IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.67
Volume 5, Issue 5, March 2025

Colour Based Item Sorting Using Robotic Arm

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Abstract: *Efficient sorting is essential for industries with high production rates, but traditional manual methods are often slow and labor-intensive. To address this challenge, we propose an automatic item sorting system that utilizes color-based technology for enhanced speed and precision. The system integrates a conveyor belt for smooth item movement, color sensors to identify and classify products, and a pick-and-place mechanism for accurate placement. An Arduino coordinates these components, ensuring seamless operation and adaptability to various sorting criteria. This automated system offers numerous advantages, including faster and more accurate sorting, reduced labor costs, and minimized errors. Its modular design allows easy scalability and customization, making it suitable for diverse industries like manufacturing, retail, pharmaceuticals, and food processing. By combining efficiency, flexibility, and cost savings, this solution is a significant step toward modernizing industrial operations.*

Keywords: sorting, controlling, robotic arm, conveyor belt, color sensor

DOI: 10.48175/IJARSCT-24138