



**Sceintific project
on
Automated Guided Vehicle(AGV)**

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Agenda

- Introduction
- Motivation
- Conceptual Design
- Implementation
- Design problems and Limitations
- Conclusion
- Demos



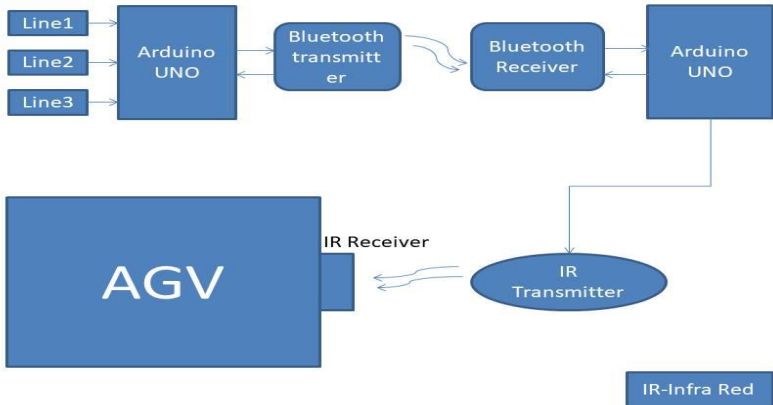
Introduction

- The central idea of this project is to build an intelligent vehicle in smart industry
- Communication between AGV and conveyor systems
- Bluetooth and IR communication
- Obstacle avoidance

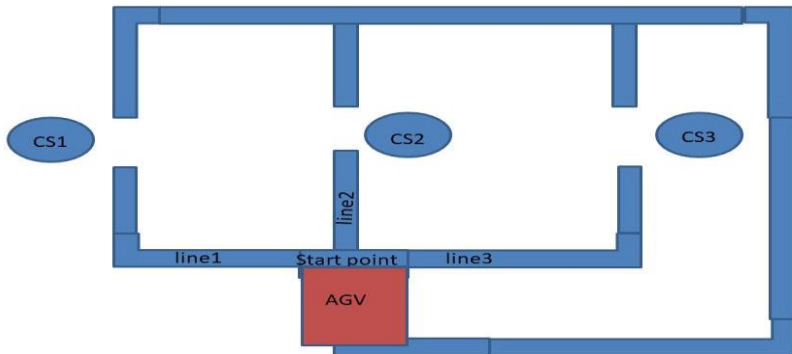
Motivation

- Implementation of advanced technology in industry
- Decrease of production cost
- Exploring new ideas to improve industry automation

Conceptual Design of AGV



Conceptual Design of Path prototype



CS-Conveyor System

Implementation

- Software and Hardware tools
- Communication Protocols
- Central Master Transmitter
- Slave Receiver on top of AGV
- Implementation of AGV



Software and Hardware tools

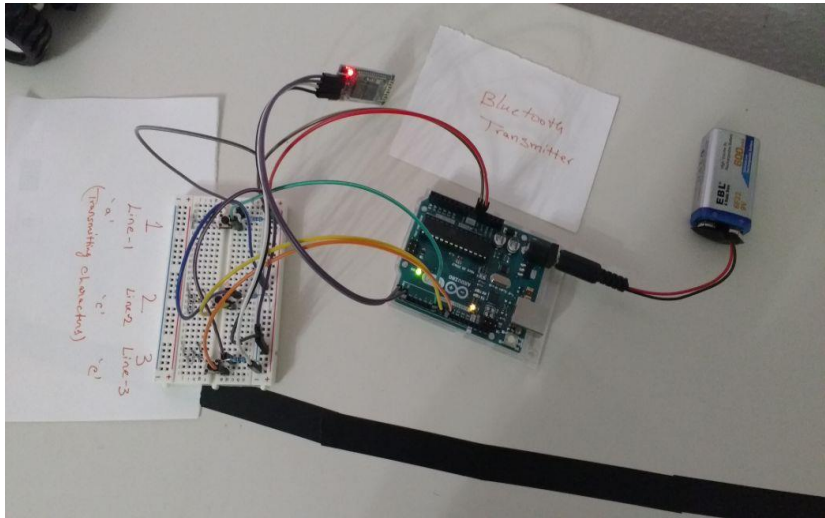
- Proteus Design suite 1.8.4
- VSPE(Virtual Serial Ports Emulator)
- Arduino IDE
- Arduino UNO
- Bluetooth modules HC-05
- 4WD MiniQ Robot V2.0
- IR LED (950nm)
- Pushbuttons and Resistors



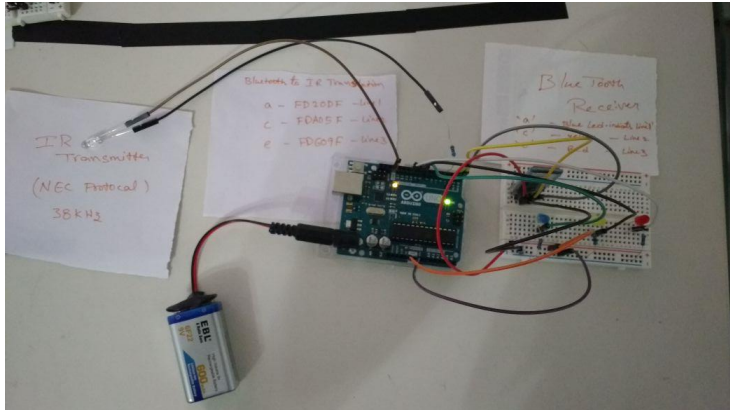
Communication Protocols

- Bluetooth communication
- IR communication

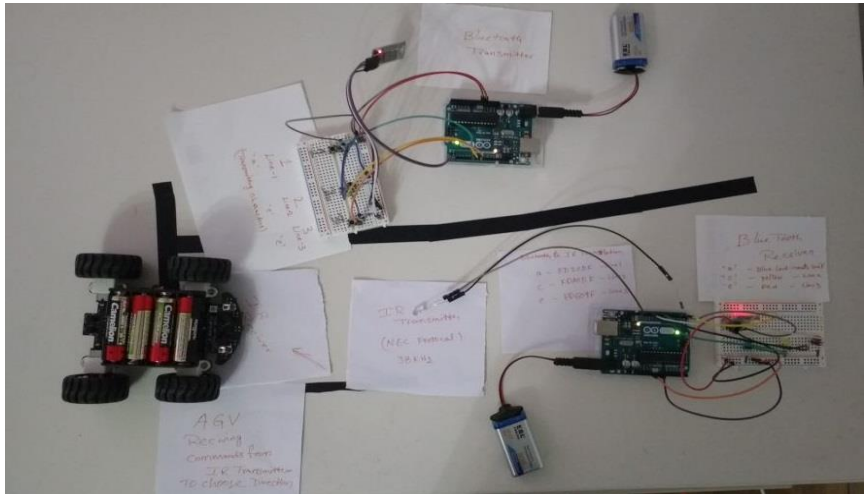
Central Master Transmitter



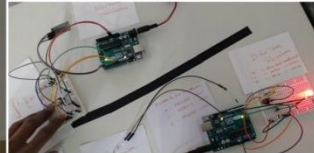
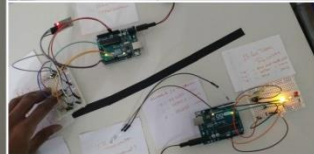
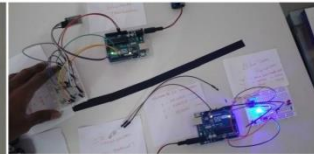
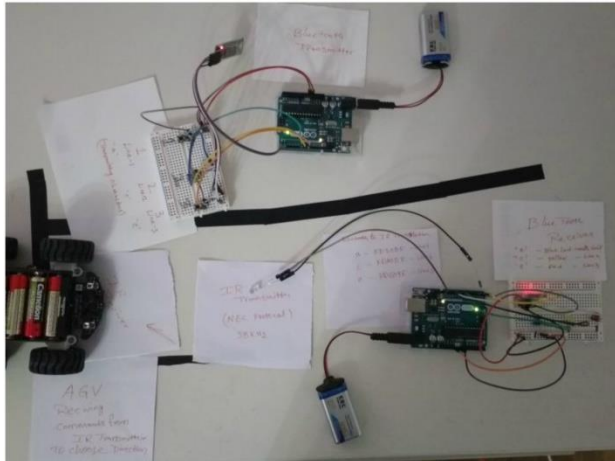
Slave Receiver on top of AGV



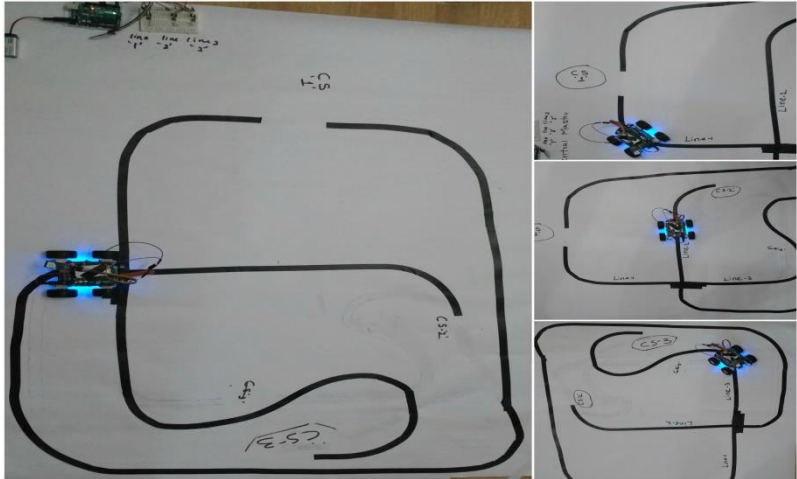
Implementation of AGV



Complete setup of AGV



AGV serving different conveyor systems



Design Problems and Limitations

- Obstacle Detection
- Battery
- Low range sensors

Conclusion

- Conveyor systems can communicate with AGV
- AGV responds to Command from Central Master
- Navigate to start point
- Obstacle detection is possible without IR communication

DEMOS



Thanks for your attention!