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(57) Abstract :
The present invention discloses a gesture-controlled digital whiteboard device (110) integrated with a processing unit (106) for collaborative learning. It enables users to interact with the whiteboard using hand gestures, eliminating the need for physical touch or styluses. The device supports multi-user gesture recognition, real-time rendering, and remote synchronization for hybrid educational environments. Equipped with AI-based gesture classification and calibration modules, the system ensures high accuracy, low latency, and inclusive functionality across diverse user groups for seamless educational collaboration.

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