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Patent Summary Sheet

Instructions

In your engineering notebook or on this form, document each product available on the commercial or retail market related to the major project problem you have identified.

Source (APA format): Profilio, N., Starley, J., Egbert, J., Monson, R. (2023) Screenless Smart Learning Toy and System (U.S. Patent Application No. US12205485B2). U.S. Patent and Trademark Office.

Patent Number: US12205485B2

Patent Summary: A “screenless” smart-toy system centered on a wooden or natural-material block containing processors, speaker, LEDs (visible through a translucent panel), and a sensor (e.g., RFID/NFC). The block detects tagged tiles and mode cards; system behavior (spoken output, LED color, quiz/definition/explore modes, language selection) varies with the detected tag and mode configuration. Public records list Kiri, Inc. as assignee, with a grant date of January 21, 2025, and related families including earlier grants (e.g., US 11,741,844 B2) describing substantially similar functionality. Kiri’s product materials similarly describe a small wooden block that responds to RFID-embedded tiles and mode cards with audio output and colored illumination.

Patent Critique:

Pros

- Tangible interaction: RFID tiles and mode cards create a low-friction, kinesthetic interface suitable for varied literacy levels.
- Reduced screen time: Keeps focus on auditory/oral practice and collaborative play—beneficial for attention and classroom management.
- Modularity & extensibility: Additional tile packs and modes expand curricula (vocabulary, definitions, quizzes) and support differentiation.

Cons

- Physical inventory dependency: Learning breadth depends on possession and maintenance of specific tiles/mode cards; loss or damage impairs use.
- Content management & privacy considerations: If any companion app or cloud features are used for configuration or analytics, educational-data/privacy compliance must be addressed for minors. (Implication from records referencing configuration “by mode card or separate application.”)

- Potential prior-art density: RFID-enabled educational toys are a crowded space; claim scope may be narrowed by existing references, which can limit enforceability beyond specific implementations.

Images/sketch of Patent: