Refugee Self-Reliance Model through the AI Necklace for Child Safety

Proposed by the Republic of Korea

◆ Model Overview and Technical Feasibility

Background & Opportunity

Many refugee settlements lack access to sustainable income opportunities and meaningful, dignified work. This initiative seeks to transform refugees into producers and distributors of a child-focused AI safety device—empowering them economically while simultaneously protecting children with developmental and physical disabilities in underserved and displacement-affected communities.

Model Structure for Refugee Self-Reliance

- **Community-Based Assembly System**
  Refugees can assemble the prototype in a single tent using simple circuitry and low-cost 14nm AI chips, with less than two hours of training. Participants serve as both producers and local distributors, gaining income and hands-on technical skills in the process.
- **Low-Cost, Verifiable Pilot**
  A minimum viable prototype can be field-tested for approximately USD 1,000—demonstrating both technological feasibility and cost-efficiency for grassroots deployment.

Alignment with Global Development Priorities

- **UN Sustainable Development Goals (SDGs):**
  - SDG 3 – Good Health and Well-being
  - SDG 9 – Industry, Innovation and Infrastructure
  - SDG 10 – Reduced Inequalities
  - SDG 17 – Partnerships for the Goals
- **Ethical AI and Data Protection:**
  The device operates fully offline, collects no personal or biometric data, and complies with GDPR, COPPA, and other global standards on children’s rights in the digital environment.

Key Technical Features

- **Edge AI for Safety Detection**
  Detects sudden movement, road proximity, and irregular heart rates; delivers real-time audio prompts to the child in distress.
- **Panda-Themed Gamified Interface**
  Designed with a Tamagotchi-style digital companion to reduce stigma and encourage voluntary wear by children.
- **Low-Cost, Locally Sourced Hardware**
  Fully offline operation; no cloud connection required. Components are low-cost and adaptable to regional supply chains.

◆ Pilot Roadmap and Social Impact

Pilot Implementation Strategy

1. **Focused Functionality for Core Safety Needs**
   The initial deployment will include real-time alerts that help protect children from straying into roads or hazardous zones—providing timely, voice-based guidance in moments of potential danger. This feature is especially critical for children with disabilities in displacement-affected settings.
2. **Parent and Caregiver Engagement**
   A companion mobile app transparently communicates current features and future upgrade pathways to caregivers.
3. **Local NGO Collaboration**
   The project is designed to integrate with partner organizations such as UNICEF and UNHCR to support education, training, and field validation.

Expected Impact and Public Benefit

- **Refugee Empowerment**
  Participants gain fair wages, technical training, and the dignity of becoming active contributors to their communities.
- **Child Protection and Inclusion**
  Helps prevent accidents, disappearances, and abuse—while promoting social integration for children with disabilities.

- **Strong Public Interest and Demand**
  The initiative's emotionally resonant story, inclusive design, and measurable social benefit generate high public support.

Support Request
This is a low-risk, high-impact public innovation initiative. To move forward with MVP development, we respectfully request technical support—specifically, the contribution of **three AI software developers and one 3D printing technician**, even at a student or volunteer level.

"My own nephew lives with a developmental disability. I originally designed this device as a gift for him—so he could feel safe, seen, and supported. I now believe this necklace can become a trusted companion to many children like him around the world."

— Republic of Korea, Jeon Gyu-min

Founder, AI Necklace for Child Safety Project

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