

# Tools to operationalize the UNICEF policy guidance on AI for children

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Virginia Dignum, Professor of Responsible Artificial Intelligence, Umeå University Klara Pigmans, Policy Advisor and Analyst, ALLAI To help governments and businesses operationalize the UNICEF Policy Guidance on AI for Children, we have developed an implementation roadmap for policymakers and an AI for children canvas for software teams; applied together, these tools should help to align product and system development with requirements for child-centred AI.

Download the
UNICEF Policy
Guidance on Al
for Children

# Roadmap for policymakers

The policy guidance is only useful if it is grounded in the characteristics and needs of the context in which it is being applied, including national AI strategies, regional AI infrastructures, how children are using AI locally and how it can impact children directly and indirectly. Only then can concrete strategies be developed to operationalize this guidance. Given the evolving nature of AI applications, the pace of innovation and adaptation, and the changing needs and interests of children, the operationalization needs to be a cyclical process. This requires a continuous assessment of the usefulness of the policy and where necessary updates or modifications to the strategies.

UNICEF proposes the following steps to support the implementation of the recommendations proposed in the policy guidance to ensure the nine requirements for child-centred Al.

We acknowledge that stakeholders will apply them differently according to local contexts, timelines and needs. Central to the policy process is the need to evaluate and adapt methods to constantly renew understanding of how others use and implement their results. Al applications are dynamic systems, learning and adapting to their environment, often in unforeseen ways. Therefore, a responsible approach to the development, use and regulation of child-centred Al systems requires a continuous evaluation and adaptation of the following steps (see roadmap steps below) to guide the setting of policy and the development and use of Al systems.

- Support children's development and well-being Let AI help me develop to my full potential.
- **Ensure inclusion of and for children** *Include me and those around me.*
- 3 Prioritize fairness and non-discrimination for children

AI must be for all children.

- 4 Protect children's data and privacy
  Ensure my privacy in an AI world.
- **Ensure safety for children** *I need to be safe in the AI world.*
- Provide transparency, explainability, and accountability for children

  I need to know how AI impacts me. You need to be accountable for that.
- The impower governments and businesses with knowledge of Al and children's rights

  You must know what my rights are and uphold them.
- Prepare children for present and future developments in Al

  If I am well prepared now, I can contribute to responsible AI for the future.
- 9 Create an enabling environment

  Make it possible for all to contribute to child-centred AI.

# Roadmap



### **Understand**

### Understand the impact of AI on children bearing in mind the national/regional Al landscape.

- > Talk to children, educators, NGOs and others working on child well-being in the digital world to perceive the social, technological and cultural context of the use and impact of Al systems;
- > Incentivize scientific research on the impact of AI on children; and
- > Map the Al ecosystem, including policies/legal frameworks, Al literacy efforts, and innovations.

### **Evaluate**

### Monitor the impact of the strategies for continuous refinement and improvement.

- > Apply impact metrics and update the policies and strategies based on data-driven evidence; and
- > Support verification of adherence to the child-centred AI requirements.



# \* Adapt

### Customize the recommendations in the policy guidance based on national/local inputs including those from children.

- > Discuss possible approaches and scenarios of Al policies and applications with all stakeholders to identify the best fits with the local context; and
- > Consider how an Al policy and requirements support national development plans.



### **Design**

### Develop strategies for application of the policy guidance.

- > Identify leading/coordinating organizations, direct and indirect stakeholders, and their needs and responsibilities for child-centred Al;
- > Request that developers take into account child-centred Al requirements in the development of Al applications; and
- > Develop concrete, transparent plans open for public scrutiny and including redress mechanisms and accountability measures.



## **Implement**

### Apply specific strategies in the national/regional development, deployment and governance of AI systems.

- > Develop and execute implementation strategies, including careful steps to test, re-design and adapt design according to concrete use
- > Facilitate the grounding of all choices and decisions in legislation and existing guidelines; and
- > Be transparent about all rationale behind choices and decisions.

# AI for children development canvas

The AI for children development canvas is a tool to support the design and development of AI applications for children. It summarizes all the important factors of the AI system development process, helps teams to structure their plans, visions and concerns about the implications of their projects for children and child rights, and helps to keep a visual description of the overall project. This visual model is designed especially for those who work on the development of AI systems that are used by and/or have an impact on children. Further resources to support the use of the canvas are available here.

The development canvas includes a general description of the project and its purposes and motivations, and how the project deals with the requirements for child-centred Al. Each component reminds developers that evidence for their choices and claims should be produced and stimulates them to reply explicitly to the questions in each box. We recommend continuous updating of the canvas during each development cycle of the Al application.

Additional resources that support the use of the canvas

# Development canvas

Project/Application title:			
Date:	Version:	Authors:	
Purpose/motivation Description: Short description of the project			
Impact on children:  > How are children impacted (directly or indirectly)?  > Who is responsible for the impact of the AI system on children? Who is liable?	Values/principles:  > Which child rights, human values and ethical principles are upheld or put at risk?  > Have you performed an ethical assessment? How?  > Have you followed any specific Al guidelines? Which? Why not?	Regulation:  > Which laws/regulations apply to the use of the Al system?	
Design requirements			
Positive effects on children:  > What are positive effects for children? (e.g. education, health, entertainment)  > Are you measuring and communicating positive impact? How?	Negative effects on children:  > Can children be negatively affected by this project? If yes, how?  > How are limitations and risks dealt with and communicated?	Child development and well-being:  > Is the project specific to a particular age or development group? If not, can it be more tailored to the target group?  > How does the project contribute to upholding children's rights and improving their well-being?	
Data protection and privacy:  > Which data is used?  > How is it collected, managed and protected?  > How is children's privacy protected?  > Can users opt out of their data being used?  Accountability and redress:	Fairness/non-discrimination:  > How do you mitigate against any prejudicial bias?  > What (technical) definitions of fairness do you use and what is the motivation of these?  > How are you ensuring that all children can benefit from the project?  > Have you considered actions to promote awareness on this issue?	Does the project support the SDGs? Which ones?  Transparency:      How open can you be about this project? Could you publish your methodology, metadata, datasets, code or impact measurements?      Will you publish your actions and answers to this canvas openly?	
<ul> <li>Are mechanisms for accountability and redress in place?</li> <li>Are children able, encouraged and supported to voice their concerns and complaints about the system?</li> </ul>	Safety:  > What mechanisms for child safety are in place?  > Have you tested the system with child users?	Inclusion:  > How inclusive and diverse is the composition of the development team? Is it multidisciplinary?  > Can others, and in particular children, participate and	
Explainability:  Is it clear to children that the system uses AI and how? If yes, how do you know this?  Can the system provide explanations understandable by children?	Conscious users:  > Are you empowering children to be conscious and critical digital users? How?	comment on your project?  Prepare for future:  > Are you empowering children as future users/developers/ leaders in AI? How?	

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Date:	Version:	Authors:	
Purpose/motivation  Description:			
Impact on children:	Values/principles:	Regulation:	
Destination of the second			
Design requirements			
Positive effects on children:	Negative effects on children:	Child development and well-being:	
Data protection and privacy:	Fairness/non-discrimination:	Transparency:	
Accountability and redress:	Safety:	Inclusion:	
,	,		
Explainability:	Conscious users:	Prepare for future:	

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