■ 科技成果

智能垃圾分类装置：提高回收效率的青少年创新设计

艾拉·哈里斯，泽维尔·拉玛 *

（江沙利民国民型华文小学　马来西亚　霹雳州）

摘　要：研究通过设计一种智能垃圾分类装置，旨在提高回收效率，促进社会环保意识的普及。通过对青少年的创新设计，结合智能识别技术及可视化引导系统，实现了垃圾分类的自动化过程。此装置有效减少了处理垃圾的时间成本，提高了分类准确率，降低了环境污染。通过对用户行为和环境数据的分析，发现装置在实际应用中能够有效监测垃圾处理情况，并通过实时反馈和奖励机制激励用户积极参与垃圾分类。它不仅简化了垃圾分类的流程，还能培养青少年的环保意识和责任感。研究结果表明，智能垃圾分类装置在提高回收效率和推动社会环保进程方面具有广阔的应用前景

关键词：智能垃圾分类装置；回收效率；青少年创新设计；环保意识；垃圾分类知识

Intelligent Waste Sorting Device: An Adolescent-Designed Innovation for Enhanced Recycling Efficiency

Abstract: The design of an intelligent waste classification device aims to improve the recycling efficiency and promote the popularization of social environmental awareness. Through the innovative design of teenagers, combined with intelligent identification technology and visual guidance system, the automatic process of garbage classification is realized. This device effectively reduces the time cost of garbage disposal, improves the classification accuracy, and reduces the environmental pollution. Through the analysis of user behavior and environmental data, it is found that the device can effectively monitor the garbage disposal situation in practical application, and encourage users to actively participate in garbage classification through real-time feedback and reward mechanism. It not only simplifies the process of garbage classification, but also cultivates teenagers' sense of awareness and responsibility of environmental protection. The results show that the intelligent waste classification device has broad application prospects