

Internet Connectivity Governance Framework

Technical architecture, network design, and community control over every connection.

AI Learning Partners | Anna R. Key Publishing

The Core Design Principle

No system that handles sensitive data should depend on trust alone. This framework is built on verification -- logged, audited, and publicly reported. The governance structure exists not because the people running this program might act in bad faith, but because good systems do not require anyone to take that on faith.

What Requires Internet. What Does Not.

The program cannot function with zero internet connectivity. Security patches, AI model updates, operating system maintenance -- these require periodic external access. Student conversations, learning data, and usage patterns do not. The architecture keeps these two functions physically separate.

Technical Architecture: Dual Network Design

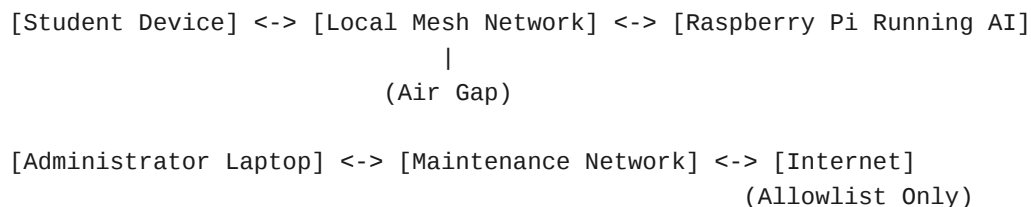
Student Network

Completely isolated from the internet by default. All AI conversations happen locally on Raspberry Pi devices inside the library. Student data never transmits outside the mesh network. No automatic cloud uploads. No remote logging. Physical network separation -- not a software firewall, a structural gap.

Administrative Network

A separate, administrator-only network handles maintenance. It has internet access, but only to a pre-approved allowlist of domains. Accessible only during scheduled maintenance windows. Requires physical access to hardware -- no remote administration. Every connection is logged.

Network Diagram



Domain Allowlist

The allowlist is a pre-approved list of the only internet addresses the system can reach. Everything else is blocked by default. Approved domains include operating system security updates, hardware firmware sources, and the AI model repository.

Not on the list: social media, general web browsing, data analytics services, cloud storage, advertising networks, or anything not explicitly required for maintenance. The allowlist is reviewed and approved by the Community Advisory Board quarterly. The Technical Lead cannot add domains unilaterally.

Review Process

Standard Track (60 days)

Required for new AI models, new or expanded domain access, vendor changes, policy modifications, or any change that meaningfully expands system capabilities or data exposure.

- Days 1-14: Technical Lead submits written proposal with plain-language explanation
- Days 15-30: Board review; members may request additional information
- Days 31-44: Public comment period; proposal posted publicly
- Day 45: Simple majority vote with 60% quorum required
- Days 46-60: Implementation and written completion report

Expedited Track (14 days)

Required for routine patches, minor version updates, and security fixes to already-approved software with no new domains, no new data exposure, no expanded capabilities.

Emergency Security Updates

An update qualifies as an emergency only if it meets ALL three criteria:

- Credible evidence of active exploitation targeting this specific system
- The threat could compromise student data or system integrity
- Delay beyond 72 hours materially increases risk

Performance improvements, convenience upgrades, and vendor recommendations do not qualify as emergencies.

Logging and Auditing

Every internet connection is automatically logged: date, timestamp, domain accessed, data volume, reason for connection, administrator who initiated it, duration. A rotating Board member reviews all logs monthly. A quarterly public report is published at all library sites. An independent security audit is conducted annually with full public results.

Success Metrics

- Zero student data transmitted online, verified by annual audit
 - All maintenance within approved windows, verified by logs
 - Zero unauthorized internet connections, verified by firewall logs
 - Board approval rate above 80% -- a rate significantly above 95% warrants review to ensure the Board is exercising independent judgment
 - More than 70% of parents able to explain in plain language how internet access is controlled
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This document is part of the AI Learning Partners toolkit, developed by Charlotte Fulmer-Fife / Anna R. Key Publishing.

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