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PROJECT TITLE: Smart Bins – IoT & Cloud Based Technology

PROJECT ABSTRACT:

The Generation of waste is increasing day by day, making waste management challenging to monitor and maintain.

To address this real-world issue, we have developed a prototype of a smart dustbin that utilizes IoT technology. The dustbin is equipped with sensors to measure the fill level, and it sends telemetry data to the Azure cloud at regular intervals (updates every minute). The data is then processed by the DE10NANO FPGA, developed by Intel, which analyzes the information from the dustbins and sends relevant details (location, fill percentage, weight, etc.) to pre-registered sanitary workers nearby.

With this prototype, we can easily monitor waste levels in different areas, promote cleanliness, and reduce the risk of various diseases and health hazards associated with improper waste management.

Features:

1. Fill Level Sensing
2. Telemetry Data Transmission
3. Cloud-based Processing
4. DE10NANO Integration
5. Automated Notifications
6. Efficient waste collection
7. Environmental and Health Benefits