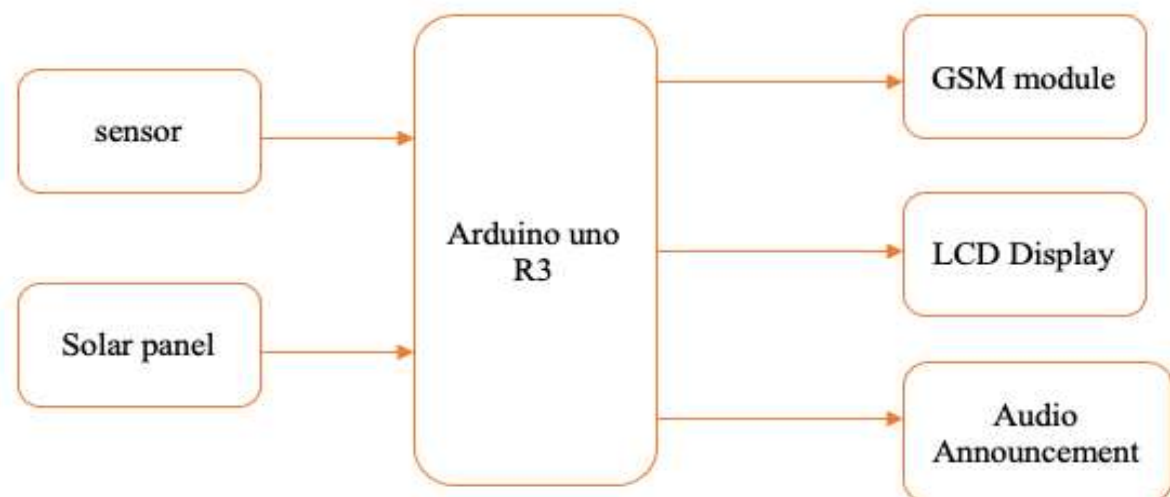
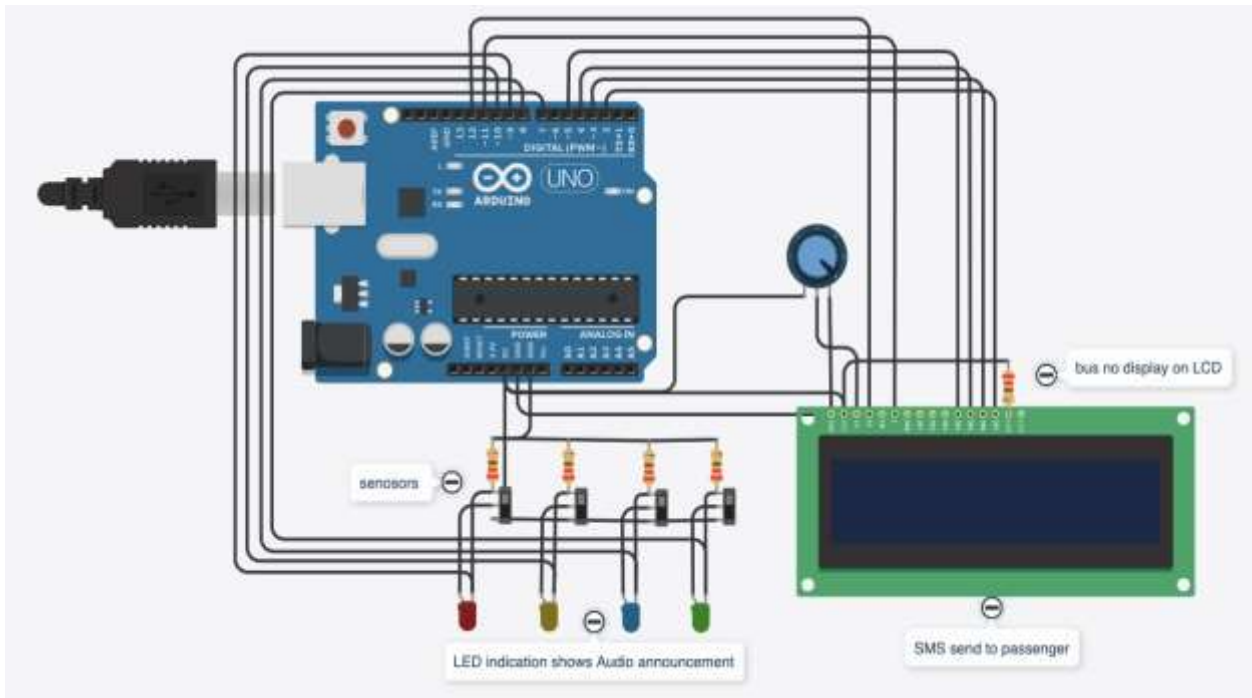


Fig. Systems Block Diagram

### 6. SIMULATION

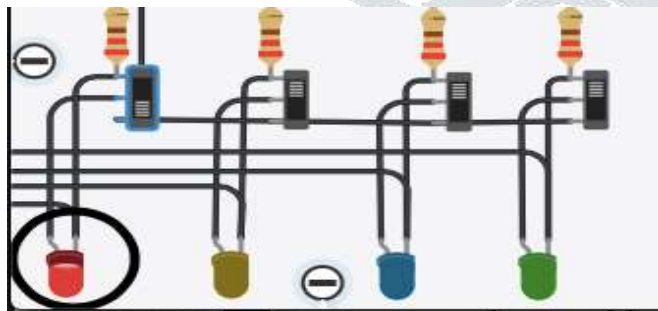


### 7. SIMULATION RESULTS

- 1. GSM turn operation.



- 2. Announcement mode operation



- 3. LCD turn mode operation



## 8. FEATURES

- Any person can track bus location from mobile.
- Easy bus Announcement system.
- Multiple reasonable languages can help people to reach near bus.

## 9. CONCLUSION

Thus, we conclude that automation in bus stand is more helpful for rural and urban all people. It is time saving system. User friendly system and bus tracking is easy. It also reduces the work load form employs.

## 10. FUTURE SCOPE

- Solar powered machine.
- It reduces the working load of respective employs.

## 11. REFERANCES

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