

Building Healthier Digital Habits For Children With Troomi

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ABSTRACT

Rising exposure to unsafe digital content and excessive screen time is creating significant risks for children, contributing to sleep disruption, emotional strain, attention difficulties, and declining mental well-being. Parents lack reliable, easy-to-use tools that provide safe digital introduction, effective monitoring, and age-appropriate independence without harming trust or creating conflict.

Troomi addresses these challenges through a controlled, child-focused smartphone ecosystem built on KidSmart OS[®]. With SafeListing communication, curated apps, filtered browsing, flexible screen-time controls, and Troodi™—an AI assistant that detects emotional cues and potential risks—the platform enables safer digital experiences while supporting emotional awareness and early intervention.

HITLAB’s heuristic evaluation, based on Jakob Nielsen’s Ten Usability Heuristics and scenario-based parent–child testing, demonstrates that Troomi delivers an intuitive, family-centered experience with strong safety architecture and real-time monitoring. Minor usability refinements can further enhance clarity and personalization, positioning Troomi as a robust, scalable solution for advancing safe, developmentally appropriate smartphone use for children..

OBJECTIVES

- Assess usability, effectiveness, and workflow alignment of the Troomi Phone and Parent Portal.
- Evaluate the platform against Nielsen’s Ten Usability Heuristics.
- Identify strengths across safety, navigation, monitoring, and child-facing features.
- Provide actionable recommendations for future refinement and scale-up.

STUDY METHODOLOGY

- **Framework:** Jakob Nielsen’s 10 Usability Heuristics
- **Evaluation Approach:** Expert inspection and heuristic evaluation simulating end-to-end parent and child interactions across the Troomi Platform.
- **Test Scenarios (Personas Evaluated):** Parent user (38-year-old caregiver) and Child user (11-year-old student).

The Troomi Smartphone

Troomi is a safe, child-centered smartphone platform designed to protect and empower kids.

ABOUT TROOMI

- SafeListing for controlled contacts & communication
- Curated, age-filtered app store
- Screen time scheduling
- Secure filtering & content moderation
- Location tracking & behavioral dashboards

TROODI™ AI

- Detects emotional distress
- Flags bullying and self-harm themes
- Encourages healthy expression
- Supports parents with actionable insights



RESULTS

Strengths Identified

PARENT PORTAL

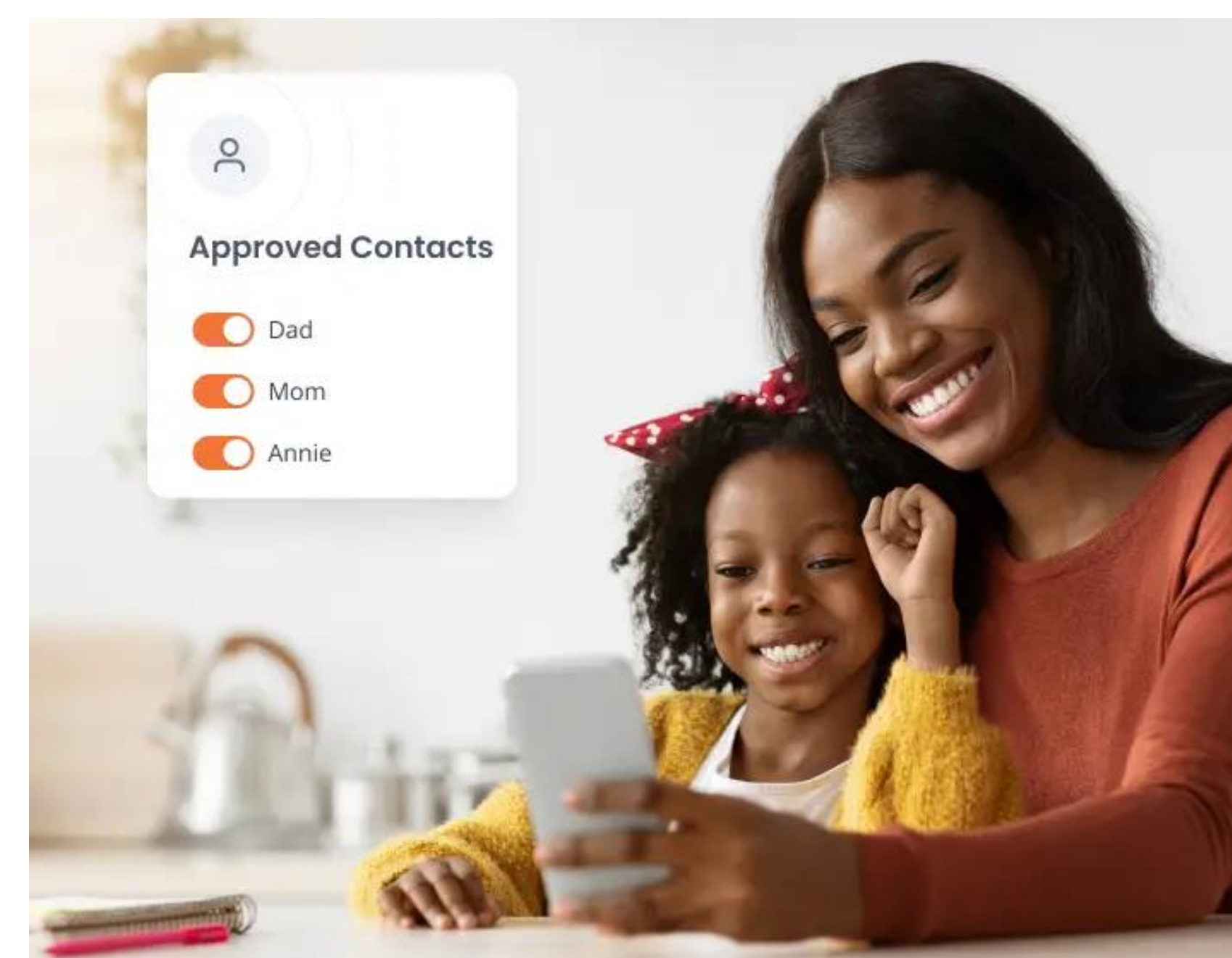
- Centralized, real-time dashboard for child activity.
- Clear, intuitive navigation with customizable panels.
- Flexible screen-time schedules with quick overrides.
- Streamlined app approvals with category filters.
- Curated, pre-vetted app store ensuring safe content.
- Organized contact directory with emergency roles.
- Comprehensive help center with multi-channel support.
- Simple referral center with incentives and tracking.
- Troodi™ insights—accurate topic detection, emotion flags, and safety alerts.

CHILD DEVICE & SAFETY SYSTEM

- Clean, age-friendly interface with real-time sync.
- Automatic text filtering for inappropriate language.
- Secure, restricted ecosystem preventing harmful content.
- SafeListing ensures controlled communication.
- Troodi™ AI provides empathetic support and identifies emotional risk cues.
- Consistent, reliable performance supporting healthy digital habits.

Recommendations

- Integrate OCR for detecting inappropriate text inside images.
- Introduce rule-based, real-time location alerts (e.g., during school hours).
- Add a “Wellness Check-in” feature for mood logging and journaling.
- Include a comprehensive FAQ panel directly inside the Parent Portal.
- Provide parental guidance for setting controls on external platforms (Google, YouTube).
- Add longitudinal data trends to Home Dashboard for yearly behavioral insights.
- Improve scheduler UI with labels and templates for routine settings.
- Expand app filters (usage frequency, newly updated apps, offline/online type).
- Add sub-topic detection in Troodi for richer emotional context.



Heuristic Evaluation Scores (out of 5)

- 5 / 5** **Visibility of System Status:** Dashboard shows real-time device status (online/offline, last sync). Apps are clearly marked as approved, pending, or denied.
- 5 / 5** **Match Between System & Real World:** Uses simple, parent-friendly terms (e.g., “Approve App,” “Block Website”) instead of technical jargon.
- 5 / 5** **User Control & Freedom:** Parents have strong, flexible control over all setting options.
- 5 / 5** **Consistency & Standards:** Cohesive design and consistent fonts, colors, and layouts make navigation intuitive and build user trust.
- 4 / 5** **Error Prevention:** Use larger, centrally placed alerts or banners for critical or irreversible actions.
- 4 / 5** **Recognition Rather Than Recall:** Icons follow familiar smartphone conventions, reducing cognitive load. Provide preset, age-appropriate content-filtering suggestions.
- 4 / 5** **Flexibility & Efficiency of Use:** Parent portal offers fully customizable settings for the child’s device.
- 5 / 5** **Aesthetic & Minimalist Design:** Simple, uncluttered layout highlighting essential functions.
- 5 / 5** **Help Users Recognize, Diagnose, Recover from Errors:** Add preset child personas to enable automatic parental setup settings.
- 4 / 5** **Help & Documentation:** Platform includes a detailed Help section with an FAQ. Add an in-portal chat messenger for quicker support.

CONCLUSION

HITLAB’s evaluation confirmed that Troomi delivers a strong, family-centered approach to safe and healthy smartphone use. Its controlled ecosystem, curated apps, and Troodi™ insights effectively support safety, emotional well-being, and real-time monitoring. Minor refinements to dashboard clarity, filtering, and personalization can further enhance usability and parent–child engagement. Troomi is well positioned to advance secure, age-appropriate digital experiences and drive wider adoption of child-focused smartphone solutions.

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