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(57) Abstract :

[047] The present invention relates to an IoT-enabled Braille-to-Speech Conversion System designed to interpret embossed Braille text using a combination of image acquisition, embedded processing, and speech synthesis technologies to provide real-time audio output for visually impaired individuals. The system incorporates a camera or tactile sensor-based input module to capture Braille patterns, an embedded processing unit equipped with preprocessing and recognition algorithms to convert dot patterns into alphanumeric characters, and a text-to-speech module to deliver natural-sounding spoken output. An IoT communication interface enables cloud storage, remote accessibility, and synchronization with external devices such as mobile phones or web applications. The device operates on low power, is portable, and supports multilingual output, thereby offering an affordable, accessible, and efficient assistive technology for enhancing communication, education, and independence among visually impaired users. Accompanied Drawing [FIGS. 1-2]

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