

EMBEDDED BASED INGENIOUS GOODS TRANSPORT VEHICLE USING AUTO ID TECHNOLOGY AND ANDROID APPLICATION

Mr. K. S. Arun Kumar¹

P. S. Kailash Surya², V. Jeya Prakash², A. Dinesh Kumar², R. Gokula Kannan²

¹Assistant Professor, Department of ECE, SSM Institute of Engineering and Technology, Dindigul,
Tamilnadu-624002.

²Department of ECE, SSM Institute of Engineering and Technology, Dindigul, Tamilnadu-624002.

Email: arunsece89@gmail.com, psssurya09@gmail.com, jp.civilengr@gmail.com,

dkdineshkumar98@gmail.com, rekreddy19@gmail.com

Abstract - AGV is a robot used in a wide variety of applications to transport many different types of materials and goods around a factory autonomously.

It can operate in two environments, unguided, Guided. In Existing Method, Guided mode, traverse shorter distance and Tape should be maintained periodically. There is no android application for controlling the overall system. Obstacles cannot be avoided. For path determining antenna is used. These drawbacks are overcome in our project.

In this project it can be operated in both Unguided and Guided mode. Robot traverse in predetermined path. RFID is used to traverse the robot in predetermined path in a wide variety of applications to transport many different types of material. Android app is created for controlling robot in manual mode, automatic mode and for storing data. Ultrasonic Sensors are used to avoid collision. In this three ultrasonic sensors are used for avoiding obstacles in 180°. Database is created for collecting the overall information.

Key Words: AGV, Collision Detection, Database, RFID, Un-Guided and Guided Medium.

1. INTRODUCTION

Recent days we are facing much difficulties and utilizing major manual power to transport the raw materials, finished products and materials in and around in the campus in major factories, industries and companies. To overcome the difficulties AGV is now proposed in all sectors. The AGV (Automatic guided vehicles) is a portable robot used for transporting materials, foods, finished goods, medicines and products in the smart factories and major companies. AGVs are engaged in every industry, including pulp, paper, metals, newspapers and general manufacturing. (AGV) play a vital role and used in industrial application to lift and convey the materials around a manufacturing facility or warehouse. To facilitate the easy access and function

in the AGV, the channel for navigation, markers or wires in the floor or uses of vision, magnets or lasers are followed. Wired navigation, wireless navigation and Magnetic tape on the floor are different types of selection. These types of navigation perform the function of guiding the AGV and also to issue steering commands and speed control. Indeed, they are being used almost and frequently in factories, major industries to convey finished products, raw materials from go-down and or warehouses to the manufacturing point. Due to advanced technology and developments in industrial, alternative scope suitable for the existing circumstantial situation considered necessary to cope up with the modern trend and economical point of view. To eliminate the difficulties and disadvantages in laser navigation in automated vehicles and to curtail maintenance cost in all sources, the new method is proposed. This will suit in all leading Automotive industries, Food industries, Autopilot technology, Transportation in smart cities and Medical Field.

2. EXISTING METHOD

2.1 INTRODUCTION

In the existing method, AGV uses tape for comfortable environment. The AGV uses Magnetic tape and coloured tapes to make path decisions. For identifying and following the path of the magnetic tape, Guide sensors is used. Though the Coloured tape is considered less expensive initially, in high traffic areas both the type of tapes may get damaged and dirty and become unserviceable. Besides, the disadvantages are High maintenance cost, less durability and cost of materials are on the high side.

“However, this system has no obstacle avoiding support and it does not contain android application for controlling overall system. Also, in the proposed system we have incorporated