

International Journal of Emerging Trends in Research

Mobile Application Controlled Material Handling Equipment

**Rakesh Adakane^{1*}, Gaurav Hade², Shivam Prakash³, Suvinay Nandanwar³,
Vedant Barokar⁴**

1 Prof. of Deptt. Mech. Engg. Yeshwantrao Chavan College of Engineering, Nagpur

2,3,4 Deptt. Mech. Engg. Yeshwantrao Chavan College of Engineering, Nagpur

Abstract

Today within the twenty-first century, the uses of automatic radio-controlled vehicles (AGVs) are becoming a lot more common within the producing industry particularly in a larger producing firm. The convenience of producing firm to the handling materials is because of the implementation of the AGVs within their making system particularly in a production line and the inventories. The usages of AGVs are becoming a lot of vital not simply to handler material however conjointly for multi-handling alternative jobs associated with the producing. A number of fabric handling analysis area unit as area unit reviewed and opportunities for additional analysis is known. enclosed within the review could be a thought of the subsequent areas: AI, conveyor theory, transfer lines, versatile producing systems, instrumental choices, storage differentiation, machine-driven storages and retrieval system, warehouse layout, palletizing, and order selecting and accumulation.

Keywords: Android Controlled, AGV, MH Equipment, Movable Device;

1. Introduction

Material handler is defined as "the movement, storage, protection and control of materials throughout the manufacturing and distribution process including their consumption and disposal". The purpose of material handling in a factory is to move raw materials, work piece-in process, finished parts, tools, and supplies from one location to another to facilitate the overall operations of manufacturing. Material handling management is among many factors that contribute to improved performance. The device is connected to an android application. To control the device the Arduino Bluetooth Application needs to be installed in the android/iOS device. The range of this application totally depends on the range of Bluetooth of the device. The material handling equipment can easily carry the load ranging between 1kg to 5kg load easily. The main purpose of the device is to make it easy to take the weight from one place to another. The equipment is user friendly and can easily be navigated by application. It can also go to the packed area and take the load to the location where needed. Material handlers involve short-span movement among the variety of the building or between the building and a transportation vehicle. It uses a good variety of manual, semi automated, and automated instruments and includes thought of the protections, storage, and management of material throughout their manufacturing, deposit, distribution, consumption, and disposal. Material handler are going to be a want to manufactures time and place utilities through the handler, storage, and managements of cloth, as distinct from manufacturing, that makes kind utility by dynamic the shape, form, and makeup of cloth for the security and ease in productivity of your employees and work, it's of significant importance to

know that new or freshly repaired or progressive material handling instrumentality is in correct operative order—before you put it into service. This section defines required pre-service operational testing and consignment testing. how to load take a glance at your instrumentality? Typically, load testing of any instrumentality is required by safety regulation and standards to make sure the instrumentality is placed right according to the look specifications.

2. Working

STEPS FOR THE DATA FLOW

STEP 1: Assembling the circuit

STEP 2: Coding of Arduino

STEP 3: Assembly on MH system

STEP 4: Download the Application

STEP 5: Change the configuration of the application

STEP 6: Connect with Bluetooth (Robo_5kg)

STEP 7: Operate the MH system

3. Conclusions

The calculation models implemented in this project basically were selected after successful tests and the results for the most part confirm that the researcher's decisions specifically were reliable, which really is fairly significant. The rest of MH systems used in industries generally are suitable to their respective cause only and researchers particularly have really tried to objectify their pretty sole purpose to for all intents and purposes make this project kind of easier to use for old peoples and females, fairly contrary to popular belief. Researchers generally are pretty affirmative that they essentially have achieved the really the highest level of precision possible in the project, which mostly is quite significant. This system basically has been tested under very robust conditions in this experimental study and the definitely real-world performance literally is expected to definitely be really much for all intents and purposes more accurate, perfect precision and in the opinion of the researcher there generally is no need to literally continue working in this area, particularly contrary to popular belief. In the future, we can use this project to basically help old age peoples or women or any generally needy to transfer any pretty material weighing in the range of the equipment from one place to another desired location, contrary to popular belief.

We can also use this equipment in the industry where path of the equipment mostly is not fixed always and where there essentially is need to essentially pick up and drop the materials which literally is not on the prefixed position or path, demonstrating that the rest of MH systems used in industries are suitable to their respective cause only and researchers definitely have kind of tried to objectify their very sole purpose to mostly make this project fairly easier to use for old peoples and females, which kind of is quite significant. In this way, this equipment could actually be viewed as a boon for the needy, showing how the rest of MH systems used in industries definitely are suitable

to their respective cause only and researchers generally have for all intents and purposes tried to objectify their sole purpose to for all intents and purposes make this project sort of easier to use for old peoples and females in a subtle way.

References

- 1) A Review Paper of Various Industrial Material Handling Systems, Riyaz Ahmed, Laukik Raut, A.S.Sharma
https://www.researchgate.net/publication/341980138_A_Review_Paper_of_Various_Industrial_Material_Handling_Systems
- 2) Design and Fabrication of Battery Operated Forklift, AnilA. Sequeira , Saif Mohammed , Avinash A. Kumar, Muhammed Sameer , Yousef A. Kareem , Krishnamurthy H. Sachidananda
https://www.researchgate.net/publication/338541391_Design_and_Fabrication_of_Battery_Operated_Forklift
- 3) Design and Methodology of Automated Guided Vehicle-A Review, Suman Kumar Das, M.K.Pasan
https://www.researchgate.net/publication/301261727_Design_and_Methodology_of_Automated_Guided_Vehicle
- 4) Operational research and material handling, European Journal of Operational Research
Jessica O. Matson, John A. White
<https://www.sciencedirect.com/science/article/pii/0377221782901965>
- 5) Material Handling Research: Needs and Opportunities. In: Material Handling '90. Progress in Material Handling and Logistics Springer, Berlin, Heidelberg.
White JA
https://doi.org/10.1007/978-3-642-84356-3_1
- 6) Plan Unit Loads to Interact with All Components of Warehouse System," Industrial Engineering,
Tanchoco J. M. A., and Agee M. H.
- 7) "A User's Guide to Tabu Search," Annals of Operations Research
lover, F., Taillard, E., and de Werra, D