

THE WATOTO FRAMEWORK

An Africa-Led, Child-Centred, Safety-by-Design Standard
for Digital Products, Platforms, and AI Systems
Serving Children in Africa and the Global South



OFFICE OF THE
SPECIAL ENVOY ON
TECHNOLOGY



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Citation format: Kaberi, J, Makumbe, C (2026). The WATOTO Framework: An Africa-Led, Child-Centred, Safety-by-Design Standard . Mtoto News International.

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The WATOTO Framework is a living document. Updates will be published at www.kutungo.org

April 2026 . ISBN/DOI pending

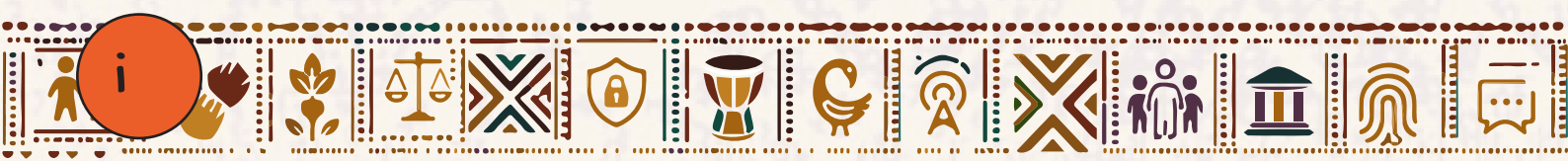


Table of Contents

Acknowledgments.....	IV
Foreword	V
Acronyms and Abbreviations.....	VII
Glossary.....	VIII
Key Terms	VIII
African Conceptual Terms.....	IX
Executive Summary I	X
I. Introduction.....	2
Policy Alignment.....	3
Scope and Application.....	3
II. Background	4
A. The Digital Landscape for African Children	4
B. The Parental Digital Divide.....	4
C. Evidence of Online Harms.....	5
D. Children in Conflict and Humanitarian Settings.....	6
E. Generative AI as a Distinct Design Context.....	6
III. Foundations of the WATOTO Framework	7
A. Human Rights Basis and African Policy Alignment	8
B. Existing Safety-by-Design Frameworks	9
C. African Theoretical Foundation	9
D. Synthesis.....	10
E. Intersectionality and African Feminist Theory.....	10
F. Ecological Systems Theory and African Developmental Theory	10
IV. Children’s Voices.....	11
A. On Access, Language, and the Cost of Exclusion	12
B. On Algorithmic Bias and Cultural Erasure.....	13
C. On Participation and the Right to Be Heard.....	13
D. On Accountability, Wellbeing, and the Intergenerational Bond.....	14
E. The Design Mandate.....	14
V. The Seven Structural Gaps.....	15
Gap 1: The Absence of Community as a Design Unit.....	15
Gap 2: Relational Architecture vs. Individual User Design.....	15
Gap 3: No Designed Transition into the Digital World.....	16
Gap 4: The Erasure of Mentorship and Apprenticeship.....	16
Gap 5: The Missing Axis -- Child Responsibility.....	16
Gap 6: Cultural Context -- The Invisible Dimension of Design.....	17
Gap 7: Digital Neocolonialism.....	17
VI. WATOTO Guiding Principles.....	17



Principle 1: UZIMA- Best Interests, Holistic Wellbeing, and No Profit from Harm.....	18
Principle 2: BOTHO- Ubuntu, Communitarian Values, and Children as Rights-Holders.....	19
Principle 3: TSARO - Safety as Structural Condition, Access, and Effective Remedy.....	19
Principle 4: ASA- African Developmental Appropriateness and Cultural Integrity.....	20
Principle 5: UFULU- Data Sovereignty, AI Accountability, and Digital Self-Determination.....	20
Principle 6: BIRUH - Transparency, Accountability, and Ecosystem Responsibility.....	21
Principle 7: UCHE- Decolonised Design Thinking and Epistemic Justice.....	21
Principle 8: UBUMWE - Pan-African Solidarity, Continental Governance, and Self-Determination.....	22
Principle 9: LETSEMA - Economic Justice, Digital Development, and Community Benefit.....	22
Principle 10: BONDEKO - Intergenerational Covenant, Oral Heritage, and Living Memory.....	23
VII. WATOTO Design Standards.....	23
Standard 1 - MA'AT: Service Provider Responsibility and Child Rights Impact Assessment.....	24
Standard 2 - PALAVER: Child Participation, Co-Design, and Anti-Tokenism.....	26
Standard 3 - BWAMI: African Developmental Design and Digital Rites of Passage.....	27
Standard 4 - JELIYA: Cultural Contextualisation, Linguistic Equity, and Oral Access.....	31
Standard 5 - UBUNTU: Data Governance, Privacy, and Digital Sovereignty.....	32
Standard 6 - BARAZA: AI Accountability, Algorithmic Governance, and Generative AI	33
Standard 7 - UKAMA: Family, Community Integration, and Adult Capacity Building.....	34
Standard 8 -- ISITHUNZI: Identity, Dignity, and the Decolonised Mirror.....	35
Standard 9 - SANKOFA: Epistemic Sovereignty, African Knowledge Systems, and Content Equity.....	36
Standard 10 - HARAMBEE: Infrastructure Equity, Offline Architecture, and Connectivity Justice.....	38
VIII. Implementation Toolkit.....	39
A. For Governments and Regulators.....	40
B. For Technology Companies.....	40
C. For Civil Society and Educators.....	40
D. For International Organizations.....	41
E. Digital Rites of Passage Protocol -- Implementation Guide	41
F. Monitoring and Evaluation Framework.....	47
References.....	49
African Union and International Policy Instruments.....	49
National and Regional Policy Instruments.....	50
Research Reports and Empirical Studies.....	50
Scholarly Works and Theoretical Foundations	50



Acknowledgments

The WATOTO Framework is the result of a shared African effort shaped by the voices, experiences, and expertise of children, scholars, policymakers, practitioners, and institutions across the continent. We extend our deepest gratitude to the 599 children from 14 African countries who participated in the DFC Spotlight on Africa (2026), 15 Kenyan children who contributed to Right.AI: Children’s Experiences of Generative AI in Kenya (2025), the 270 children from 3 African countries who participated in the It’s A Fact research (2026), and 110 from 6 African Countries young participants of the Children Global AI Summit on Africa in Kigali and 350 children from 11 African countries who participated in African Children Summit in South Africa in April 2025. Their lived experiences and reflections on digital life form the heart of this framework and continue to guide its vision for child-centred digital governance in Africa.

We also acknowledge the scholars and thinkers whose intellectual contributions shaped the philosophical and theoretical foundations of this work. The ideas of A. Bame Nsamenang, John Mbiti, Ifeanyi Menkiti, Arnold van Gennep, and Victor Turner informed the framework’s grounding in African communitarianism, social ontogenesis, and rites of passage. We are equally indebted to Kimberlé Crenshaw, Oyèrónk’ Oyèwùmí, Nkiru Nzegwu, Ngũgĩ wa Thiong’o, Walter Rodney, Frantz Fanon, Nick Couldry, Ulises Mejias, and Shoshana Zuboff, whose scholarship provided critical tools for understanding digital colonialism, equity, identity, and power in the digital age.

Finally, we extend sincere appreciation to the institutions and partners whose support made this work possible, including the Government of Kenya, the Digital Futures Center at the London School of Economics, the Safe Online Fund, the African Union Commission, Kutunga Design Academy and Innovation Lab, Mtoto News International, and the many African civil society organisations, educators, parents, regulators, and community elders who reviewed and strengthened this framework. The WATOTO Framework remains a living document rooted in African knowledge systems and languages, and its continued growth depends on the collective responsibility of all who are committed to building safer, more inclusive digital futures for African children.



Foreword

We are living through one of the most consequential transitions in human history. Technology is no longer something children encounter from time to time it has become the environment in which they learn, play, express themselves, build relationships, encounter opportunities, and, too often, face harm. As digital spaces become central to the lives of the young, the question is no longer whether our children are online. The question is whether the digital world they now inhabit has been designed with their dignity, safety, agency, culture, and future in mind.

That question carries particular weight for our continent. Africa is the youngest region on earth, and for those of our children with connectivity and devices, digital life is no longer occasional. It increasingly fills their waking hours across social media, messaging, video, gaming, and now AI-enabled tools. At the same time, far too many remain on the wrong side of the access divide, excluded from the opportunities, knowledge, and capabilities that will define this age. Both realities deserve our attention. One exposes children to environments never designed for them. The other shuts them out altogether. Neither condition can be considered safe.

Much of the digital ecosystem our children encounter has been designed, governed, and trained elsewhere carrying assumptions and contexts that do not align with our realities, cultures, or value systems. In this light, the WATOTO Framework is a timely and necessary intervention. It is both a child online safety mechanism and a statement of position: that Africa's children must be seen in the full reality of their lives as rights-holders, learners, creators, citizens, members of families and communities, and active participants in a digital world they are already helping to shape. Their safety cannot be left to a parental control setting, a compliance appendix, or a response after harm has occurred. It must be built into the architecture of platforms, products, and AI systems from the very beginning.

WATOTO matters because it expands the definition of safety. Safety is not only the absence of abuse, exploitation, harmful content, or predatory contact, important as these protections are. It is also the condition in which a child can pursue opportunity, be understood in their own language, see their culture represented with dignity, learn without manipulation, participate without being tokenized, and grow under the guidance of family, peers, teachers, elders, and community. A child who is excluded, misrepresented, manipulated, surveilled, or rendered invisible by digital systems is not safe regardless of what any platform's safety report may claim. Safety, properly understood, is a question of protection and participation, of agency and accountability, of access and well-being, and ultimately of sovereignty.

This is also why our framing of AI risk must broaden. Much of the global debate has fixated on frontier risks distant, model-centric, often future-facing scenarios that may or may not materialize. These risks matter and deserve serious attention. But for African children, the most pressing risks are not on the horizon; they are sociotechnical and already operational. They emerge in the daily interactions between children and the platforms, data systems, algorithms, business models, and institutions that increasingly shape their lives. They show up when a system cannot speak a child's language, when it renders her image only through colonial stereotypes, when it monetizes her attention, when it manufactures her attachment, and when its moderation tools cannot hear her voice.



These are not isolated incidents of model behavior they are governance failures, here and now. Therefore, when African children are rendered invisible by the systems that mediate knowledge, identity, education, opportunity, and public life, we have failed them not only technologically but also politically and morally.

WATOTO speaks to a broader African agenda the work of shaping technology from our realities, values, and aspirations. It insists that African children must not be treated as passive users of systems designed elsewhere, but must instead be protected and heard, given a digital environment that is safe without stifling their agency and rich in opportunity without sacrificing dignity, culture, privacy, well-being, or community. This balance between protection and participation lies at the heart of any serious vision of digital transformation.

As Kenya's Special Envoy on Technology, I see WATOTO as part of the broader task of digital self-determination. The standards of this age must not be written for Africa. They must be shaped with Africa and with our children, whose futures will be defined by these systems long after the current debates have faded. That work demands a shift from general concern to specific, practical, and actionable responsibility among governments, regulators, technology companies, educators, civil society, funders, parents, caregivers, and the communities where our children live. Red lines without reach are not red lines.

I commend Mtoto News International, Jennifer Kaberi, Caroline Makumbe, the Kutunga Design Academy and Innovation Lab, and the children, researchers, practitioners, and advocates whose work has made this Framework possible. Their contribution extends not only to child online safety but also to the broader question of how Africa secures agency, dignity, trust, and the public interest in the age of AI.

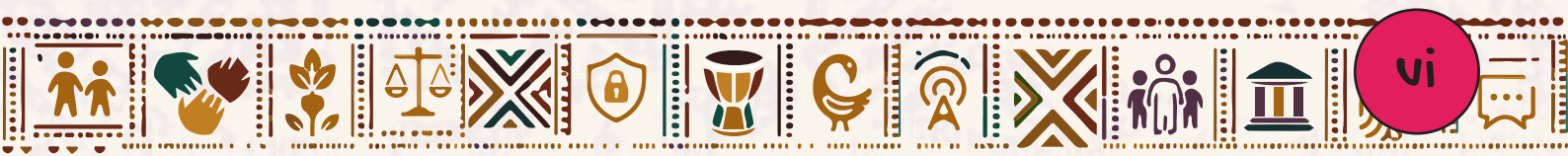
The task before us now is implementation. Our children must remain at the center of design not as subjects of protection alone, but as co-architects of the intelligent world they will inherit.

Amb. Philip Thigo

**Ambassador Philip Thigo, MBS
Special Envoy on Technology, Republic of
Kenya**



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Acronyms and Abbreviations

Acronym	Full Term
ACRWC	African Charter on the Rights and Welfare of the Child (1990)
AI	Artificial Intelligence
AU	African Union
AADC	Age Appropriate Design Code (United Kingdom, 2020)
CRIA	Child Rights Impact Assessment
DFC	Digital Futures Commission
DSA	Digital Services Act (European Union)
EdTech	Educational Technology
GC25	UNCRC General Comment No. 25 (2021)
GenAI	Generative Artificial Intelligence
ML	Machine Learning
NLP	Natural Language Processing
SbD	Safety by Design
UNCRC	United Nations Convention on the Rights of the Child (1989)
WEIRD	Western, Educated, Industrialized, Rich, Democratic

10 DESIGN STANDARDS



2. PALAVER
Child Participation
and Anti-Tokenism



3. BWAMI
African
Developmental
Design & Digital
Rites of Passage



4. JELIYA
Cultural
Contextualisation
and Oral Access



5. UBUNTU
Data Governance
and Digital
Sovereignty



6. BARAZA
AI Accountability
and Generative AI



7. UKAMA
Family, Community
and Adult Capacity
Building



8. ISITHUNZI
Identity, Dignity
and the
Decolonised Mirror



9. SANKOFA
Epistemic
Sovereignty,
African Knowledge
Systems and
Content Equity



10. HARAMBEE
Infrastructure
Equity, Offline
Architecture and
Connectivity
Justice

10 GUIDING PRINCIPLES



2. BOTHO
Ubuntu,
Communitarian
Values and
Children as
Rights-Holders



3. TSARO
Safety as
Structural
Condition, Access
and Effective
Remedy



4. ASA
African
Developmental
Appropriateness
and Cultural
Integrity



5. UFULU
Data Sovereignty,
AI Accountability
and Digital
Self-Determination



6. BIRUH
Transparency,
Accountability
and Ecosystem
Responsibility



7. UCHE
Decolonised
Design Thinking
and Epistemic
Justice



8. UBUMWE
Pan-African
Solidarity,
Continental
Governance and
Self-Determination



9. LETSEMA
Economic Justice,
Digital Development
and Community
Benefit



10. BONDEKO
Intergenerational
Covenant, Oral
Heritage and
Living Memory



Glossary

Key Terms

Term	Definition
AI system	A digital system that can generate, recommend, classify, predict, or decide based on data.
Algorithm	A set of instructions a platform uses to decide what content, result, recommendation, or response a person sees.
Child rights impact assessment (CRIA)	A process for checking how a digital product may affect children's rights, safety, privacy, wellbeing, development, and participation before it is launched or changed.
Data colonialism	The structural logic by which human social life is captured as data for capital accumulation, reproducing the extractive relationship of historical colonialism through digital means.
Digital Rites of Passage	A three-stage ceremonial protocol (Separation, Transition, Incorporation) marking a child's crossing into a new age band in digital life.
Digital sovereignty	The ability of people, communities, and countries to shape how digital systems use their data, languages, infrastructure, rules, and knowledge.
Developmental niche	The specific cultural, social, and caregiving context within which a child grows. In African developmental theory, this niche is the developmental environment itself.
Epistemic justice	The fair representation of a community's knowledge systems, languages, histories, and ways of knowing in digital and AI systems.
Frontier risk	A risk often associated with advanced AI systems and future scenarios, including large-scale or catastrophic harms.
Relational web	The network of family, peer, community, and elder relationships through which African children develop.
Safety-by-design	The practice of building safety into a product from the beginning, rather than adding it after harm occurs.
Socio-technical risk	Harm that comes not from technology alone, but from how technology interacts with people, business models, institutions, culture, language, inequality, and power.
Surveillance capitalism	An economic model in which personal data is extracted, processed, and sold for profit, often without meaningful consent or community benefit.
Wellbeing	A child's overall physical, emotional, social, cultural, cognitive, and developmental health.



African Conceptual Terms

Term	Meaning and Origin
Ma'at	Justice, balance, truth, and right order - Ancient Egyptian ethical foundation.
Palaver	Collective dialogue and consensus-seeking - West African tradition.
Bwami	Ethical formation, growth, and social maturity -- Lega people, DRC.
Jeliya	Storytelling, oral tradition, and cultural memory -- the art of the Griot, West Africa.
Ubuntu	Shared humanity and collective dignity -- Nguni Bantu philosophy.
Baraza	Public accountability and open governance -- East African community deliberation forum.
Ukama	Relational interdependence across people and systems -- Shona concept, Zimbabwe.
Isithunzi	Dignity, identity, presence, and how one is seen -- Nguni concept.
Sankofa	Return, reclaim, and build from the past -- Akan symbol and concept, Ghana.
Harambee	Collective effort and shared responsibility -- Kenyan tradition of community self-help.
Uzima	Holistic wellbeing and vitality -- Swahili concept, East Africa.
Botho	Ubuntu, humanness, and mutual respect -- Setswana concept, Botswana.
Tsaro	Safety, security, and protection -- Hausa concept, Nigeria, Niger, Ghana, and the Sahel.
Asa	Culture, living tradition, and the people's inheritance -- Yoruba concept, Nigeria, Benin, and Togo.
Ufulu	Freedom, rights, and self-determination -- Chichewa concept, Malawi, Zambia, and Mozambique.
Biruh	Clarity, brightness, transparency -- nothing hidden -- Amharic concept, Ethiopia and the Horn of Africa.
Uche	Mind, moral consciousness, and intentional thought -- Igbo concept, Nigeria.
Ubumwe	Unity, solidarity, and collective purpose -- Kinyarwanda concept, Rwanda.
Letsema	Communal labour freely given for collective benefit -- Sesotho concept, Lesotho and South Africa.
Bondeko	Fellowship, intergenerational bonds, and kinship across time- Lingala concept, DR Congo, Republic of Congo, and Central African Republic.



Executive Summary

The WATOTO Framework is an Africa-led, child-centred, safety-by-design standard for digital products, platforms, and AI systems serving children in Africa and the Global South. It was developed in response to a specific failure: existing global children’s digital safety frameworks were designed for WEIRD (Western, Educated, Industrialized, Rich, Democratic) contexts, carry WEIRD assumptions, and cannot see the ontological, developmental, and political realities of African childhood.

The evidence underlying this framework is drawn from three research bodies: the documented voices of 599 children across 14 African countries; in-depth research with 15 Kenyan children on generative AI; and the collective policy demands of children from seven nations at the Kigali Children’s AI Summit (April 2025).

WATOTO responds across four interlocking dimensions: empirical (grounded in children’s documented voices), theoretical (anchored in African developmental scholarship Nsamenang, Mbiti, Menkiti, van Gennep, and Turner -- supplemented by African feminist theory and intersectionality), policy (aligned with six African Union continental instruments), and operational (translated into ten testable Guiding Principles and ten Design Standards, each with engineering requirements, red-line prohibitions, and Good Practice Notes).

WATOTO expands the definition of safety. Safety is not only the absence of abuse, exploitation, harmful content, predatory contact, or data misuse. Safety also includes access, agency, participation, dignity, cultural representation, linguistic inclusion, developmental wellbeing, community accountability, and sovereignty.

WATOTO responds to the following structural gaps in existing safety by design framework

The Seven Structural Gaps

Seven structural gaps in existing frameworks are identified and addressed:

Gap	The Failure	WATOTO Response
1. Community as design unit	All frameworks design for the individual user. Community the primary unit of African personhood is invisible.	Principle 2 and Standard 7 UKAMA: community-level governance required across all features.
2. Relational vs. node architecture	Frameworks build for discrete individual users. African children are strands in a relational web; node design severs that web.	Every design decision evaluated against its effect on the relational web.
3. No designed transition	No framework designs the crossing into digital life. A birthday triggers an algorithm. A child enters alone.	Standard 3 BWAMI: Digital Rites of Passage Transition Protocol at every age-band boundary.

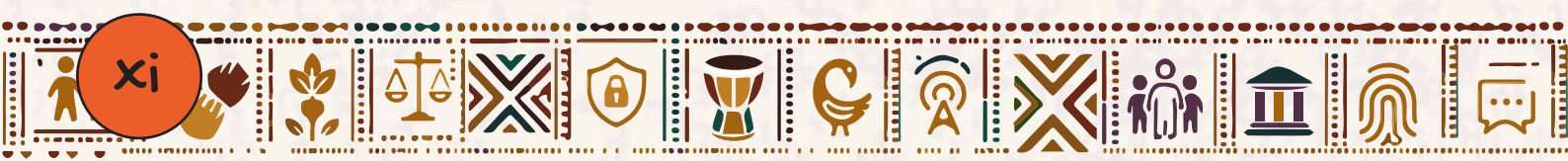


4. Erasure of mentorship	Frameworks assume information transfer. African children learn through apprenticeship alongside someone more experienced.	Peer mentor roles, elder witnessing, and adult capacity building as structural platform features.
5. Child	Every framework names rights for children; none names responsibilities. ACRWC Article 31 uniquely establishes reciprocal duties.	Every age-band transition names new rights and new community responsibilities equally.
6. Cultural context invisible	Context is treated as a delivery problem, not a design problem. The cultural niche is treated as optional.	Standard 4 -- JELIYA: contextual mapping mandatory before market entry. 12-month review cycle required.
7. Digital	Frameworks, platforms, training data, governance, and capital flows run from Global North to Global South with no accountability to African communities.	The entire WATOTO framework is an act of structured resistance. Data sovereignty as community right.

The Ten Guiding Principles

The Guiding Principles provide the philosophical, developmental, and ethical foundation. Each is named in an African language to signal indigenous conceptual architecture:

- **UZIMA:** Best Interests and Holistic Wellbeing - children's wellbeing comes first.
- **BOTHO :** - children are rights-holders, not just users.
- **TSARO** (Hausa: Safety as Structural Condition, Access, and Effective Remedy - safety must be built into the system.
- **ASA** (Yoruba): African Developmental Appropriateness and Cultural Integrity
- **UFULU** (Chichewa): Data Sovereignty, AI Accountability, and Digital Self-Determination - children's data must be protected.
- **BIRUH** (Amharic): Transparency, Accountability, and Ecosystem Responsibility - those who govern technology must be answerable.
- **UCHE** (Igbo): Decolonised Design Thinking and Epistemic Justice
- **UBUMWE** (Kinyarwanda): Pan-African Solidarity and Continental Governance
- **LETSEMA** (Sesotho):- digital systems should benefit communities.
- **BONDEKO** (Lingala): Intergenerational Covenant, Oral Heritage, and Living Memory -children should not navigate alone.



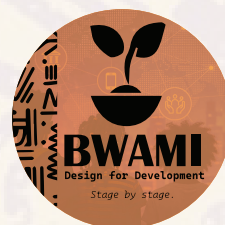
The Ten Design Standards

The Design Standards translate principles into operational, testable requirements:

- MA'AT: Service Provider Responsibility and CRIA.
- PALAVER: Child Participation, Co-Design, and Anti-Tokenism.
- BWAMI: African Developmental Design and Digital Rites of Passage.
- JELIYA: Cultural Contextualisation, Linguistic Equity, and Oral Access.
- UBUNTU: Data Governance, Privacy, and Digital Sovereignty.
- BARAZA: AI Accountability, Algorithmic Governance, and Generative AI.
- UKAMA: Family, Community Integration, and Adult Capacity Building.
- ISITHUNZI: Identity, Dignity, and the Decolonised Mirror.
- SANKOFA: Epistemic Sovereignty, African Knowledge Systems, and Content Equity.
- HARAMBEE: Infrastructure Equity, Offline Architecture, and Connectivity Justice.

Who This Framework Is For

The Framework is addressed to technology companies, platform designers, AI developers, government regulators, civil society organizations, educators, and funders who build or procure digital products that serve African children. It applies not only to private platforms and commercial products, but also to public digital systems that affect children.



I. Introduction

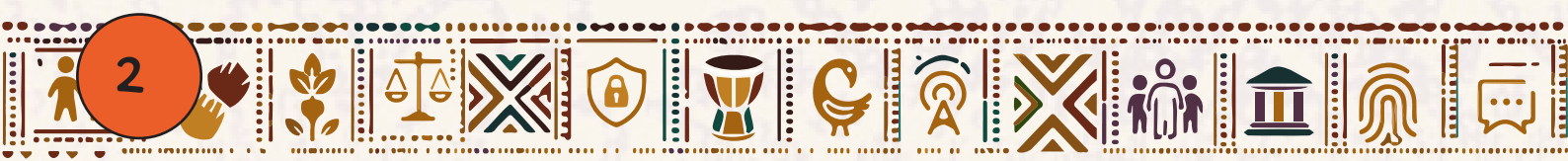
The WATOTO Framework is a Safety-by-Design standard for digital products, platforms, and AI systems serving children in Africa and the Global South. It is grounded in African philosophy, African developmental theory, African policy architecture, and the documented voices of African children. It is written to fill a gap that existing global frameworks have not filled: the absence of an implementation standard that begins from African realities rather than adapting to them after the fact.

Safety-by-Design places child safety at the architecture stage of digital product development, not as a post-launch retrofit, not as a compliance appendix, not as a localisation project. WATOTO extends this principle into three dimensions that no existing global framework addresses: the communal ontology of African childhood (the child as a strand in a relational web, not a standalone user); the developmental architecture of African transitions (every age-band crossing is a community-witnessed Rite of Passage, not an algorithmic trigger); and the colonial conditions of the global digital safety ecosystem (frameworks, platforms, training data, and capital flows all run from the Global North to the Global South with no accountability to the communities they affect).

WATOTO rejects the false choice between protection and agency. Children must be protected from harm, but they must also be enabled to participate, create, question, learn, contribute, and shape the digital environments they inhabit. Safety that silences children, excludes them, or denies their agency is incomplete.

WATOTO also advances a public-interest approach to children's digital and AI systems. The question is not only whether a product avoids harm, but whether it contributes to children's learning, wellbeing, creativity, participation, and future capability. Digital and AI systems serving children should be assessed not only by risk reduction, but by the public value they create for children, families, communities, and society.

WATOTO treats children not only as users of technology, but as future builders of the digital and AI systems that will shape their societies. Safety-by-design must therefore include pathways for children and young people to develop digital literacy, AI literacy, critical thinking, creative confidence, and ethical design capabilities.



Policy Alignment

The WATOTO Framework is anchored in six African continental instruments the African Charter on the Rights and Welfare of the Child, Agenda 2063, the African Union Child Online Safety and Empowerment Policy (2024), the African Union Continental Artificial Intelligence Strategy (2024), the Malabo Convention, and the African Union Digital Transformation Strategy (2020-2030) and aligned with the United Nations Convention on the Rights of the Child and UNCRC General Comment No. 25 (2021) on Children’s Rights in the Digital Environment. Global frameworks (the UK Age Appropriate Design Code, the European Union Digital Services Act, and the Artificial Intelligence Act, UNICEF Artificial Intelligence Guidance, 5Rights Principles) are complementary; the WATOTO Framework provides the African contextual implementation layer they collectively lack.

Scope and Application

While the primary obligation for child safety rests on service providers, WATOTO acknowledges safety as a shared responsibility, one in which children themselves, caregivers, communities, educators, faith leaders, and governments each hold roles that the framework names and supports.

Governments must hold public systems to the same child-centred standards of safety, dignity, agency, cultural contextualisation, accessibility, and accountability that they require of technology companies.



II. Background

A. The Digital Landscape for African Children

Africa is the world's youngest continent: over 60 percent of the population is under 25. The digital products built today will shape the educational, civic, and economic futures of an entire generation. Kenya ranks first globally in ChatGPT usage, with 42.1 percent of internet users aged 16 and above having accessed the platform in the past month. Yet the structural conditions of access remain deeply unequal. Only 14 percent of African children have internet access at home, falling to 5 percent in West and Central Africa.

Shared community devices are the norm. Gender, geography, disability, and socioeconomic status compound access disparities in every country the research evidence covers. Children in rural areas access the internet only in cybercafes. Children in refugee camps face acute connectivity scarcity. For many families, children are navigating digital platforms ahead of the adults who care for them.

In African contexts, access is not separate from safety. A child excluded from connectivity, devices, language tools, assistive technologies, or safe digital spaces is not simply offline; they are excluded from knowledge, opportunity, peer learning, civic participation, and the capabilities increasingly required in the age of intelligence.

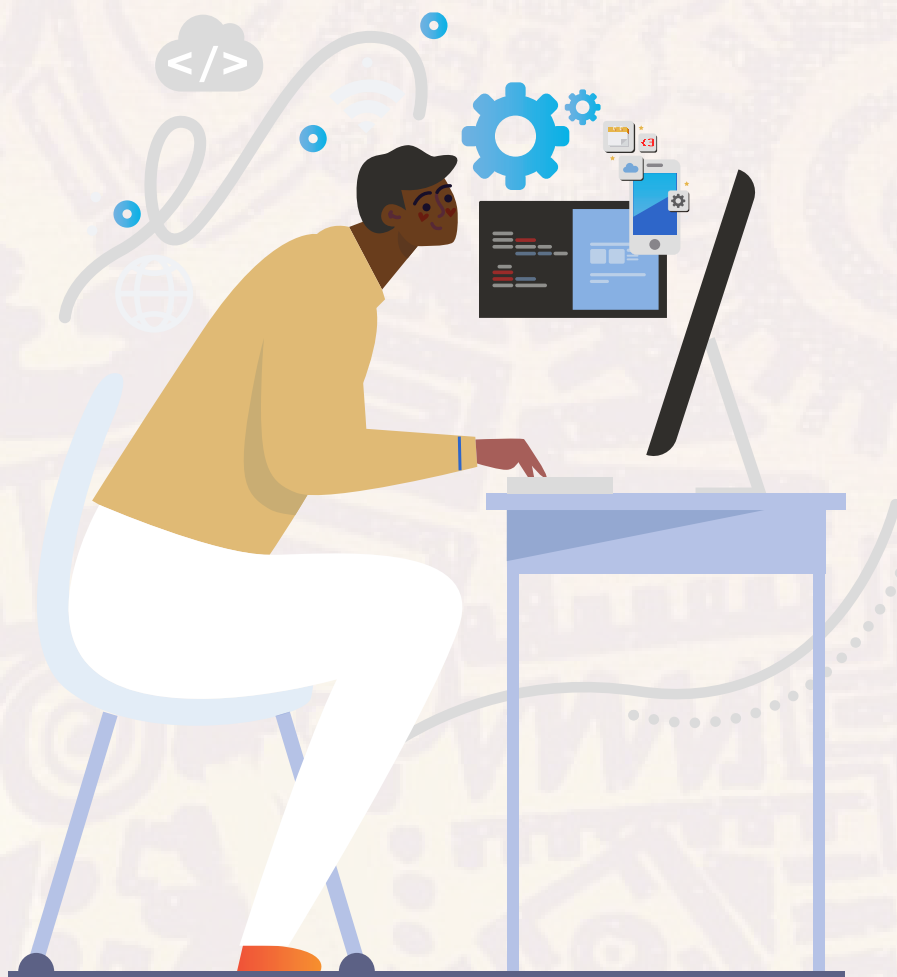
B. The Parental Digital Divide

A critical and often overlooked dimension of children's digital safety in Africa is the parental digital divide, the growing gap between children's digital fluency and their parents' or caregivers' digital literacy. Across the continent, children are consistently more digitally adept than the adults responsible for their care. They navigate platforms, configure privacy settings, download apps, and adopt new technologies with an ease that leaves their parents and caregivers behind. This is not a failure of parenting; it is a structural condition of rapid technological change in contexts where adult digital education has not kept pace.

The implications for child safety are profound. When a child knows more about the digital environment than the adult guiding them, the protective capacity of the family is weakened. Caregivers cannot effectively supervise what they do not understand. They cannot recognise predatory contact, addictive design, or data extraction when they lack the vocabulary to name these harms. They cannot guide children through age-appropriate content decisions when they themselves are unfamiliar with the platforms their children use daily.

WATOTO responds to this divide not by blaming parents or demanding that children be less digitally capable, but by mandating adult capacity building as a structural feature of every product serving African children. Standard 7- UKAMA requires caregiver orientation materials, Digital Companion Guides at every age-band transition, and community-level digital literacy programmes. The framework treats the parental digital divide as a design problem, not a family failure -- one that technology companies must address through accessible, culturally appropriate, and language-relevant capacity-building tools embedded in the products themselves.





C. Evidence of Online Harms

WATOTO maps risks across a 5Cs Framework, adapted from the standard 4Cs model to reflect African realities.

- **Content:** age-inappropriate material, health misinformation, political disinformation, AI-generated harmful content, and the algorithmic production of colonial stereotypes of Africa.
- **Contact:** online sexual exploitation, grooming facilitated through gift economies, and digital recruitment by armed groups -- acutely elevated in conflict-affected settings.
- **Conduct:** AI-facilitated bullying, including deepfakes, was named explicitly by Kenyan children in the DFC/Mtoto News research.
- **Contract:** data colonialism and extractive EdTech analytics.
- **Control:** engagement-maximising algorithms, algorithmic manipulation, and platform governance structures with no accountability to African communities.

Formal reporting rates for online child sexual exploitation and abuse across 13 African countries are documented at as low as 3 percent. Barriers include shame, fear of device confiscation, distrust of authorities, and platform reporting tools inaccessible in African languages. Evidence strongly cautions against social media bans, which push children toward riskier unmoderated platforms and, for many African children, remove a primary educational resource.



D. Children in Conflict and Humanitarian Settings

By the end of 2024, 48.8 million children globally had been displaced by conflict and violence. Africa bears a disproportionate share: Sudan's displacement crisis is the world's largest, involving 16 million children. Somalia has 3.8 million people in protracted displacement. The DRC, the Sahel, Mozambique's Cabo Delgado, and South Sudan add millions more.

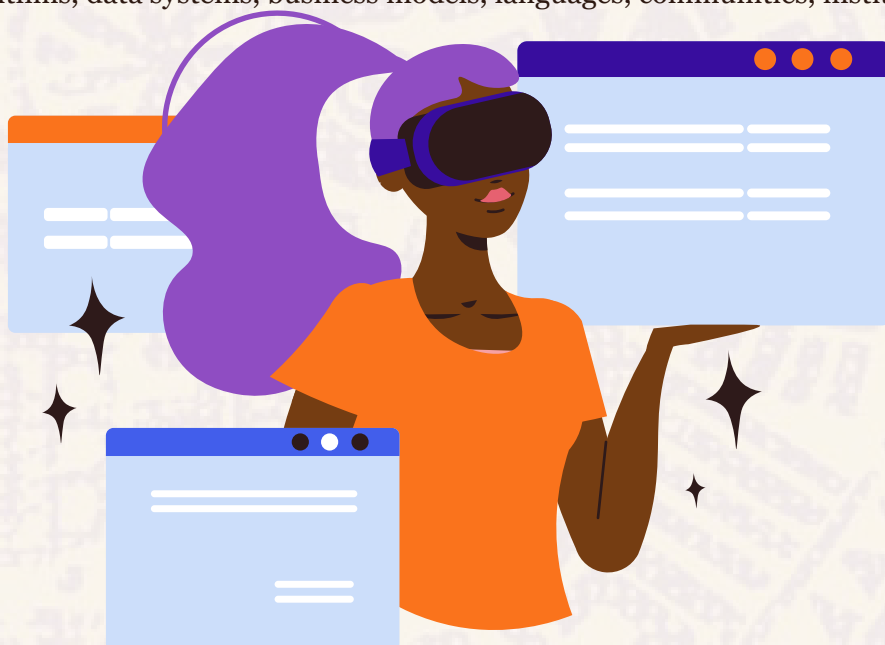
WATOTO's foundational community-as-design-unit framework requires adaptation in displacement contexts: the relational web has often been violently severed, communities of different ethnolinguistic origins are brought together in camps, and children must rebuild the communal architecture that WATOTO identifies as the primary safety infrastructure. All WATOTO Standards apply in humanitarian settings. Where adaptation is required, it must be documented and must not lower the standard of child protection.

E. Generative AI as a Distinct Design Context

The majority of African children's documented digital experiences involve generative AI: ChatGPT, Gemini, Copilot, Character.AI, and AI embedded in Snapchat, WhatsApp, and Canva. Four GenAI-specific risks emerge from the research.

- Hallucination in low-resource language contexts: even a single known word in Teso may be rendered incorrectly by AI, producing social isolation.
- Deepfake-facilitated bullying: children described AI-generated images of peers used as instruments of harassment.
- Parasocial attachment: some children described GenAI as preferable to human friends -- a design outcome, not an individual pathology.
- The convenience-competence tension: children described the conflict between AI's short-term convenience and long-term developmental cost.

WATOTO approaches AI risk as socio-technical risk. While frontier risks remain important, many of the most urgent harms facing African children are already present in the interaction between children, platforms, algorithms, data systems, business models, languages, communities, institutions, and unequal access.



III. Foundations of the WATOTO Framework

A. Human Rights Basis and African Policy Alignment

WATOTO is grounded in a rights-based approach to child safeguarding. The decisive transition from protectionism -- viewing the child as a vulnerable subject to be shielded -- to rights-based safeguarding recognizes that children hold rights, not merely interests that adults must protect. With formal reporting rates at 3 percent across 13 African countries, protectionist approaches catastrophically fail children while simultaneously violating their rights to participation, expression, and access to information.

Human Rights Instruments

Four doctrines from UNCRC General Comment No. 25 (GC25) are foundational.

- The Best Interests Doctrine (Article 3) establishes the best interests of the child as the primary consideration in every decision affecting children -- overriding commercial interests, institutional convenience, and platform business models.
- The Evolving Capacities Doctrine (Article 5) requires that children's increasing capacities be recognized and respected across developmental stages, mandating differentiated design rather than uniform child-user categorization.
- The Non-Discrimination Principle (Article 2) prohibits any distinction in rights-enjoyment based on race, ethnicity, sex, disability, language, or socioeconomic status grounding WATOTO's intersectionality framework in international law.
- Business Responsibilities establish clear obligations on technology companies to respect children's rights throughout their operations and value chains, regardless of national regulatory capacity to enforce them.

The ACRWC's Article 31 uniquely African, absent from the UNCRC establishes children's reciprocal responsibilities to their family, their community, the state, and the international community. Menkiti's framework grounds this in ontology: becoming a person is the progressive assumption of community responsibilities alongside the progressive acquisition of rights. Every right named at an age-band transition must be accompanied by a corresponding community responsibility assumed. This is the most structurally significant difference between WATOTO and every existing global children's digital safety framework



African Continental Policy Alignment

WATOTO is operationally aligned with six African continental instruments and is designed as their engineering-level implementation mechanism the layer that converts continental policy commitments into testable product requirements.

Instrument	Relevant Provisions	WATOTO Alignment
African Charter on the Rights and Welfare of the Child (1990)	Art. 4(2) best interests; Art. 5(2) evolving capacities; Art. 7 expression; Art. 10 harmful information; Art. 11 cultural rights; Art. 31 child responsibilities	Primary normative anchor. Art. 31 grounds the Digital Covenant requirement.
Agenda 2063	Aspiration 5: African cultural identity. Aspiration 6: people-driven development. Goal 18: transformed society.	Ubuntu and Nguzo Saba values architecture. Long-term vision for Africa's children.
AU Child Online Safety and Empowerment Policy (2024)	Eight pillars including child participation, safety-by-design, content governance, cross-border accountability.	Most directly relevant continental instrument. Eight pillars each operationalised by specific WATOTO Standards and Principles.
AU Continental AI Strategy (2024)	Focus Area 2: African data governance and sovereignty. Focus Area 4: inclusive AI.	Grounds AI accountability and data sovereignty requirements.
Malabo Convention (2014)	Personal data protection. Data localisation. Cybercrime provisions.	Grounds data localisation requirements. Digital Sovereignty Declaration operationalises Malabo obligations.
AU Digital Transformation Strategy (2020-2030)	Access-with-equity; infrastructure; digital skills development.	Grounds access-as-safety requirement. Offline-first standards operationalise equity commitments.

B. Existing Safety-by-Design Frameworks

WATOTO is built on the foundation of Ubuntu and the spirit of African values, histories, and lived realities. Global frameworks function as a complementary layer. They do not precede or supersede this African foundation. WATOTO's contribution is the contextual implementation layer that makes global principles operational for African children.

The Australian eSafety Commissioner's Safety by Design Principles (2019) established the foundational architecture for this field: user safety embedded in product design from inception. Three overarching principles service provider responsibilities, user empowerment and autonomy, and transparency and accountability provided the first workable framework for embedding safety at the architectural level. WATOTO adopts SbD's central structural insight and extends it through the African developmental and cultural architecture that SbD does not address.



The UK Age Appropriate Design Code (AADC, 2020) established 15 legally binding standards that require the best interests of the child as the primary design consideration. The 5Rights Child Rights by Design framework expanded this into 11 principles addressing provision, protection, and participation. UNICEF's Policy Guidance on AI for Children provides 10 requirements for child-centered AI. These frameworks are sound and represent the most rigorous standards in the global field. From a WATOTO perspective, their limitation is the developmental and cultural specificity of the contexts they were built for. They do not address community erasure, invisibility of the developmental niche, apprenticeship-as-learning architecture, the ritual structure of age-band transitions, or data colonialism. These are not edge cases for African children. They are the central structural conditions of African children's digital lives.

C. African Theoretical Foundation

Four African and African-contextualized scholars provide the developmental theory underpinning WATOTO. Their frameworks were not selected for cultural representation. They were selected because they describe, with greater precision than any WEIRD-default framework, what a child is, how children develop, and what transitions between developmental stages require.

A. Bame Nsamenang - Social Ontogenesis

A. Bame Nsamenang (1951-2018), a Cameroonian developmental psychologist, proposed the theory of social ontogenesis: development is constituted through social participation, not prior to it. The child is a social being from birth, embedded in a web of relationships and community roles that constitute selfhood. Development proceeds through apprenticeship in community life. Crucially, peer socialization - not the parent-child dyad -- is the primary mechanism of child development in African contexts. Children learn through doing with age-mates, not through receiving information from adults. The developmental goal is social competence within the community, not individual autonomy.

Nsamenang also developed the concept of the African developmental niche: every child exists within a specific niche comprising the physical and social settings typical of children of their age in their culture, the customs and practices of caregiving, and the psychology of the caregivers. The niche is not an optional context - it is the developmental environment within which the child grows. Design that ignores it does not achieve cultural neutrality. It produces a product that is culturally hostile to the child it claims to serve.

John Mbiti -- Communitarian Personhood and African Time

John Mbiti (1931-2019), a Kenyan philosopher and theologian, articulated the foundational Ubuntu formulation: 'I am because we are; and since we are, therefore I am.' This is not a cultural aphorism. It is a precise ontological statement: the individual does not precede the community. The self is constituted by relationships. Community includes those who have gone before and elders carry the wisdom of Zamani (the deep past) into Sasa (the living present). Elders are not historical figures; they are living community members who exercise the authority of accumulated wisdom. Their role in digital governance is not optional; it is ontologically required.



Ifeanyi Menkiti - Personhood as Achievement

Ifeanyi Menkiti, a Nigerian philosopher, argues that ‘the community gives rise to the person, not the other way around.’ In African philosophy, personhood is not conferred at birth it is an achievement through progressive integration into community life. A newborn is not yet a full person in the moral and metaphysical sense; it becomes one through the performance of social roles, the assumption of community responsibilities, and recognition by the community. Every stage of childhood is part of the journey toward full personhood.

The digital implication is direct: products that serve children participate in the process of person-making. A product that undermines community integration that erodes the relational web, that substitutes algorithmic interaction for communal relationship, that treats a child as a standalone user rather than a community member in formation is causing ontological harm, not merely usability friction.

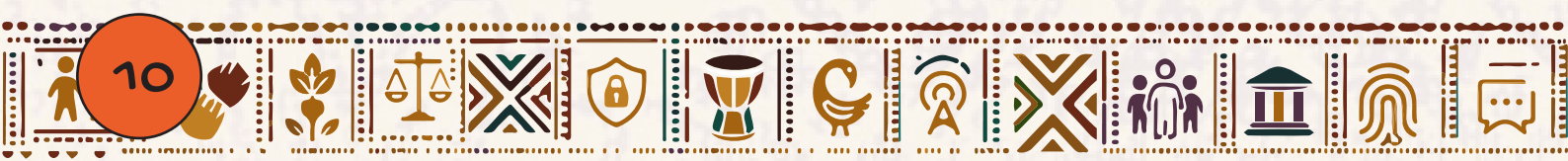
Arnold van Gennep and Victor Turner - Rites of Passage

Arnold van Gennep identified the Rite of Passage as a universal structural feature of human societies that manages transitions between social statuses. His three-stage model comprises: Separation (Preliminal), in which the individual is detached from their previous status; Transition (Liminal), a protected in-between space for preparation, testing, and transformation; and Incorporation (Postliminal), in which the individual is welcomed into their new status with community recognition. Victor Turner extended this with the concept of *communitas* the intense social bonding that occurs among those undergoing liminal transition together. The crossing is inherently communal: cohorts cross thresholds together, and the peer bonds formed in the liminal space are among the most powerful in the social structure.

A digital product that lets a child cross an age threshold through a silent algorithmic trigger, a birthday activates new settings, a number increments, and a child is in a new world, has violated the Rites of Passage structure that African developmental theory holds as foundational.

D. Synthesis

Nsamenang, Mbiti, Menkiti, and van Gennep together require that digital products be co-participatory rather than individually optimized; that data governance be communal rather than merely individual; that age-band transitions be ceremonial rather than algorithmic; that community bonds be strengthened rather than eroded; and that elder wisdom be incorporated rather than overridden. The requirements that flow from this synthesis run deeper than cultural preference. They are ontological they concern what a person is and how persons come to be.



E. Intersectionality and African Feminist Theory

African children are not a monolithic category. A girl in rural Kapenguria navigating a shared community device, a deaf child in Tanzania requesting sign-language interfaces, a Sudanese child in the Kakuma refugee camp whose community has been violently dispersed, and a child with a disability in an urban Nairobi school with inadequate assistive technology, these are structurally distinct encounters with digital technology.

Kimberle Crenshaw coined the term intersectionality to describe how overlapping systems of power interact to produce distinct experiences at their intersections. Two African feminist scholars extend this analysis. Oyeronke Oyewumi, in *The Invention of Women* (1997), demonstrated that in precolonial Yoruba society, seniority not gender, was the primary axis of social organization. Nkiru Nzegwu, in *Family Matters* (2006), demonstrated that equity in African philosophical traditions is complementarity, conditions shaped to meet specific needs within a communal structure, not equivalence or sameness.

WATOTO applies intersectional analysis across five axes: gender; disability; geography and displacement; socioeconomic status; and language and ethnolinguistic identity. Every Standard and Principle in WATOTO must be evaluated across all five axes.

F. Ecological Systems Theory and African Developmental Theory

Bronfenbrenner's Ecological Systems Theory and Erikson's psychosocial stages show that every digital product decision ripples across interconnected systems. WATOTO supplements this model with the African developmental frameworks outlined above, producing a composite model in which the microsystem, mesosystem, exosystem, macrosystem, and chronosystem are all viewed through African theoretical lenses.



IV. Children's Voices

Four bodies of evidence establish the empirical authority of this framework. The DFC Spotlight on Africa (2026) documents the voices of 599 children aged 9-18 from 14 countries. Right.AI: Children's Experiences of Generative AI in Kenya (2025) presents in-depth research with 15 Kenyan children aged 13-17. The Outcome Statement of the Children Global AI Summit on Africa (Kigali, April 2025) presents the collective policy demands of children from seven African nations. IT'S A FACT is a four-country study (Kenya, Malawi, Mali, Senegal) led by Prof. Robert Nanima and Jennifer Kaberi with 270 children, testing whether digital literacy protects African children from online harm.

A. On Access, Language, and the Cost of Exclusion

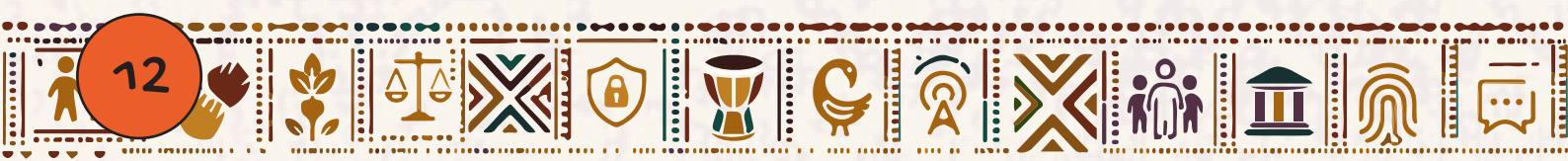
Children across Africa describe a persistent and painful gap between what they want to do digitally and what they can afford. The cost of devices and data is the single most frequently cited barrier. For children who speak under-resourced languages, the gap is compounded by AI systems that misrepresent their languages, producing social harm through miscommunication and isolation. For children with disabilities, the absence of accessible interfaces means they are structurally excluded from the digital environment. These testimonies demand a design standard that treats access as a safety condition, not a market condition.

"I want to get a phone, I want to do my research online, I want to watch TV, I want to go out and take pictures with my friends during hikes. But it's too expensive and I don't have Wi-Fi or data bundles." Kenya, girl, 16

"The only thing Teso ChatGPT can do is the basics like 'eyalama', which means thank you, and it even gives the wrong meaning of Teso words. This makes my classmates isolate me." -- Ijakait, 14, Teso North

"Inclusivity is ensuring everyone is involved, including the blind and the deaf, so there should be a disability-friendly way of facilitating this." -- Kenya, boy with hearing impairment, 14

These testimonies reveal that exclusion operates along multiple intersecting axes: economic (the cost of devices and data), linguistic (AI systems that distort low-resource languages), and disability (interfaces that fail to accommodate assistive needs). The children do not frame these as separate problems. They experience them as a single condition of being locked out of the digital world. WATOTO's response is Standard 1 (MA'AT: service provider responsibility for equitable access), Standard 4 (JELIYA: linguistic equity as a design requirement), and Standard 10 (HARAMBEE: infrastructure justice that eliminates device and connectivity barriers).



B. On Algorithmic Bias and Cultural Erasure

African children recognise algorithmic bias with clarity. They describe how AI image generators reproduce colonial stereotypes presenting African children as poor, drought-stricken, or simply invisible. These are not abstract technical failures; they are daily experiences that shape how children see themselves and how the world sees them. The testimonies demonstrate that cultural representation in AI is not a diversity initiative but a dignity issue, and that decolonising the digital mirror is an urgent safety requirement.

“We asked for an African child with powers; AI gave a white kid... or like a ‘maskini’ [poor] African child during a drought, the ground is crying.” Oisa, 16, Kenya

“I feel like AI can be a bit racist when generating some images. Africa is not the same as it used to be.” Mitch, 17, Kenya

These quotes reveal that children experience AI bias not as a technical glitch but as an assault on their dignity. When a child asks for a hero and receives a stereotype, the system is teaching them that their identity does not belong in the digital world. The harm is not only representational; it is formative shaping how children imagine their own possibilities. WATOTO responds through Standard 8 (ISITHUNZI: identity-positive design that eliminates colonial stereotypes) and Standard 9 (SANKOFA: epistemic sovereignty that places African knowledge systems at the centre of design).

C. On Participation and the Right to Be Heard

Children across multiple countries express a consistent demand: they want to participate in designing the digital products that shape their lives. Their frustration is not with the technology itself but with the powerlessness that comes from being excluded from decisions about how it works. The testimonies reveal a sophisticated understanding of participation as more than being consulted, it requires documented influence, accountability, and genuine co-design authority.

“I decide what to use, but I can’t change how it works.” Jules, 17, Kenya

“Not most every single time we’ve talked, we want a specific AI for us, us children. You have GenAI, you have Gemini, why not have Gemini Kids AI?” Mitch, 17, Kenya

“The state is governed by citizens, and children are citizens of the state. Therefore it is necessary that our voices should be heard in governing the state. Knowledge lies not in one person’s head.” Ghana



These testimonies demonstrate that children understand participation as power, not presence. They do not want to be heard and ignored; they want to be heard and heeded. The Ghanaian child's invocation of citizenship is particularly significant: children are framing their digital rights as political rights, not as charitable concessions. WATOTO responds through Standard 2 (PALAVER: anti-tokenism safeguards that ensure children's documented influence on design outcomes) and Principle 2 (BOTHO: children as rights-holders with agency, not merely protected subjects).

D. On Accountability, Wellbeing, and the Intergenerational Bond

Children identify technology companies as the primary locus of accountability, not themselves or their parents. They describe how generative AI undermines their cognitive development making them, in their own words, 'lazy in thinking.' And they plead for parental guidance, recognising that the parental digital divide leaves them without the support they need. These testimonies point to a design requirement that technology companies must build for intergenerational accompaniment, not individual child-user engagement.

"The ones who are most at fault is the technological companies. You created this. You knew the flaws it had, but yet you didn't take enough time to fix those flaws." Mitch, 17, Kenya

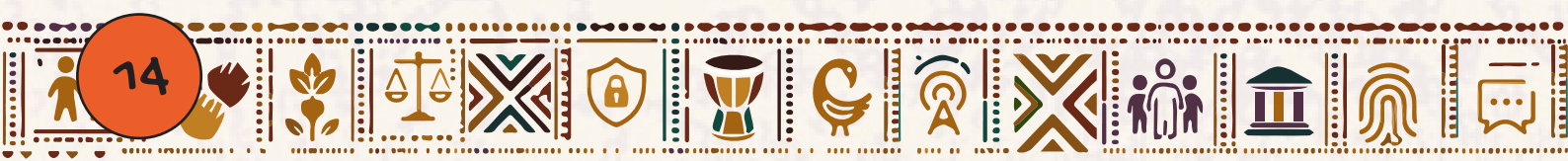
"GenAI has made me more lazy in thinking." Imani, 13, Kenya

"If you're just copying AI... you're not learning." Oisa, 16, Kenya

"Parents need to know AI too, so they can help us." Blue, 17, Kenya

"To all the parents out there who are deeply concerned about our activities on the internet... We love you, mums and dads, and we sincerely need you to guide us." Kenya, boy, 17

These testimonies reveal a nuanced understanding of accountability and wellbeing. Children hold technology companies primarily responsible for design flaws, yet they also recognise their own vulnerability to addictive or convenience-driven design. Crucially, they do not want independence from parental guidance; they want informed parental accompaniment. This directly challenges the individualistic model of child digital autonomy and supports WATOTO's communal approach. The framework responds through Standard 6 (BARAZA: AI accountability and algorithmic governance), Standard 7 (UKAMA: family and community integration with adult capacity building), and Principle 10 (BONDEKO: intergenerational covenant that strengthens rather than severs family bonds).



E. The Design Mandate

Across all four research bodies, a consistent cross-country, cross-method design mandate emerges: design for shared devices and intermittent connectivity; voice-first, not text-first; AI trained on African-language, community-consented data and tested for cultural bias before deployment; genuine child participation with documented influence and anti-tokenism safeguards; caregivers as informed co-participants; community governance mechanisms alongside individual privacy settings; and assessment against holistic wellbeing, not only safety from harm.

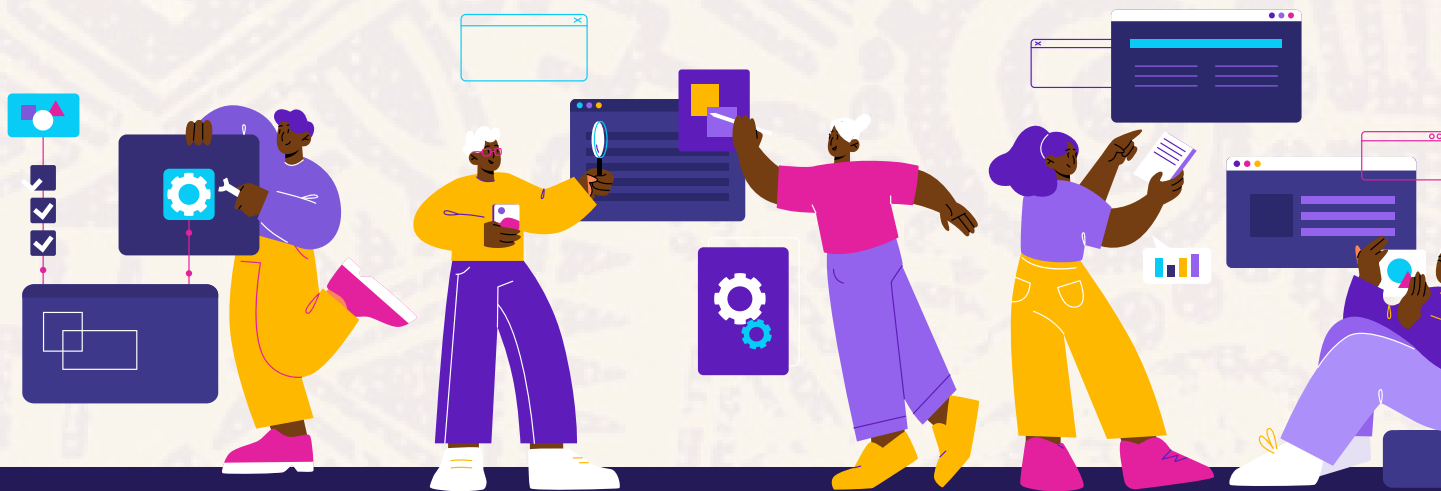
F. Desires and Recommendations

“We need safety features that actually work in our languages. The reporting tools are all in English and they don’t understand the context of what we’re dealing with.” **Girl, 16, Kenya**

Children consistently called for safety features adapted to African linguistic and cultural contexts. Automated content moderation systems that fail to process local languages, slang, and culturally specific forms of harassment leave significant protection gaps.

“Adults need to listen to us. We know more about the internet than they do, but they treat us like we don’t understand the risks.” **Boy, 14, South Africa**

A recurring theme was the desire for genuine participation in decisions affecting their digital lives. Children rejected tokenistic consultation and called for meaningful involvement in the design, regulation, and governance of digital platforms.



V. The Seven Structural Gaps

Seven structural gaps emerge when existing global frameworks encounter African realities. Each reflects not poor intention, but the inescapable logic of frameworks designed for specific contexts: they carry the assumptions of those contexts, and those assumptions do not hold for African children.

Gap 1: The Absence of Community as a Design Unit

Every existing global framework treats the child as an individual user. The unit of design is a person with a device, a parent with administrative controls, and a platform that serves them. Community, the primary unit of care, governance, and personhood in African societies is invisible in the architecture.

Mbiti's formulation, 'I am because we are; and since we are, therefore I am', precisely captures the ontological structure that existing frameworks cannot see. Menkiti is more direct: 'the community gives rise to the person, not the other way around.' A child's digital safety, read through this lens, is a community responsibility shared among extended family, age-mates, elders, teachers, and faith leaders not an individual matter managed by a parent and a platform.

WATOTO addresses this through Principle 2 (Ubuntu, Communitarian Values) and Standard 7, UKAMA (Family, Community Integration), which require community-level governance mechanisms across all product features.

Gap 2: Relational Architecture vs. Individual User Design

Global digital safety frameworks are designed for a node model: a single, bounded individual connected to a network. Privacy is individual. Consent is individual. Reporting tools are accessed alone. The African child is not a node but a strand in a web constituted by, accountable to, and inseparable from the threads of relationship connecting them to family, age-mates, community, and elders.

Nsamenang's social ontogenesis makes the developmental consequence precise: African children grow through the web, not despite it. Products that sever relational threads work against the social structure through which African development occurs.

The framework requires every design decision to be evaluated against its effect on the relational web. Community governance mechanisms, peer accountability tools, and intergenerational participation are structural requirements, not optional features.

Gap 3: No Designed Transition into the Digital World

No existing framework designs the crossing into digital life. There is no preparation, no protected liminal space, no community recognition that a child has arrived somewhere new. A birthday passes. An algorithm triggers. A new age tier activates silently. A child is in a new world that nobody helped them enter.



Van Gennepe identified the designed transition as a structural necessity across human societies. Turner's contribution is equally critical: the crossing is inherently communal. Transitioning alone is developmentally aberrant in societies where personhood is constituted through community.

WATOTO responds by mandating Standard 3, BWAMI (Digital Rites of Passage): the three-stage Separation, Transition, Incorporation protocol at every age-band boundary. No crossing is an algorithmic trigger.

Gap 4: The Erasure of Mentorship and Apprenticeship

Existing frameworks assume that children learn digital safety through information: safety tips, curricula, and platform help sections. Nsamenang's social ontogenesis shows that the primary mechanism of learning in African developmental contexts is apprenticeship -- guided participation alongside someone more experienced, rather than the transmission of information to an individual. The knowledge lives in the relationship and in the doing.

Standard 3 and Principle 2 require peer mentor roles in the Transition liminal space, elder witnessing in Incorporation, and adult capacity building as a structural platform feature.

Gap 5: The Missing Axis - Child Responsibility

Read every existing global children's digital safety framework and count the responsibilities assigned to children. The count is effectively zero. GC25, the UK AADC, the EU DSA, and UNICEF's AI guidance all are structured around what must be done for children. The ACRWC's Article 31, uniquely African and absent from the UNCRC, establishes children's reciprocal community responsibilities. Menkiti grounds this in ontology: becoming a person is the progressive assumption of community responsibilities alongside rights.

Every WATOTO age-band transition names new rights and new community responsibilities in equal weight. The Digital Covenant is mutual. Standard 3- BWAMI's Incorporation ceremony requires children to publicly accept their responsibilities alongside their new digital status.

Gap 6: Cultural Context - The Invisible Dimension of Design

Safety frameworks treat child protection as if safety were universal and context merely decorative. The assumption, never stated, never examined, is that once the right principles are defined, the context of implementation is a delivery problem, not a design problem. Nsamenang's developmental niche makes this error precise: the cultural context is the developmental environment, not a matter of localization. Design that ignores it results in cultural hostility, masked as universality.



Standard 4- JELIYA mandates contextual mapping before market entry, oral-first design as primary modality, and a 12-month contextual review cycle. Principle 4 grounds contextual integrity in Nsamenang's developmental niche theory.

Gap 7: Digital Neocolonialism

The six gaps above identify specific failures of existing frameworks when applied to African children. The seventh identifies the structural condition that produces all of them. Frameworks are written in the Global North by Global North institutions for Global North children and applied to the Global South as standards. Platforms are built in the Global North, trained on Global North data, moderated in Global North languages, and governed by Global North laws. African children's data flows to Global North AI training systems, generating value for Global North companies, with no accountability to the communities whose children provided the raw material.

Couldry and Mejias define data colonialism as the structural logic by which human social life is captured as data for capital accumulation, reproducing the extractive relationship of historical colonialism through digital means. Zuboff's surveillance capitalism provides the economic mechanism.

The entire WATOTO framework is an act of structured resistance to digital neocolonialism. Ubuntu as foundational. African scholars as primary theorists. African children's voices as empirical authority. African continental policy as normative anchor. Data sovereignty as community right.



VI. WATOTO Guiding Principles

The ten WATOTO Guiding Principles provide the philosophical, developmental, and ethical grounding for the Design Standards. Each Principle is named in an African language to signal that the conceptual architecture is not imported but indigenous. The plain-language summary is provided first; the full analytical grounding follows.



Principle 1: UZIMA- Best Interests, Holistic Wellbeing, and No Profit from Harm

Holistic wellbeing and vitality -- Swahili -- East Africa

Children's wellbeing comes first.

Digital products, platforms, and AI systems should be judged by whether they support children's safety, health, learning, dignity, emotional well-being, and development. A product should not profit from children's exposure to harm, addictive design, manipulation, or exploitation.

if a product harms children to grow, engage, or profit, it fails the WATOTO test.

Analytical grounding: The Best Interests Doctrine (UNCRC Article 3, ACRWC Article 4(2)) establishes the best interests of the child as the primary consideration in every decision affecting children overriding commercial interests, institutional convenience, and platform business models. This principle requires that child wellbeing be assessed holistically: physical safety, emotional health, cognitive development, social competence, cultural integrity, and future capability. A product that optimises for engagement while undermining sleep, attention, or self-esteem is not WATOTO-compliant even if it blocks explicit content.



Principle 2: BOTHO- Ubuntu, Communitarian Values, and Children as Rights-Holders

Ubuntu, humanness, and mutual respect Setswana -- Botswana

Children are rights-holders, not just users.

Children are not passive consumers of technology. They have rights, voices, ideas, responsibilities, and agency. They also live within families, peer groups, schools, communities, and cultures. Digital systems should therefore protect children while recognizing their place within community life.

Children must be protected, heard, respected, and supported as members of families and communities.

Analytical grounding: Following Mbiti, 'I am because we are' is not a cultural aphorism but an ontological statement: the individual does not precede the community. Menkiti grounds this further: personhood is an achievement through progressive integration into community life. The ACRWC's Article 31 uniquely African -- establishes children's reciprocal responsibilities. This principle requires that digital products strengthen, not erode, the relational web; that community governance be structurally present; and that children be treated as active rights-holders with both entitlements and developing responsibilities.

Principle 3: TSARO - Safety as Structural Condition, Access, and Effective Remedy

Safety, security, and protection -- Hausa -- Nigeria, Niger, Ghana, the Sahel

Safety must be built into the system.

Safety is not only a reporting button, a parental control, or a response after harm happens. It must be part of the product's structure: how it is designed, how it manages risk, how it protects children, how it enables access, and how it provides a remedy when something goes wrong.

TSARO also means that access is part of safety. A child excluded from connectivity, devices, language access, assistive tools, or safe digital spaces is also being denied an opportunity.

A child is not safe if the system itself is unsafe, inaccessible, or offers no real remedy.

Analytical grounding: Safety-by-Design requires that safety be embedded at the architecture stage, not retrofitted after launch. This principle expands safety beyond protection-from-harm to include access-as-safety: exclusion from connectivity, devices, language tools, assistive technologies, or safe digital spaces is itself a harm. Effective remedy requires not only reporting mechanisms but accountability structures that produce measurable change in product design.



Principle 4: ASA- African Developmental Appropriateness and Cultural Integrity

Culture, living tradition, and the people's inheritance -- Yoruba -- Nigeria, Benin, Togo

African context matters.

Digital products used by African children must reflect African realities: shared devices, uneven connectivity, local languages, oral cultures, extended families, community care, rural access gaps, disability, displacement, and different stages of childhood. Products should not assume that one model of childhood, family, language, or access fits everyone.

Technology must fit the child's real life, not force the child to fit the technology.

Analytical grounding: Nsamenang's developmental niche theory holds that every child exists within a specific niche comprising the physical and social settings of their culture, the customs and practices of caregiving, and the psychology of the caregivers. The niche is not optional context it is the developmental environment. Design that ignores it does not achieve cultural neutrality. It produces cultural hostility masked as universality. This principle mandates that African developmental realities shape product architecture from inception, not as a localisation layer.

Principle 5: UFULU- Data Sovereignty, AI Accountability, and Digital Self-Determination

Freedom, rights, and self-determination -- Chichewa Malawi, Zambia, Mozambique

Children's data and AI systems must be accountable.

Children's data must be protected, and AI systems used by children must be tested for bias, cultural misrepresentation, language exclusion, manipulation, deepfakes, and harmful dependency. Communities and countries must have a say in how children's data, languages, knowledge, and digital futures are shaped.

Children should not become raw material for systems they cannot question, shape, or benefit from.

Analytical grounding: Couldry and Mejias define data colonialism as reproducing historical colonialism's extractive logic through digital means. Zuboff's surveillance capitalism provides the economic mechanism. For African children, this means their data is harvested to train AI models abroad, generating value for the Global North with no accountability to their communities. This principle establishes data sovereignty as a community right, AI accountability as a design requirement, and digital self-determination as the capacity of children and communities to shape the technologies that affect them.



Principle 6: BIRUH - Transparency, Accountability, and Ecosystem Responsibility

Clarity, brightness, transparency -- nothing hidden -- Amharic -- Ethiopia, Horn of Africa

Those who build and govern technology must be answerable.

Children, parents, teachers, and communities should not carry the burden of safety alone. Technology companies, governments, regulators, schools, developers, funders, and institutions all have responsibilities. They must be clear about how systems work, what risks they create, how harms are handled, and who is accountable.

Responsibility must not be shifted onto children.

Analytical grounding: The Australian eSafety Commissioner's Safety by Design Principles established transparency and accountability as one of three overarching requirements. WATOTO extends this into ecosystem responsibility: accountability cannot end at the platform boundary. It must extend to AI training data providers, content moderation contractors, advertising partners, and infrastructure providers. Every entity in the value chain that touches children's data or attention bears a share of responsibility.

Principle 7: UCHE- Decolonised Design Thinking and Epistemic Justice

Mind, moral consciousness, and intentional thought -- Igbo -- Nigeria

African knowledge, languages, and realities must count.

Digital and AI systems should not erase African languages, misrepresent African children, or treat African realities as secondary. They should be designed with respect for African knowledge systems, histories, cultures, names, images, and ways of learning.

Children should see themselves, their languages, and their cultures represented with dignity in the digital world.

Analytical grounding: Fanon demonstrated that the colonised person is trained to see themselves through the eyes of the coloniser. The digital environment reproduces this at scale: AI image generators produce colonial stereotypes; content moderation systems flag African cultural expression as harmful; training data erases African languages. Ngugi wa Thiong'o showed that epistemic displacement -- the exclusion of a people's knowledge systems from the channels through which knowledge circulates -- is as damaging as economic extraction. This principle requires that African knowledge, languages, and cultural expressions be primary design inputs, not supplementary accommodations.



Principle 8: UBUMWE - Pan-African Solidarity, Continental Governance, and Self-Determination

Unity, solidarity, and collective purpose -- Kinyarwanda -- Rwanda

Africa should shape digital rules together.

Children's digital safety is not only a national issue. Platforms and AI systems cross borders, so African countries need shared approaches, common standards, cooperation, and collective voice in global technology governance.

Africa should not only receive digital rules; it should help shape them.

Analytical grounding: Agenda 2063 calls for a united Africa with a common digital market. The AU Child Online Safety and Empowerment Policy (2024) and the AU Continental AI Strategy (2024) establish normative commitments that require implementation across all member states. WATOTO provides the engineering-level standard that makes these commitments testable. This principle requires that African countries harmonise child digital safety standards, share enforcement capacity, and present a collective voice in global technology governance forums.

Principle 9: LETSEMA - Economic Justice, Digital Development, and Community Benefit

Communal labour freely given for collective benefit -- Sesotho -- Lesotho, South Africa

Digital systems should create real benefit for children and communities.

Technology should not only extract attention, data, or profit from children. It should support learning, creativity, opportunity, inclusion, skills, local innovation, and community development. If children's data, participation, or attention creates value, there should be accountability and benefit.

The digital economy must work for children and communities, not only for platforms.

Analytical grounding: Rodney's How Europe Underdeveloped Africa identified the structural cause of African underdevelopment as extraction -- the removal of value from African economies to enrich colonial powers. The digital economy reproduces this pattern: children's attention and data are extracted, processed into value elsewhere, and returned as products with no community benefit-sharing. This principle requires that digital products serving African children generate measurable community benefit: skills development, local employment, infrastructure investment, and revenue sharing where children's data or participation creates commercial value.



Principle 10: BONDEKO - Intergenerational Covenant, Oral Heritage, and Living Memory

Fellowship, intergenerational bonds, and kinship across time -- Lingala -- DR Congo, Republic of Congo, CAR

Plain meaning: Children should not navigate the digital world alone.

Parents, caregivers, elders, teachers, older siblings, peers, and communities all have roles in guiding children. Digital systems should support intergenerational learning, oral knowledge, mentorship, and community memory rather than isolating children from those who care for them.

Children need guidance, not surveillance; accompaniment, not abandonment.

Analytical grounding: Mbiti's African time orientation holds that the community includes Zamani (the deep past), ancestors and elders whose wisdom continues to shape present decisions. Van Genneep and Turner established that developmental transitions are inherently communal: cohorts cross thresholds together, and the peer bonds formed in liminal space are among the most powerful in social structure. Nsamenang's apprenticeship model holds that the primary mechanism of learning is guided participation alongside someone more experienced. This principle requires that digital products strengthen, not replace, these intergenerational and peer bonds.



VII. WATOTO Design Standards

The ten Design Standards translate the Guiding Principles into operational, testable requirements that can be integrated into product development, procurement, regulation, and certification. Each Standard is named in an African language and structured with: a core principle, seven age bands defining differentiated obligations, engineering requirements, red-line prohibitions that are non-negotiable, and Good Practice Notes.



Standard 1

MA'AT: Service Provider Responsibility and Child Rights Impact Assessment

Justice, balance, truth, and right order - Ancient Egyptian ethical foundation

Core Principle

The service provider, not the child, not the parent, not the state, bears the primary responsibility for ensuring that the product or service does not cause harm to children. This responsibility is non-delegable. It exists regardless of the regulatory capacity of the country in which the child resides.

Age Bands

Band	Age Range	Assessment Requirement	Default Protections	Verification	Review Cycle
Seedling	0-4 years	Pre-market CRIA mandatory	Highest protection; no data collection	Independent audit	6 months
Sprout	5-7 years	Pre-market CRIA mandatory	High protection; limited data with consent	Independent audit	6 months
Sapling	8-10 years	Pre-market CRIA mandatory	Moderate-high protection	Independent audit	12 months
Growing Tree	11-13 years	Pre-market CRIA mandatory	Moderate protection with agency features	Self-assessment + spot check	12 months
Young Tree	14-16 years	Pre-market CRIA mandatory	Balanced protection and agency	Self-assessment + spot check	12 months



Mature Tree	17-18 years	Pre-market CRIA mandatory	Age-appropriate agency with safety net	Self-assessment	12 months
Emerging Canopy	18+ years	Transition assessment	Graduated independence with support	Self-assessment	12 months

Engineering Requirements

- Child Rights Impact Assessment (CRIA) must be completed before product launch in any African market.
- CRIA must evaluate impact across all five intersectional axes: gender, disability, geography, socioeconomic status, and language.
- Products must default to the highest protection setting for each age band.
- Design teams must include child development expertise, African cultural knowledge, and child participation mechanisms.
- Risk mitigation plans must be documented and independently verifiable.

Red-Line Prohibitions

- No product may launch in any African market without a completed CRIA.
- No product may collect biometric data from children without independent ethical review and regulatory approval.
- No product may shift responsibility for child safety to children, parents, or governments through terms of service.

Good Practice Notes

CRIA should be conducted in partnership with local child rights organizations, educational institutions, and community representatives. The assessment should include direct consultation with children from diverse backgrounds. Where local expertise is limited, regional African expertise should be sought rather than defaulting to international consultants without African contextual knowledge.





Standard 2

PALAVER: Child Participation, Co-Design, and Anti-Tokenism

Collective dialogue and consensus-seeking -- West African tradition

Core Principle

Children have the right to participate in decisions that affect their digital lives. Participation must be genuine, meaningful, and protected from tokenism. It is not sufficient to consult children; their input must demonstrably influence design decisions.

Engineering Requirements

- Child participation mechanisms must be structurally embedded in product governance, not treated as optional consultation.
- Children’s advisory panels must include diverse representation across gender, disability, geography, language, and socioeconomic status.
- Feedback mechanisms must be accessible, age-appropriate, and available in local languages.
- Products must document how child input has influenced design decisions.
- Anti-tokenism safeguards must include: transparent reporting of how feedback was used, right of children to withdraw participation, and independent monitoring of participation quality.

Red-Line Prohibitions

- No product may claim child participation without documented evidence of influence on design outcomes.
- No child may be required to participate as a condition of service access.
- No product may use child participation data for marketing, profiling, or commercial purposes unrelated to product improvement.

Good Practice Notes

Palaver requires creating safe spaces where children can express views without fear of retribution or surveillance. Participation mechanisms should be designed with input from child rights experts and should account for power imbalances between children and adults. Compensation for children’s time and expertise should be provided where appropriate.





Standard 3

BWAMI: African Developmental Design and Digital Rites of Passage

Ethical formation, growth, and social maturity - Legal people, DRC

Core Principle

Digital products must be designed with explicit recognition of African developmental theory: the child as a social being embedded in a relational web, learning through apprenticeship and guided participation. Age-band transitions must be designed as Digital Rites of Passage, community-witnessed, culturally grounded, and developmentally appropriate. The Digital Covenant is the WATOTO Framework's direct response to Gap 5. Every age-band transition is a community-witnessed event in which two things happen simultaneously: the child acquires new digital rights appropriate to their developmental stage, and the child assumes new community responsibilities that accompany those rights. Neither column exists without the other. The table below specifies both. Technology providers must design their Transition Protocols to name, communicate, and structurally support both columns at every age-band crossing.

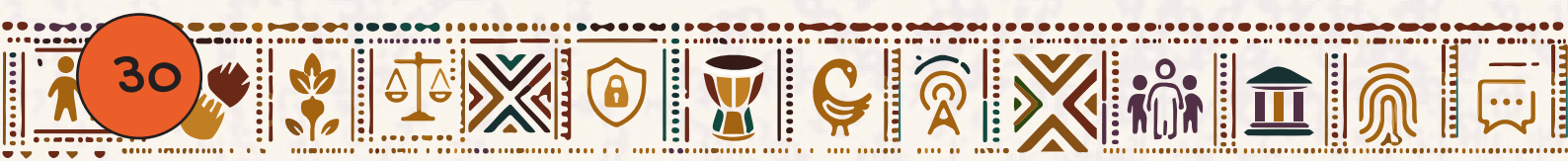
Transition	Technology Responsibility	Child Responsibility
	<i>What the platform must do by design at this crossing</i>	<i>What the child assumes as a community member at this stage</i>
ENTRY 0 – 3 4–6	<ul style="list-style-type: none"> • Provide a caregiver-only interface with zero child data collection by default. • Ensure all content is curated by human editors , no recommendation algorithm. • Make voice output human, not synthetic. Disclose any AI involvement to the caregiver. • Block all direct-to-child marketing and advertising unconditionally. • Design the Entry Ceremony: a caregiver-initiated, community-witnessed first digital experience with an elder present as witness. • Issue the first Digital Covenant document naming what the child may and may not encounter in digital spaces. 	<ul style="list-style-type: none"> • No digital responsibilities are assumed at this stage. • Full community responsibility for the infant's digital presence rests with caregivers and community. • The Digital Covenant is held on behalf of the child by caregivers until the 4–6 transition.



<p>TRANSITION 4-6 - 7-9</p>	<ul style="list-style-type: none"> • Design a Separation Ceremony from the caregiver-mediated 0-3 environment: a designed, play-witnessed entry ceremony with caregiver and community elder. • Activate voice-first interfaces as primary modality. Curated content only no recommendation algorithm. • Maintain zero persistent data collection. No advertising. No profiling. • Provide a Caregiver Digital Companion Guide introducing the 7-9 environment before it is activated. • Ensure the Transition Liminal stage includes a multi-session walkthrough with the caregiver as co-participant. • Issue a Digital Covenant naming the rights gained and the first community responsibilities assumed. 	<ul style="list-style-type: none"> • To share digital devices with siblings when asked by a caregiver. • To follow caregiver guidance on screen time and content without negotiation. • To treat shared devices as community property, with care. • To begin learning the norms of digital community life through guided play.
<p>TRANSITION 7-9 - 10-12</p>	<ul style="list-style-type: none"> • Activate moderated peer interaction features. No unmoderated group communication. • Ensure AI explanations are available in plain, age-appropriate language at every interaction. • Design harm-reporting features accessible via voice in local languages. • Introduce the peer mentor role: assign a named near-peer mentor from the 10-12 band. • Design the Separation Ceremony from adult-mediated access. Include peer cohort, caregiver, and community elder at Incorporation. • Issue a Digital Covenant naming the expanded rights and new community responsibilities. • Anti-bullying architecture must be active by design, not by report. 	<ul style="list-style-type: none"> • To treat digital peers with the same respect owed to physical community members. • To report harmful content seen by others not only harm experienced personally. • To begin protecting younger siblings' digital experiences when asked by caregivers. • To be honest about digital activities with trusted adults.



<p>T H E P R I M A R Y D I G I T A L R I T E 1 0 – 1 2 13–15</p>	<ul style="list-style-type: none"> • This is the most significant crossing in the WATOTO Framework. The Transition Protocol must be three full stages: Separation (a ceremony closing the 10–12 digital identity), Liminal (extended multi-session transition with caregiver, peer mentor, and elder), and Incorporation (a public digital citizenship ceremony). • Activate active co-design participation features. Children’s co-design input must be documented and traceable from this band. • Provide a data transparency dashboard readable without adult assistance. • Design near-peer mentorship roles allowing 10–12 children to mentor the 7–9 band. • Provide a Caregiver Digital Companion Guide for the transition. Conduct community orientation for faith leaders and elders. • Issue a Digital Covenant naming both the significantly expanded rights and the expanded community responsibilities. Elder must formally witness Incorporation. 	<ul style="list-style-type: none"> • To participate honestly in co-design processes not only to use products. • To provide genuine feedback on platform safety when invited. • To mentor children in the 7–9 band in specific digital contexts when asked. • To begin advocacy responsibilities: to name digital harms witnessed on behalf of those who cannot name them. • To accept and carry forward the Digital Covenant: to actively name both rights and responsibilities to younger cohorts.
<p>TRANSITION 13–15 16–18</p>	<ul style="list-style-type: none"> • Activate near-full feature access with community-designed transparency controls. • Ensure algorithmic decisions are explainable in age-appropriate formats and appealable through a child-friendly process. • Activate data portability operable without legal literacy or caregiver assistance. • Activate anti-deepfake protections for this account by default. • Design the Separation Ceremony from early adolescence community. Liminal must include a civic responsibility walkthrough naming new rights and new responsibilities in equal weight. • Incorporate Incorporation witnesses: peer cohort, teachers, faith leaders. • Formalise near-peer mentorship roles for the 7–9 and 10–12 bands. • Issue a Digital Covenant reflecting near-adult rights and active community governance responsibilities. 	<ul style="list-style-type: none"> • To contribute actively to community co-design — not only participate when invited. • To report harmful content encountered by others as an active community obligation. • To mentor children in the 7–9 and 10–12 bands in specific digital contexts. • To participate in platform accountability mechanisms on behalf of younger users. • To protect the digital reputation of their community in online spaces. • To be a witness at the Incorporation ceremonies of the 10–12 cohort.



<p>TRANSITION 16–18 Adulthood</p>	<ul style="list-style-type: none"> • Activate full data deletion rights operable without caregiver assistance. • Activate formal platform governance participation features. • Make IP ownership of creative content explicit in terms of service. • Enable and compensate near-peer mentorship roles as a structured platform feature. • Anti-engagement-maximisation features must be visible and enabled by default. • Design the Separation Ceremony from the late adolescence community. Liminal must focus on community responsibility assumption. Incorporation must be witnessed by community elders with formal naming of guardianship roles. • Issue the final Digital Covenant before adulthood: the child publicly accepts digital guardianship responsibilities alongside full digital rights. 	<ul style="list-style-type: none"> • To serve as near-peer mentor for the 13–15 band as a primary, not optional, platform role. • To participate actively in community content moderation as a structured responsibility. • To represent the platform community in civil society and advocacy settings when requested. • To carry the knowledge, norms, and cultural practices of the community into digital spaces actively. • To be a witness and accompanying elder figure at the Incorporation ceremonies of the 13–15 cohort. • To train the next generation of near-peer mentors.
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Digital Rites of Passage Protocol

Every age-band transition must follow the three-stage van Gennep-Turner protocol:

- Separation (Preliminal): The child is prepared for transition through community notification, caregiver briefing, and digital companion guide provision.
- Transition (Liminal): A protected preparation space where the child learns new capabilities alongside a peer mentor, tested through culturally appropriate challenges.
- Incorporation (Postliminal): Community recognition of the child's new status, including a Digital Covenant ceremony where the child publicly accepts new rights and responsibilities.

Engineering Requirements

- Age verification must be robust but not exclusionary, accepting multiple forms of age confirmation appropriate to local contexts.
- Transitions must never be silent algorithmic triggers. Every crossing requires active community participation.
- Peer mentor systems must be built into the platform architecture, not as optional add-ons.
- Digital Companion Guides must be provided at every transition, in local languages, accessible formats, and appropriate literacy levels.



Red-Line Prohibitions

- No product may transition a child to a new age band without the Digital Rites of Passage protocol.
- No product may use chronological age alone as the sole determinant of access or capability.
- No product may sever a child's existing community connections during transition.

Good Practice Notes

The Digital Rites of Passage protocol should be adapted to local cultural contexts while maintaining the three-stage structure. In displacement and humanitarian settings, where traditional community structures may be disrupted, alternative community-witnessed ceremonies should be developed in consultation with affected children and caregivers.



Standard 4

JELIYA: Cultural Contextualisation, Linguistic Equity, and Oral Access

Storytelling, oral tradition, and cultural memory -- the art of the Griot, West Africa

Core Principle

Digital products must be designed for the specific cultural, linguistic, and oral contexts of African children. Cultural contextualisation is not a localization layer applied after design; it is a primary design input from inception. Products must work in African languages, respect oral traditions, and represent African cultures with dignity and accuracy.

Engineering Requirements

- Contextual mapping must be completed before market entry, documenting: languages spoken, device-sharing patterns, connectivity conditions, cultural norms around childhood, and existing community safety structures.
- Products must provide meaningful functionality in at least the three most widely spoken languages of the target market.
- Voice-first interfaces must be available as primary or co-primary interaction modes.
- AI systems must be trained on community-consented, culturally verified African-language data.
- Cultural review cycles must occur every 12 months, involving local cultural experts and community representatives.



Red-Line Prohibitions

- No product may enter an African market without documented cultural contextualisation.
- No AI system may be deployed that reproduces colonial stereotypes, misrepresents African cultures, or erases African languages.
- No product may require literacy as a condition of meaningful use.

Good Practice Notes

Jeliya recognizes that oral tradition is not a deficit to be overcome but a design modality to be honored. Voice interfaces, audio content, and oral storytelling formats should be treated as primary design elements, not accessibility accommodations. Cultural contextualisation should be conducted by teams that include members of the target communities.



Standard 5 UBUNTU: Data Governance, Privacy, and Digital Sovereignty

Shared humanity and collective dignity -- Nguni Bantu philosophy

Core Principle

Children's data is not a raw material for commercial extraction. It is an extension of the child's personhood and the community's shared identity. Data governance must be communal as well as individual, recognizing that in African contexts, data about a child is also data about their family and community. Products must minimize data collection, maximize transparency, and ensure community-level data sovereignty.

Engineering Requirements

- Data collection must be minimized to what is strictly necessary for product functionality.
- Privacy policies must be available in local languages, at appropriate literacy levels, and in audio formats.
- Community data governance mechanisms must be provided alongside individual privacy controls.
- Data must be stored on African servers where possible, in compliance with the Malabo Convention.
- Children and communities must have the right to access, correct, and delete their data.
- Data sharing with third parties must require explicit, informed consent, with no pre-ticked boxes or bundled permissions.

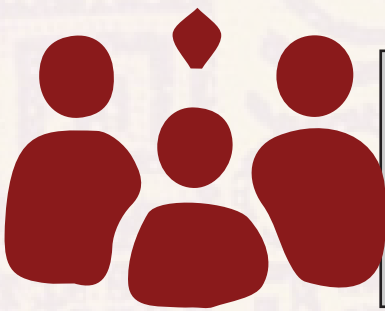


Red-Line Prohibitions

- No product may sell children’s data to third parties under any circumstances.
- No product may use children’s data to train AI models without explicit, informed, community-level consent.
- No product may transfer children’s data outside Africa without regulatory approval and adequate protection guarantees.

Good Practice Notes

Ubuntu data governance recognizes that privacy is not only an individual right but a communal concern. Products should enable family and community-level privacy decision-making where appropriate. Community data trustees -- respected local institutions or leaders -- can play a valuable role in mediating between platform data practices and community interests.



Standard 6

BARAZA: AI Accountability, Algorithmic Governance, and Generative AI

Public accountability and open governance -- East African community deliberation forum

Core Principle

Artificial intelligence systems used by children must be transparent, accountable, and subject to community governance. AI must not be a black box that affects children without their understanding or their community’s oversight. All AI systems including generative AI, recommendation algorithms, and content moderation must be tested for child safety, cultural bias, and age-appropriateness before deployment.

Engineering Requirements

- All AI systems must undergo pre-deployment safety testing including: bias assessment across all five intersectional axes, age-appropriateness verification, cultural accuracy review, and child development impact assessment.
- Algorithmic decision-making that affects children must be explainable in plain language appropriate to the child’s age and the community’s literacy level.
- Content moderation systems must be trained on African-language data and reviewed by African cultural experts.
- Generative AI outputs must be labeled as AI-generated and filtered for child-inappropriate content.
- Human oversight mechanisms must exist for all AI decisions that significantly affect children’s safety, rights, or wellbeing.



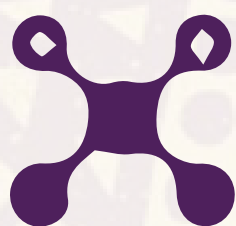
- AI impact assessments must be published annually and subject to independent audit.

Red-Line Prohibitions

- No AI system may be deployed that generates harmful content targeting children, including deepfakes used for bullying or exploitation.
- No AI system may manipulate children's emotions or behavior for engagement or commercial purposes.
- No AI system may make decisions about child safety without human oversight and appeal mechanisms.
- No generative AI system may be deployed for children without testing for hallucination in low-resource languages.

Good Practice Notes

Baraza recognizes that AI governance is not only a technical challenge but a governance challenge. Community-level AI oversight committees, composed of parents, educators, cultural experts, and child representatives, can provide valuable accountability mechanisms. Products should enable communities to understand, question, and shape how AI affects their children.



Core Principle

Standard 7

UKAMA: Family, Community Integration, and Adult Capacity Building

Relational interdependence across people and systems -- Shona concept, Zimbabwe

Digital products must strengthen, not erode, the relational web of family, community, peers, and elders that surrounds the African child. Products must be designed for shared use, intergenerational participation, and community governance. Adult capacity building is a structural product requirement, not an external intervention.

Engineering Requirements

- Products must support multiple user profiles with differentiated access and permissions appropriate to African family structures.
- Caregiver dashboards must provide accessible, culturally appropriate guidance on child digital safety, in local languages.
- Community governance tools must enable local oversight of children's digital activities, respecting cultural norms around collective child-rearing.



- Adult capacity building content must be embedded in the product, including: digital literacy modules, child safety guidance, and AI literacy resources.
- Elder participation mechanisms must be built into platform governance, recognizing elders' ontological role in African child development.
- Peer support networks must be facilitated within the product architecture.

Red-Line Prohibitions

- No product may design children as isolated individual users without community connection features.
- No product may exclude caregivers from understanding or guiding children's digital activities.
- No product may undermine existing community child protection structures.

Good Practice Notes

Ukama recognizes that the parental digital divide is a design problem, not a family failure. Products should meet caregivers where they are, providing capacity building through familiar modalities voice, video, community workshops, and peer learning. Where possible, products should partner with existing community structures such as schools, faith communities, and local organizations rather than creating parallel systems.



Standard 8

ISITHUNZI: Identity, Dignity, and the Decolonised Mirror

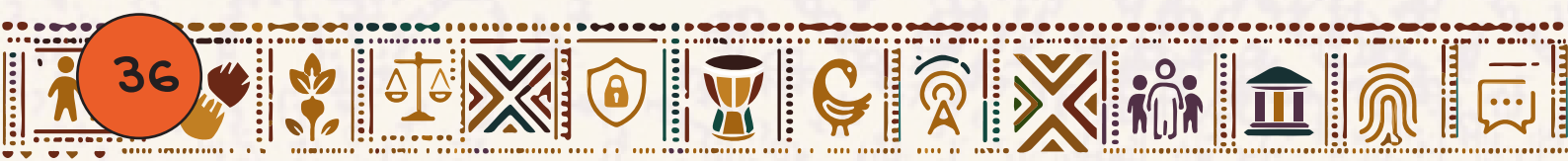
Dignity, identity, presence, and how one is seen -- Nguni concept

Core Principle

Digital products must enable African children to see themselves represented with dignity, accuracy, and cultural pride. AI systems must not reproduce colonial stereotypes, erase African identities, or present distorted mirrors that teach children to see themselves through the eyes of others. Identity-positive design is a safety requirement.

Engineering Requirements

- AI image and content generation must be tested for colonial stereotype production and corrected before deployment.
- Products must provide diverse, positive representations of African children across gender, ethnicity, disability, geography, and socioeconomic status.



- Name recognition systems must correctly handle African names, including tonal and click languages.
- Skin tone, hair texture, and facial feature recognition must be tested for accuracy across the full range of African phenotypic diversity.
- Products must enable children to customize avatars and representations that reflect their actual identity, not pre-set colonial caricatures.
- Content featuring African children must be created with community consent and benefit-sharing.

Red-Line Prohibitions

- No AI system may generate content that reproduces colonial stereotypes of African poverty, primitivism, or helplessness.
- No product may use African children's images or identities for marketing, entertainment, or AI training without explicit community-level consent.
- No facial recognition or biometric system may be deployed that performs less accurately on African children than on other populations.

Good Practice Notes

Isithunzi requires that products treat identity representation as a core design element, not a diversity add-on. African identity is not a costume or a setting; it is the lived reality of the children using the product. Products should partner with African creators, illustrators, and cultural experts to ensure authentic representation. Children should see heroes, scientists, leaders, and adventurers who look like them, speak like them, and come from communities like theirs.



Standard 9

SANKOFA: Epistemic Sovereignty, African Knowledge Systems, and Content Equity

Return, reclaim, and build from the past Akan symbol and concept, Ghana

Core Principle

African knowledge systems, languages, histories, and cultural expressions must be treated as primary design inputs, not supplementary accommodations. Products must actively support the preservation, transmission, and evolution of African knowledge. Epistemic justice requires that African children encounter their own heritage as valuable, valid, and digitally present.



Engineering Requirements

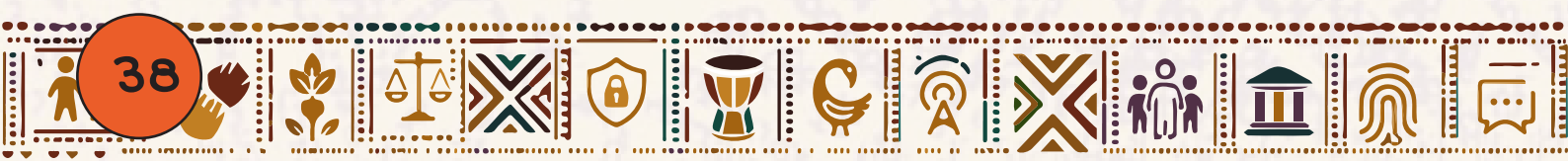
- Products must include African-language content as primary material, not translation afterthoughts.
- Educational content must include African history, science, mathematics, literature, and cultural knowledge on equal footing with global content.
- AI training data must include African-language corpora, community-consented cultural materials, and locally produced content.
- Products must support oral knowledge transmission through audio storytelling, elder interviews, and community knowledge archives.
- Content creation tools must enable African children to produce and share content in their own languages and cultural forms.
- Intellectual property frameworks must respect communal knowledge ownership traditions while protecting against unauthorized commercial exploitation.

Red-Line Prohibitions

- No product may treat African languages as secondary to colonial languages in functionality, content quality, or user experience.
- No AI system may be deployed that erases, trivializes, or misrepresents African knowledge systems.
- No product may extract community knowledge for commercial purposes without benefit-sharing agreements.

Good Practice Notes

Sankofa is not nostalgia. It is the active reclamation of knowledge systems that colonialism sought to destroy, and their integration into contemporary digital life. Products should partner with African cultural institutions, language communities, and knowledge keepers to ensure authentic, respectful representation. Children should grow up knowing that their ancestors were astronomers, mathematicians, healers, philosophers, and builders and that this knowledge belongs in the digital world.





Standard 10

HARAMBEE: Infrastructure Equity, Offline Architecture, and Connectivity Justice

Collective effort and shared responsibility -- Kenyan tradition of community self-help

Core Principle

Digital products must be designed for the infrastructure realities of African contexts: intermittent connectivity, shared devices, limited data, and uneven electricity access. Offline-first architecture is a safety requirement, not a convenience feature. Products that require constant connectivity exclude children who lack reliable access, compounding existing inequalities.

Engineering Requirements

- Products must provide meaningful offline functionality, not merely cached content.
- Data usage must be minimized through compression, efficient design, and user-controlled data settings.
- Products must function on low-end devices commonly available in African markets.
- Battery consumption must be optimized for contexts with unreliable electricity.
- Shared device architectures must support multiple profiles with privacy separation and individual progress tracking.
- Products must be compatible with community internet access points, school networks, and low-bandwidth connections.
- Where satellite, mesh, or community networks are available, products should optimize for these access modalities.

Red-Line Prohibitions

- No product may require constant internet connectivity for core functionality.
- No product may consume data in ways that are unaffordable for low-income families.
- No product may exclude children based on device specifications alone.

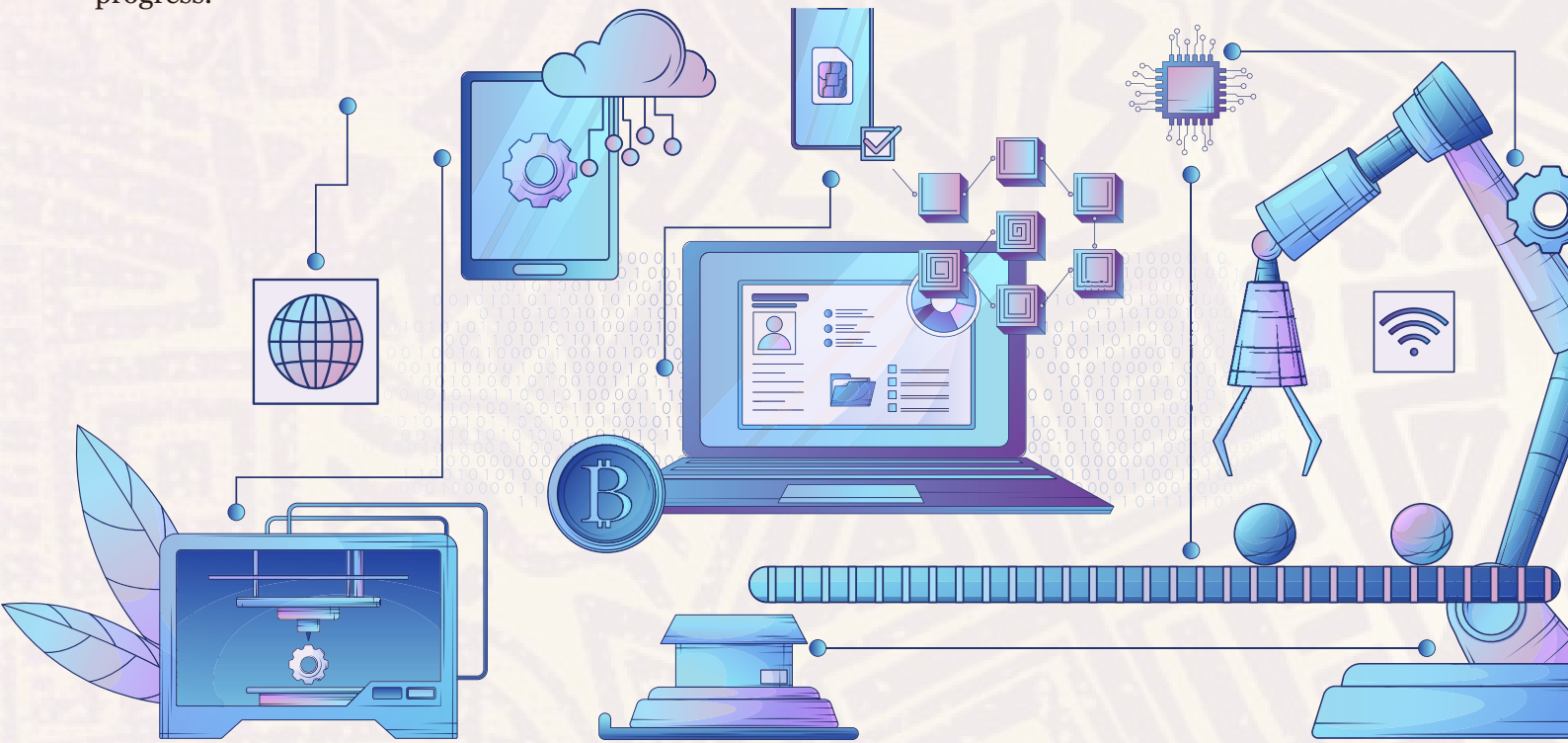
Good Practice Notes

Harambee recognizes that connectivity is not only a technical issue but a justice issue. Products should explore innovative access models: community caching servers, school-based content distribution, peer-to-peer sharing, and partnerships with telecom providers for zero-rated educational content. Infrastructure investment in underserved areas is a child safety measure. Products should advocate for and contribute to connectivity expansion in the communities they serve.



VIII. Implementation Toolkit

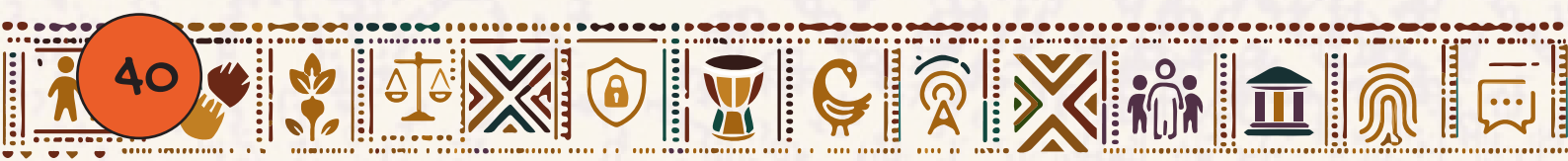
This Toolkit provides practical guidance for implementing the WATOTO Framework across four key stakeholder groups: governments and regulators, technology companies, civil society and educators, and international organizations. Each section includes actionable steps, suggested timelines, and indicators of progress.



A. For Governments and Regulators

Governments play a critical role in creating the enabling environment for child-centred digital safety. The following steps are recommended:

- Adopt the WATOTO Framework as a national standard for all digital products and services accessed by children within your jurisdiction.
- Integrate WATOTO Standards into national child online safety policies, data protection laws, and AI governance frameworks.
- Establish a national Child Digital Safety Task Force with representation from government, civil society, academia, technology sectors, and children themselves.
- Require Child Rights Impact Assessments (CRIA) as a condition of market entry for digital products serving children.
- Develop certification programmes that recognize products meeting WATOTO Standards.
- Invest in digital infrastructure in underserved areas, recognizing connectivity as a safety condition.
- Support adult digital literacy programmes, acknowledging the parental digital divide as a structural safety issue.



- Establish cross-border cooperation mechanisms with other African countries for shared enforcement and information exchange.

B. For Technology Companies

Technology companies bear the primary responsibility for implementing safety-by-design. The following actions are expected:

- Conduct a comprehensive CRIA for every product serving children in African markets before launch.
- Establish Africa-specific design teams with local cultural expertise and child development knowledge.
- Implement the Digital Rites of Passage protocol for all age-band transitions.
- Develop voice-first interfaces and African-language capabilities as primary features.
- Build community governance tools and caregiver dashboards into product architecture.
- Publish annual transparency reports on child safety measures, AI impact assessments, and data practices.
- Establish community benefit-sharing mechanisms where children's data or participation creates commercial value.
- Engage genuinely with child participation mechanisms, documenting how feedback influences design decisions.

C. For Civil Society and Educators

Civil society organizations and educators are essential partners in grounding WATOTO implementation in community realities:

- Advocate for adoption of the WATOTO Framework in national and local policy.
- Monitor and report on technology companies' compliance with WATOTO Standards.
- Deliver digital literacy and child safety education to children, parents, and communities.
- Facilitate child participation in digital governance through safe, structured mechanisms.
- Document children's digital experiences and share findings with policymakers and technology companies.
- Support community-level digital safety structures, including parent networks, school programmes, and peer support systems.
- Challenge colonial representations in digital content and AI systems, promoting identity-positive alternatives.



D. For International Organizations

International organizations can support WATOTO implementation through:

- Integrate WATOTO Standards into programme design, procurement, and partnership agreements.
- Provide technical assistance to African governments developing child digital safety legislation.
- Fund research on children’s digital experiences in under-researched African contexts.
- Support infrastructure investment in underserved areas, recognizing connectivity as foundational to child safety and development.
- Ensure that global digital safety initiatives are compatible with, and supportive of, African-led frameworks like WATOTO.
- Amplify African children’s voices in global technology governance forums.

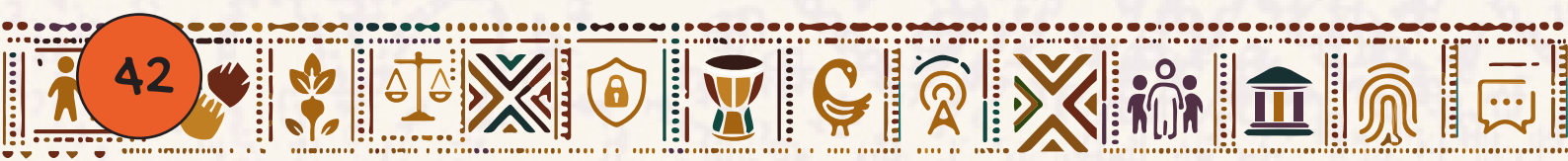
E. Digital Rites of Passage Protocol -- Implementation Guide

The Digital Rites of Passage is one of WATOTO’s most distinctive innovations. It transforms the silent algorithmic age-band transition -- currently the universal practice across digital platforms into a community-witnessed, culturally grounded, developmentally appropriate ceremony. This section provides step-by-step guidance for implementing the protocol.

Stage 1: Separation (Preliminal)

Duration: 1-2 weeks before the scheduled transition.

- **Community Notification:** The platform notifies designated community members (parents, caregivers, elders, teachers) that a child is approaching an age-band transition. Notification must be in the family’s preferred language and modality (text, voice, or video).
- **Caregiver Briefing:** A Digital Companion Guide is provided to caregivers, explaining what the child will gain, what risks the new band entails, and what the caregiver’s role is. The guide must be accessible to caregivers with low digital literacy.
- **Child Preparation:** The child receives age-appropriate materials explaining the transition, their new rights, and the responsibilities they will assume. Materials must be in the child’s first language.
- **Peer Cohort Formation:** Children approaching the same transition are grouped into a peer cohort, creating the communal structure that Turner identified as essential to liminal experience.





Stage 2: Transition (Liminal)

Duration: 2-4 weeks of protected preparation.

- **Peer Mentor Assignment:** Each child is paired with a peer mentor who has recently completed the same transition. The mentor provides guidance, answers questions, and models responsible behaviour in the new age band.
- **Capability Building:** The child completes culturally appropriate challenges designed to build the skills they need in the new age band. Challenges are not tests to pass or fail; they are opportunities to learn with support.
- **Protected Space:** During the liminal period, the child has access to a restricted preview of the new age band, allowing exploration without full exposure. This is the digital equivalent of the liminal hut in traditional rite-of-passage ceremonies.
- **Elder Check-In:** A designated elder or community leader checks in with the child to offer wisdom, answer questions, and provide the community recognition that van Gennepe identified as essential to transition.



Stage 3: Incorporation (Postliminal)

Duration: A single ceremonial occasion, followed by ongoing community recognition.

- **Digital Covenant Ceremony:** The child publicly affirms their understanding of their new rights and their acceptance of corresponding community responsibilities. The ceremony can be conducted in person, virtually, or through a hybrid model, depending on the community's context.
- **Community Witnessing:** Family, peers, and elders witness the child's commitment. This is not surveillance; it is the communal recognition that the child has crossed a threshold and is now held in a new status by the community.
- **Full Access Activation:** Only after the ceremony does the child receive full access to the new age band. The transition is never automatic; it is always earned, witnessed, and communal.
- **Ongoing Support:** The peer mentor relationship continues for a defined period after incorporation, ensuring that the child has support as they navigate their new digital status.

Adaptation Guidelines

- In displacement and humanitarian settings, where traditional community structures may be disrupted, alternative witnessing mechanisms should be developed in consultation with affected children and caregivers. Peer cohorts may be formed from camp residents rather than traditional village structures.
- For children with disabilities, every stage must be accessible: notification in appropriate formats, Companion Guides in Braille or audio, peer mentors trained in disability-inclusive support, and ceremonies that accommodate all forms of participation.
- For children in linguistically diverse communities, the protocol must be available in all relevant languages, not only the dominant language.
- For children in urban, nuclear-family contexts where extended community may be absent, the protocol should be adapted to draw on school, faith, or neighbourhood networks as the witnessing community.

Transition 1: Seedling to Sprout (0-4 years to 5-7 years)

New Rights	New Responsibilities	Technology Responsibility
Right to request help from a designated digital guardian when something feels wrong	Responsibility to tell a trusted adult immediately when something unexpected or uncomfortable appears on screen	Provide a fully locked-down environment with zero data collection, one-touch guardian help button, and no commercial content
Right to a device and interface designed for early learners, with no data collection	Responsibility to use the device with caregiver supervision and to share what was learned or seen	Enable full caregiver oversight dashboard with real-time activity summaries in the family's first language
Right to content in the child's first language, including oral and audio formats	Responsibility to listen carefully to caregiver guidance about what is appropriate to watch or do	Deliver all content in the child's first language with voice-first interfaces; no text-only requirements



Right to protection from all commercial profiling, targeted content, and data extraction	Responsibility to ask permission before clicking on new icons, images, or unfamiliar sounds	Prohibit all profiling, tracking, targeted content, and data extraction for children in this band
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Transition 2: Sprout to Sapling (5-7 years to 8-10 years)

New Rights	New Responsibilities	Technology Responsibility
Right to limited, supervised independent exploration within a protected, pre-approved digital environment	Responsibility to report any contact from strangers, unfamiliar requests, or upsetting content to a caregiver or elder immediately	Maintain a fully curated environment with no unmoderated external contact; provide child-accessible reporting tools in local languages
Right to create simple digital content (drawings, voice recordings) that is not shared beyond the family without consent	Responsibility to respect the privacy of others: not sharing family photos, recordings, or information without permission	Enable simple creation tools with default private settings; require explicit guardian approval for any external sharing
Right to a peer learning group (2-3 children) under adult supervision, for collaborative digital activities	Responsibility to be a respectful digital companion: helping younger children and learning from older ones	Facilitate supervised peer learning spaces with adult moderation; disable private peer-to-peer communication outside supervised contexts
Right to begin understanding what personal information is and why it matters	Responsibility to ask a caregiver before entering names, locations, or any identifying information	Provide age-appropriate privacy education within the product; block personal information entry without guardian approval

Transition 3: Sapling to Growing Tree (8-10 years to 11-13 years)

New Rights	New Responsibilities	Technology Responsibility
Right to a wider, age-appropriate digital environment with graduated access to educational platforms, creative tools, and communication channels	Responsibility to practice critical evaluation: questioning whether information is true, whether a source is trustworthy, and whether a contact is who they claim to be	Provide graduated access with clear safety boundaries; disable private unmoderated communication; enable visible trust indicators on content sources
Right to participate in structured, moderated digital communities with peers under adult oversight	Responsibility to uphold community standards: no bullying, no sharing others' content without permission, and speaking up when peers are harmed	Maintain actively moderated community spaces with trained moderators; provide accessible reporting and bystander support tools
Right to privacy from commercial surveillance: the product must not profile, track for advertising, or sell data	Responsibility to respect the privacy of peers and family members in digital spaces	Disable all profiling, behavioural tracking, and targeted advertising for this age band; do not sell or share data with third parties



Right to direct communication with product safety teams and child participation mechanisms	Responsibility to provide honest, constructive feedback to improve the product for other children	Establish direct, child-accessible communication channels with safety teams; document and transparently report how child feedback influences design
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Transition 4: Growing Tree to Young Tree (11-13 years to 14-16 years)

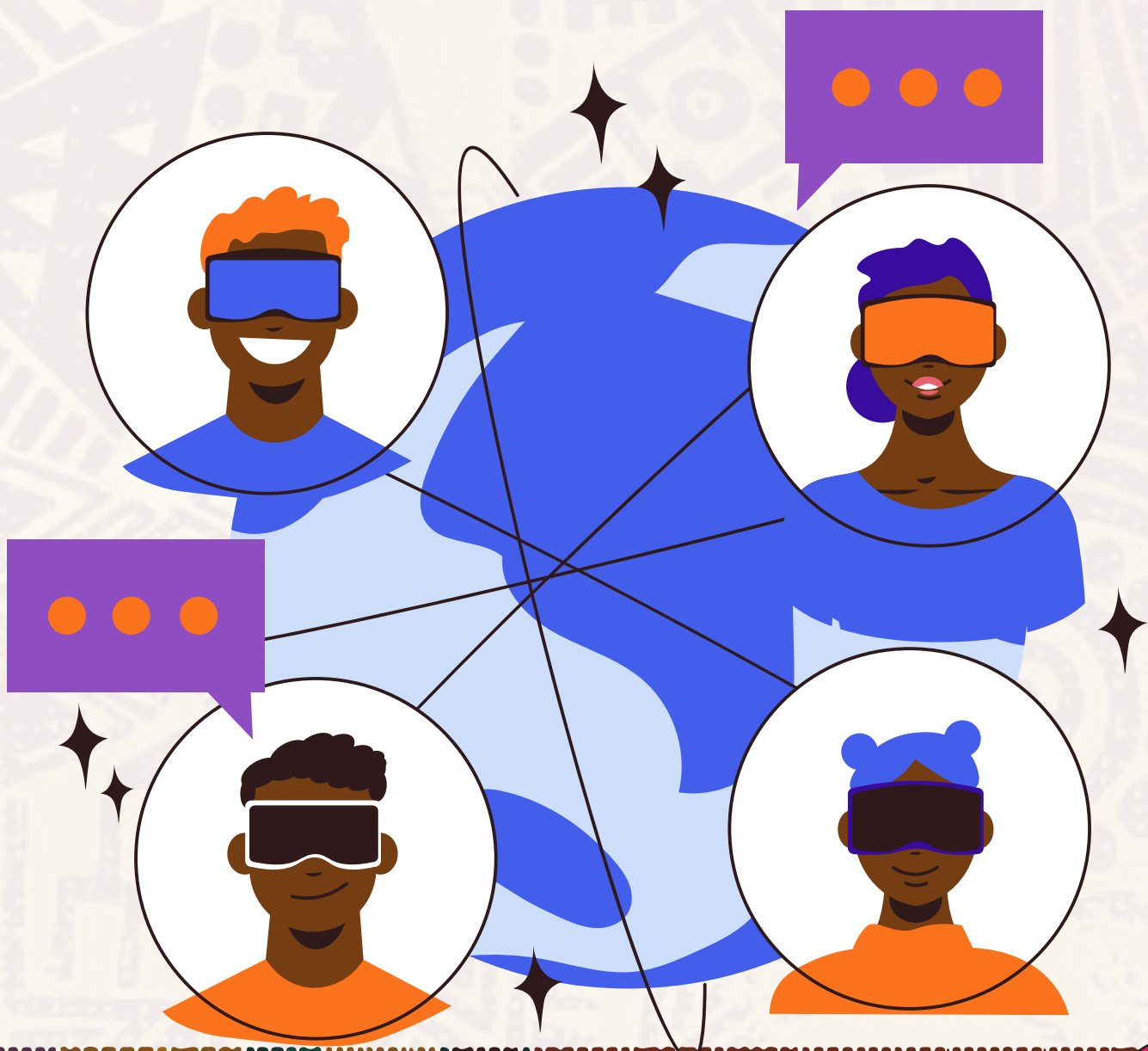
New Rights	New Responsibilities	Technology Responsibility
Right to broader digital agency: access to civic, educational, creative, and cultural platforms with balanced protections	Responsibility to use digital tools for constructive purposes: learning, creating, organising, and contributing to community wellbeing	Provide balanced access with agency features; enable civic and creative participation tools; maintain safety guardrails without surveillance overreach
Right to participate in product governance, including advisory panels, feedback mechanisms, and design consultations with documented influence	Responsibility to represent the interests of children who are not at the table: younger children, children with disabilities, children in rural or displaced settings	Establish genuine child governance mechanisms with documented influence on design decisions; provide accessible formats for participation
Right to data transparency: knowing what data is collected, how it is used, and who it is shared with	Responsibility to make informed choices about privacy settings and to advise family members on data protection	Deliver transparent data dashboards in plain language and local languages; explain all data practices including AI training and third-party sharing
Right to AI literacy: understanding how algorithms shape what they see and how to question algorithmic outputs	Responsibility to challenge bias and misinformation when encountered, and to help family members understand AI-driven content	Build AI literacy resources into the product architecture; explain recommendation logic in plain language; enable users to question and override algorithmic outputs

Transition 5: Young Tree to Mature Tree (14-16 years to 17-18 years)

New Rights	New Responsibilities	Technology Responsibility
Right to near-full digital autonomy with a graduated safety net, including the capacity to make independent choices about platforms, content, and communication	Responsibility to model responsible digital citizenship for younger children in the community and to intervene when peers are at risk	Support near-full autonomy with graduated safety nets; enable independent decision-making while maintaining accessible support and crisis intervention pathways



<p>Right to participate as a peer mentor in the Digital Rites of Passage for younger children crossing into new age bands</p>	<p>Responsibility to take the mentorship role seriously: preparing, guiding, and witnessing the transitions of younger children with patience and care</p>	<p>Build peer mentorship infrastructure into platform architecture; train and support mentors; recognise and reward mentorship contribution</p>
<p>Right to demand algorithmic accountability: the right to know, question, and challenge how AI systems affect their digital environment</p>	<p>Responsibility to educate peers and family members about digital rights, data protection, and the mechanisms for reporting harm</p>	<p>Provide algorithmic transparency tools; explain AI decision logic; enable users to challenge, correct, and override algorithmic outputs</p>
<p>Right to a transition plan for digital adulthood, including guidance on how digital rights and responsibilities evolve after 18</p>	<p>Responsibility to prepare for the next transition by documenting what they have learned and what they wish the next generation of children to know</p>	<p>Deliver transition planning resources; explain how rights and responsibilities evolve post-18; maintain continuity of support into adulthood</p>



Transition 6: Mature Tree to Emerging Canopy (17-18 years to 18+ years)

New Rights	New Responsibilities	Technology Responsibility
Right to full digital self-determination with access to all lawful digital spaces, platforms, and tools	Responsibility to advocate for the digital rights of children still within the WATOTO age bands, using their voice and experience to influence policy and product design	Remove all artificial platform-imposed restrictions that are not grounded in law; enable full adult autonomy while preserving optional safety support
Right to have their data fully portable, deletable, and under their sole control, free from parental or platform overreach	Responsibility to safeguard their digital legacy: ensuring that data created during childhood is handled ethically and that they understand the long-term implications of digital traces	Guarantee full data portability and deletion rights; provide complete records of all childhood data practices; enable transfer of data control from parent to young adult
Right to participate in community digital governance as a full adult member, including AI oversight committees and platform accountability forums	Responsibility to bridge the intergenerational digital divide: helping elders, caregivers, and younger children navigate the digital world with safety and confidence	Enable adult governance participation; provide oversight committee access; create pathways for young adults to influence platform policy and AI governance
Right to access the complete record of their childhood digital participation, CRIAs conducted on products they used, and redress mechanisms for historical harms	Responsibility to contribute to the continuous improvement of the WATOTO Framework by sharing their experiences, challenges, and recommendations with policymakers and practitioners	Maintain complete, accessible records of all childhood digital participation and CRIAs; establish transparent redress mechanisms for historical harms; actively seek and incorporate feedback from transitioning young adults

F. Monitoring and Evaluation Framework

Implementation should be monitored through a combination of quantitative and qualitative indicators:

Domain	Indicator	Measurement Approach
Policy Adoption	Number of countries integrating WATOTO into national legislation	Policy review and government reporting
Industry Compliance	Number of products achieving WATOTO certification	Certification body records
Child Participation	Number of children actively participating in product governance	Participation mechanism records



Language Inclusion	Number of African languages supported by certified products	Product audits
Cultural Representation	Reduction in stereotype production by certified AI systems	AI bias audits
Community Benefit	Measurable community benefits from certified products	Community impact assessments
Adult Capacity	Number of caregivers completing digital literacy programmes	Programme delivery records



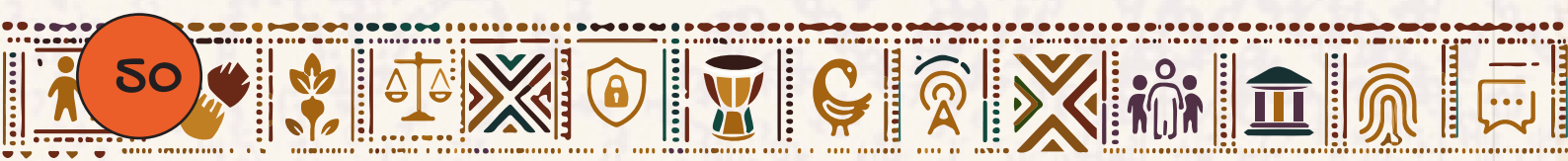
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Design layout by Brian Omondi

Kutunga Design Academy & Innovation Lab

May, 2026

