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(57) Abstract :

A logic circuit trainer device (100) with cloud-based error feedback (170) integrates a microcontroller (120), data acquisition system (140), and a remote analysis engine (160). The device detects logic mismatches, provides corrective feedback via interface (180), and enables real-time performance monitoring. Users build circuits using switches (111), IC sockets (113), and LEDs (112), while instructors access student data remotely. The system improves learning outcomes and supports remote digital electronics training through intelligent error detection and cloud-connected pedagogy.

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