1 **CEN-CENELEC**   **CWAXXXXX**

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3 **AGEEMENT**

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6 English Version

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8 # Age appropriate digital services framework

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10 [CCMC will prepare and attach the official title page]

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13 representatives of interested parties, the constitution of which is indicated in the foreword of this
14 Workshop Agreement.

15 The formal process followed by the Workshop in the development of this Workshop Agreement has
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28 Switzerland, Turkey and United Kingdom.

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European foreword

This CEN/CENELEC Workshop Agreement has been developed in accordance with the CEN -CENELEC Guide 29 "CEN/CENELEC Workshop Agreements – A rapid prototyping to standardization" and with the relevant provisions of CEN/CENELEC Internal Regulations - Part 2. It was approved by a Workshop of representatives of interested parties on YYYY-MM-DD, the constitution of which was supported by CEN/CENELEC following the public call for participation made on YYYY -MM-DD. However, this CEN/CENELEC Workshop Agreement does not necessarily include all relevant stakeholders.

The final text of this CEN/CENELEC Workshop Agreement was provided to CEN/CENELEC for publication on YYYY-MM-DD.

The following organizations and individuals developed and approved this CEN/CENELEC Workshop Agreement:

• name organization/individual
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Introduction

This CWA is based on IEEE Std 2089™-2021, IEEE Standard for an Age Appropriate Digital Services Framework Based on the 5Rights Principles for Children. Used under license from The Institute of Electrical and Electronics Engineers, Incorporated.

Purpose

This specification provides a set of processes for digital services when end users are children, and, by doing so, aids in the tailoring of the services that are provided so that they are age appropriate. This is essential to creating a digital environment that supports, by design and delivery, children's safety, privacy, autonomy, agency, and health, specifically providing a set of guidelines and best practices and thereby offering a level of validation for service design decisions.

Use of the specification

The specification describes the set of processes by which engineers and technologists can consider children's rights and well-being throughout the stages of concept exploration and development. It provides implementable processes to help align innovation management to make processes, system design approaches, and software engineering methods age appropriate and, in doing so, reduce risk and, wherever possible, amplify the benefits of the digital world for end users under the age of 18.

The specification reflects the rights of children under the United Nations Convention on the Rights of the Child, further elaborated in the UNCRC General comment No. 25 (2021) as regards the digital environment. Many digital systems impact children in intended or unintended ways and, therefore, should take them into account. All organizations for which that is the case are encouraged to use this specification to help make that engagement age appropriate. This specification can be used to create services that build the digital world that reflects the full range of the rights of the child, including services that are safe and age appropriate.

Before using this specification, it is necessary to consider that your product or service is likely to be accessed by children or engage with children either directly, indirectly, or deliberately in the course of their operations. Data analytics, independent research, research about similar services and products, or research from surveys and research with children may help identify if and how your products, services, or systems engage with children and/or their data. In each case, if children use your services and/or if you collect children's data, this specification aims to help organizations create services that benefit children. This specification is based on the foundation that the 'best interests' (see Clause 3) of the child are placed in primary focus during the design of digital services.

To reach this goal, this specification supports organizations in identifying how their products and services impact children and how to verify that engagement is age appropriate. It is applicable within any life cycle model or set of methods for systems and software engineering and/or new or modified product or service development including brokering children's data. If organizations have running systems that cause risks to children, then the processes in this specification can be used for reiteration of analysis and redress.

Process overview

The goal of this specification is to enable organizations to design and deliver systems with the rights and well-being of children in mind. Age appropriateness includes a variety of values that support children. For example, values such as dignity, fairness, autonomy, sustainability, accountability and inclusivity. Age appropriateness also includes a variety of children's rights such as privacy, access to information, freedom of expression, participation, play, health and protection from sexual and economic exploitation. These values and rights are realized by this specification. This specification also supports values or attributes in systems typically considered in system engineering, such as functionality, efficiency, and effectiveness. An overview of the key processes in this specification is depicted in Figure 1.
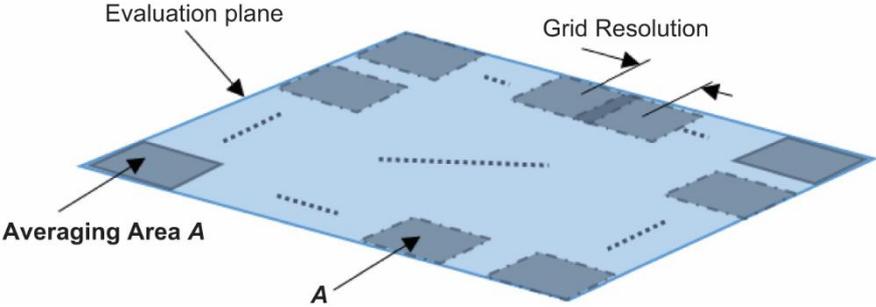
Figure 1—Relationship of processes and stages in IEEE Std 2089-2021

1 Scope

This specification establishes a set of processes for developing age appropriate digital services for situations where users are children. The specification has the following features:

a) Recognition that the user may be a child
b) Consideration for the evolving capacities of the child
c) Upholds the rights of children
d) Offers terms appropriate to children
e) Presents information in an age appropriate way
f) Offers a level of validation for service design decisions

This specification provides a specific impact rating system and evaluation criteria and explains how vendors, and public institutions used by children such as in the education, health, social welfare, and criminal justice sectors can meet the criteria.

This specification sets normative requirements for published terms, design, and delivery that can uphold children's rights and promote their well-being.

Data privacy and security are complex and highly regulated areas of law, particularly as related to children and young people. The relevant legal definitions and requirements are rapidly evolving, and may vary at the local, state, national, and regional level. It is also important to have regard for national and regional human rights laws which also apply to children, such as the European Convention on Human Rights and the EU Charter of Fundamental Rights applying the child's best interests as a primary consideration in all matters that affect them. No specification can provide unconditional consistency with all such laws and regulations. Users of this specification are responsible for referring to and observing all applicable legal and regulatory requirements, and should refer questions of compliance to competent legal counsel with expertise in the relevant jurisdiction.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO Guide 73:2009, Risk management—Vocabulary.[1]

ISO 9000:2005, Quality management systems—Fundamentals and vocabulary.

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[1] ISO publications are available from the ISO Central Secretariat (https://www.iso.org/). ISO publications are also available in the United States from the American National Standards Institute (https://www.ansi.org/).

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236 ISO 9000:2015, Quality management systems—Fundamentals and vocabulary.

237 ISO/IEC 25010:2011, Systems and software engineering—Systems and software Quality Requirements and
238 Evaluation (SQuaRE)—System and software quality models.[2,3]

239 ISO/IEC/IEEE 15288:2015, Systems and software engineering—System life cycle processes.[4]

240 ISO/IEC/IEEE 15289:2011, Systems and software engineering—Content of life-cycle information products
241 (documentation).

242 ISO/IEC/IEEE 29148:2018, Systems and software engineering—Life cycle processes—Requirements
243 engineering.

244 ISO/IEC/IEEE 42010:2011, Systems and software engineering—Architecture description.

245 UNCRC General Comment No. 14, Para.4, General Comment No. 5, Para. 12 CESCR General Comment No. 14:
246 The Right to the Highest Attainable Standard of Health (Art. 12).[5]

247 United Nations Convention on the Rights of the Child (UNCRC), 1989.[6]

248 UN Committee on the Rights of the Child General Comment No.25 (2021) on Children's Rights in Relation to the
249 Digital Environment.[7]

250 Universal Declaration of Human Rights (General Assembly resolution 217 A), United Nations General Assembly,
251 10 December, 1948.[8]

252 U.S. Code 230—Protection for private blocking and screening of offensive material, US Communications and
253 Decency Act, 1996.

254 In addition to the normative references listed above, consideration needs to be given to meeting the relevant
255 national and regional legislation and industry standards, in the jurisdictions(s) in which the service or product will
256 be offered, but there are instances where the law does not go far enough and so this specification sets the baseline
257 to prioritize the rights of children and may go beyond the requirements of the law. See also Annex E for examples
258 of regulations at the time of publication of the specification.

3   Terms, definitions, acronyms and abbreviations

3.1   Terms and definitions

261 For the purposes of this document, the following terms and definitions apply. The *IEEE Standards Dictionary*
262 *Online* should be consulted for terms not defined in this clause. [9]

263 **acquirer:** A stakeholder that acquires or procures a product or service from a supplier.

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[2] ISO/IEC publications are available from the ISO Central Secretariat (https://www.iso.org/). ISO/IEC publications are available in the United States from the American National Standards Institute (https://www.ansi.org/).

[3] IEEE publications are available from The Institute of Electrical and Electronics Engineers, 445 Hoes Lane, Piscataway, NJ 08854, USA (https://standards.ieee.org/).

[4] The IEEE standards or products referred to in this clause are trademarks of The Institute of Electrical and Electronics Engineers, Inc.

[5] Available at: https://www2.ohchr.org/English/bodies/crc/docs/GC/CRC_C_GC_14_ENG.pdf.

[6] See https://www.ohchr.org/en/professionalinterest/pages/crc.aspx.

[7] Available at: https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fGC%2f25&Lang=en.

[8] Available at: https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_217(III).pdf.

[9] *IEEE Standards Dictionary Online* is available at: http://dictionary.ieee.org. An IEEE Account is required for access to the dictionary, and one can be created at no charge on the dictionary sign-in page.

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264 NOTE—Other terms commonly used for an acquirer are buyer, customer, owner, purchaser, or internal/organizational
265 sponsor.[10]

266 **acquisition:** The process of obtaining a product, service, or system.

267 **activity:** A set of cohesive and purposeful tasks of a process.

268 **age appropriate:** products and services, terms and conditions and policies, that are (1) suitable for children in
269 general taking into account their rights and well-being, including rights specific to children such as the right to
270 play, and (2) suitable for children given their specific age or stage of development, pursuant to the evolving
271 capacities of children as referred to in Article 5 UNCRC.

272 **age appropriate register:** An information repository created for clarity, unambiguity and traceability reasons for
273 your product or service that contains data and insights gained in child impact exploration, prioritization, and
274 traceability into product/service requirements.

275 **age assurance:** An umbrella term for both age verification and age estimation solutions. The word "assurance"
276 refers to the varying levels of certainty that different solutions offer in establishing an age or age range.

277 **age estimation:** A process that establishes a user is likely to be of a certain age, fall within an age range, or is over
278 or under a certain age. Age estimation methods include automated analysis of behavioural and environmental data,
279 comparing the way a user interacts with a device with other users of the same age, and metrics derived from motion
280 analysis or by testing their capacity or knowledge.

281 **age verification:** A system that relies on hard (physical) identifiers and/or verified sources of identification that
282 provide a high degree of certainty in determining the age of a user. It can establish the identity of a user but can
283 also be used to establish age only.

284 **agreement:** Mutual acknowledgment of terms and conditions under which a working relationship is conducted,
285 for example, a contract or memorandum of agreement.

286 **architecture:** See ISO/IEC/IEEE 42010:2011.[11]

287 **audit:** See ISO/IEC/IEEE15288:2015.

288 NOTE—The scope includes professional and industry codes of practice.

289 **balancing:** Where one right comes into conflict with another, they should be balanced so that the "best interests"
290 of the child is paramount.

291 **best interest:** See: Article 3 UNCRC; UNCRC General Comment No. 14 (2013), Para. 4; General Comment No.
292 25 (2021) para. 12.

293 **benefit:** A positive outcome that is voluntarily or involuntarily created by an act, system, or process.

294 NOTE—Benefits correspond to one or more underlying desired values, and may also enable one or more children's rights.

295 **child:** For the purposes of digital services provided within the context of this specification, a child means every
296 human being below the age of 18.

297 **child-centred design:** A design approach that upholds children's rights and promotes their well-being in service
298 design and governance, ensuring the best interests of the child is a primary consideration in the design process.

299 **children's rights:** A framework of legal obligations covering civil, political, economic, social, and cultural rights
300 afforded to every child.

301 NOTE—Documented in the United Nations Convention on the Rights of the Child.

302 **concept of operations:** A verbal and/or graphic statement, in broad outline, of an organization's assumptions or
303 intent in regard to an operation or series of operations.

304 **concern:** See ISO/IEC/IEEE 42010:2011.

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[10] Notes in text, tables, and figures of a specification are given for information only and do not contain requirements needed to implement this specification.

[11] Information on references can be found in Clause 2.

305 **consent**: Any freely given, specific, informed, and unambiguous indication of the child's wishes by which they
306 (or the holder of parental responsibility over the child), by a statement or by a clear affirmative action, signifies
307 agreement to the processing of their personal data.

308 **context of use:** Intended operational environment for a system.

309 NOTE 1—The environment determines the setting and circumstances of all influences upon a system, including not only other
310 systems but also people, settings, social, and ecological factors, etc.

311 NOTE 2—Context of use can be captured using a Context of Use Description (See ISO/IEC 25063.3 [B2]).

312 **control:** The ability to determine the nature, sequence and/or consequences of technical and operational settings,
313 behaviour, specific events and/or experiences.

314 NOTE—Control includes cognitive control; that is being informed about activities; decisional control: having choices over
315 actions; and behavioural control; receiving feedback from actions.

316 **design:** (verb and noun) See ISO/IEC/IEEE 15288:2015.

317 **environment:** See ISO/IEC/IEEE 42010:2011.

318 NOTE—Also applies to products and services.

319 **ethical:** Supporting the realization of positive values or the reduction of negative values.

320 NOTE—In this definition, a system can be ethical or unethical in the sense that it bears value dispositions to cater to positive
321 value creation or negative value prohibition.

322 **evolving capacity:** As children acquire enhanced competencies, there is a greater capacity to take responsibility
323 for decisions affecting their lives.

324 **fair terms:** A concept that the terms of use for a product or service do not put the consumer at a disadvantage.

325 **functional requirement:** A statement that identifies what results a product or process shall produce.

326 **harm:** Any content or activity that is likely to have a detrimental impact on the physical, mental and moral well-
327 being or development of children.

328 **hazard:** A condition with a potential for causing harm.

329 **health:** A state of complete physical, mental and social well-being and not merely the absence of disease or
330 infirmity.

331 NOTE—As defined by the Constitution of the World Health Organisation

332 **human rights:** See Universal Declaration of Human Rights, United Nations General Assembly, 10 December
333 1948 (General Assembly resolution 217 A).

334 — International Convention on the Elimination of All Forms of Racial Discrimination (1965);

335 — International Covenant on Civil and Political Rights (1966); International Covenant on Economic, Social
336 and Cultural Rights (1966);

337 — Convention on the Elimination of All Forms of Discrimination against Women (1979);

338 — Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (1984);

339 — Convention on the Rights of the Child (1989);

340 — International Convention on the Protection of the Rights of All Migrant Workers and Members of Their
341 Families (1990);

342 — International Convention for the Protection of All Persons from Enforced Disappearance (2006);

343 — Convention on the Rights of Persons with Disabilities (2006). [https://www.ohchr.org/en/core-
344 international-human-rights-instruments-and-their-monitoring-bodies]

345 **information item:** See ISO/IEC/IEEE 15289:2011.

346 **life cycle:** Evolution of a system, product, service, project, or other human-made entity from conception through
347 retirement.

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life cycle model: A framework of processes and activities concerned with the life cycle that may be organized into stages, which also acts as a common reference for communication and understanding.

non-functional requirement: A requirement that describes not what the system will do but how the system will do it.

operational concept: See ISO/IEC/IEEE 15288:2015.

NOTE 1—The concept of operations is produced at an early conceptual stage in describe system functions and relationships from a user's point of view. The operational concept details how the system will be operated in production.

NOTE 2—The operational concept should include all major product, service, or system elements and/or system components, boundaries, and directly adjunct elements beyond boundaries, internal, and external input elements (i.e., databases and/or applications serving the system that may be outside of the product or service's boundaries) and output elements (i.e., databases and/or applications serving the system that may be outside of the product or service's boundaries).

NOTE 3—The operational concept should preferably be visualized.

operator: An individual or organization that performs the operations of a product, service, or system.

NOTE 1—The role of operator and the role of user can be vested, simultaneously or sequentially, in the same individual or organization.

NOTE 2—An individual operator combined with knowledge, skills and procedures can be considered as an element of the service or system.

NOTE 3—An operator may perform operations on a product or service that is operated, or of a product or service that is operated, depending on whether or not operating instructions are placed within the product or service's boundary.

opportunity: A condition or state with a potential to lead to a benefit or gain for the upholding of children's rights and promotion of their well-being.

organization: A group of people and facilities with an arrangement of responsibilities, authorities and relationships, for example, corporations, firms, enterprises, institutions, charities, a sole trader, associations, or parts or combinations thereof.

NOTE—An identified part of an organization (even as small as a single individual) or an identified group of organizations can be regarded as an organization if it has responsibilities, authorities, and relationships. A body of persons organized for some specific purpose, such as a club, union, corporation, or society, is an organization.

parent: The legal guardian of a child.

NOTE—For the purposes of this specification, "parent" can mean parents, legal or state appointed guardians, or, in certain limited circumstances, another adult in a position of authority, such as an educator, consistent with all applicable laws and regulations for the relevant jurisdiction.

persona: An archetypal user of a product, service, or system.

NOTE 1—Personas represent the needs of a larger group in terms of their goals, expectations, and personal characteristics. They help to guide decisions about system design and design targets.

NOTE 2—The term "persona" stems from the field of usability design where personas are typically described in a storytelling exercise. Project teams put themselves in the shoes of their potential stakeholders. They bring personas to life by giving them names, personalities, and photos.

problem: A difficulty, uncertainty, or otherwise realized and undesirable event, set of events, condition, or situation that requires investigation and corrective action.

process: See ISO 9000:2005.

product: The result of a process.

NOTE—There are four agreed generic product categories: hardware (e.g., engine mechanical part), software (e.g., computer program), services (e.g., transport), and processed materials (e.g., lubricant). Hardware and processed materials are generally tangible products, while software or services are generally intangible.

program: Related projects, subprograms and program activities managed in a coordinated way to obtain benefits not available from managing them individually.

project: An endeavour with defined start and finish criteria undertaken to create a product or service in accordance with specified resources and requirements.

10

396 **published terms:** *Any* document that sets out rules or basis upon which a child and an organization engage with
397 each other, including but not limited to community standards, terms and conditions, and a privacy notice.

398 **quality assurance:** See ISO 9000:2015.

399 **quality management:** See ISO 9000:2005.

400 **requirement:** See ISO/IEC/IEEE 29148:2018.

401 **resource:** An asset that is utilized or consumed during the execution of a process.

402 NOTE 1—Includes diverse entities, such as funding, personnel, facilities, capital equipment, tools, and utilities, such as power,
403 water, fuel, and communication infrastructures.

404 NOTE 2—Resources include those that are reusable, renewable, or consumable.

405 **reward:** A positive outcome arising from an opportunity.

406 NOTE 1—Similar but opposite to the concept of risk, reward is characterized by the likelihood of attaining some beneficial
407 outcome and the magnitude of the gain.

408 NOTE 2—Reward is expressed in terms of combination of the likelihood and extent of a benefit being realized.

409 **risk:** See ISO Guide 73:2009.

410 NOTE 1—An effect is a deviation from the expected—positive or negative. A positive effect is also known as an opportunity.

411 NOTE 2—Objectives can have different aspects (such as financial, health and safety, and environmental goals) and can apply
412 at different levels (such as strategic, organization-wide, project, product, and process).

413 NOTE 3—Risk is often characterized by reference to potential harmful events and consequences, or a combination of these.

414 NOTE 4—Risk is often expressed in terms of a combination of the consequences of an event (including changes in
415 circumstances) and the associated likelihood of occurrence.

416 NOTE 5—Uncertainty is the state, even partial, of deficiency of information related to understanding or knowledge of an event,
417 its consequence, or likelihood.

418 NOTE 6—Risks to children in the digital environment can be classified by means of the OECD risk typology covering Content,
419 Contact, Conduct and consumer risks, including contract risks as well as cross-cutting risks, including privacy risks, advanced
420 technology risks, risks to health and well-being.[12]

421 **risk treatment:** The process, procedures, methodologies, and means that provide a basis for and facilitate the
422 reduction or elimination of an intolerable risk.

423 **service:** The performance of activities, work, or duties. This includes freemium services.

424 NOTE 1—A service is self-contained, coherent, discrete, and can be composed of other services.

425 NOTE 2—A service is generally an intangible product.

426 **stage:** A period within the life cycle of an entity that relates to the state of its description or realization.

427 NOTE 1—Sages relate to major progress and achievement milestones of the entity through its life cycle.

428 NOTE 2—Stages often overlap.

429 **supplier:** An organization or an individual that enters into an agreement with the acquirer for the supply of a
430 product or service.

431 NOTE 1—Other terms commonly used for supplier are contractor, producer, seller, or vendor.

432 NOTE 2—The acquirer and the supplier sometimes are part of the same organization.

433 **system:** A combination of interacting elements organized to achieve one or more stated purposes.

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[12] Livingstone, S., & Stoilova, M. (2021). The 4Cs: Classifying Online Risk to Children. (CO:RE Short Report Series on Key Topics).
Hamburg: Leibniz-Institut für Medienforschung | Hans-Bredow-Institut (HBI); CO:RE - Children Online: Research and Evidence.
https://doi.org/10.21241/ssoar.71817; Children in the digital environment, Revised typology of risks, OECD Digital Economy Papers,
January 2021, No. 302

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434 NOTE—A construct or collection of different elements that together produce results not obtainable by the elements alone. The
435 elements, or parts, can include people, hardware, software, facilities, policies, processes and documents; that is, all things
436 required to produce systems-level results.

437 **system characteristic:** Attributes or distinguishing features pertaining to a system.

438 **system element:** A member of a set of elements that constitute a system. For example, hardware, software, data,
439 humans, processes (e.g., processes for providing service to users), procedures (e.g., operator instructions),
440 facilities, materials, and naturally occurring entities or any combination.

441 NOTE—A system element is a discrete part of a system that can be implemented to fulfil specified requirements.

442 **task:** A required, recommended, or permissible action, intended to contribute to the achievement of one or more
443 outcomes of a process.

444 **trade-off:** A decision-making action that selects from various requirements and alternative solutions on the basis
445 of net benefit to the stakeholders.

446 **top management:** A person or group of people who direct and control the organization at the highest level.

447 NOTE—Top management can be the owner of an organization, majority shareholders, senior manager in the organization, or
448 members of the governing board.

449 **unfair terms:** Terms that do not meet the definition of "fair terms." *See also:* **fair terms**.

450 **user:** See ISO/IEC 25010:2011.

451 NOTE—The role of user and the role of operator are sometimes vested, simultaneously or sequentially, in the same individual
452 or organization.

453 **validation:** See ISO 9000:2015.

454 NOTE—A system is able to accomplish its intended use, goals and objectives (i.e., meet stakeholder requirements) in the
455 intended operational environment. The right system was built.

456 **value:** Something desirable that influences the selection from available modes, means and ends of action.
457 Examples of positive values include love, privacy, security, transparency, accountability, generosity, dignity,
458 courage, and fairness. Examples of negative values include bias, ambiguity, absence of privacy, selfishness, and
459 greediness.

460 **value lead:** The person assigned to coordinate and conduct related to value elicitation and prioritization and
461 traceability of values through the requirements and design artifacts.

462 **verification:** See ISO 9000:2005.

463 **well-being:** children's well-being promotes emotional regulation, self-actualisation, empowerment, creativity,
464 safety & security, diversity equality & inclusion, and the child's feelings of competence.

3.2 Acronyms and abbreviations

466 AADSF Age Appropriate Digital Service Framework

467 AAR Age Appropriate Register

468 CCCM Change Control and Configuration Management

469 CSEA child sexual exploitation and abuse

470 UNCRC United Nations Convention on the Rights of the Child

4 Conformance

472 The processes in this specification allow an organization to construct a life cycle and/or design and develop
473 methodologies appropriate to make its product and services age appropriate.

12

474 This specification can be used in one or more of the following modes:

475 — *By an organization:* to help establish appropriate processes. These processes can be supported by an
476 infrastructure of policies, methods, procedures, techniques, tools, and trained personnel to support the
477 organization to perform and manage its projects and systems through each of their life cycle stages. In
478 this mode this specification is used to assess if the organization is conducive to age appropriate
479 outcomes.

480 — *By a project team:* to help select, structure, and employ the elements necessary to provide age
481 appropriate products and services. In this mode, this specification is used to determine the project's
482 requirements and assess if the project's outcome is age appropriate for an end user that is a child.

483 — *By an acquirer and a supplier:* to help develop an agreement concerning processes and activities that
484 are age appropriate. Via the agreement, the processes and activities in this specification are selected,
485 negotiated, agreed to, and performed. In this mode this specification is used for guidance in developing
486 an age appropriate agreement.

487 — *By process assessors:* to serve as a process reference model for use in the performance of process
488 assessments that may be used to support organizational process improvement for digital services and
489 products that engage with children.

490 There is only one criterion for claiming full conformance: full conformance to both outcomes and tasks. Full
491 conformance to outcomes and tasks is achieved by demonstrating that all of the outcomes and the required
492 activities and tasks in Clause 7 through Clause 15 have been achieved. The inputs and outputs shown in Clause 7
493 through Clause 15 are not requirements except as specifically required in the activities and tasks. The inputs and
494 outputs are demonstrable predictors of the outcome in each process.

5   Key concepts and application
495

5.1   General application
496

497 This specification is usable by organizations that engage in system and software engineering and product and
498 service design and development. This includes in particular:

499 — Organizations providing services and products that engage with children or are likely to be accessed by
500 or engage with children, either directly, indirectly, deliberately, or in the course of their operations

501 — Organizations building a new generic or application-specific product, service, or system from scratch
502 that may engage with children or are likely to be accessed by or engage with children either directly,
503 indirectly, deliberately, or in the course of their operations

504 — Organizations implementing a major revision on an existing product, service, or system that may
505 engage with children or are likely to be accessed by or engage with children either directly, indirectly,
506 deliberately, or in the course of their operations

507 — Organizations planning the acquisition of a tailored product, service, or system that may engage with
508 children or are likely to be accessed by or engage with children either directly, indirectly, deliberately,
509 or in the course of their operations

510 — Research organizations (including universities) that build a new product, service, or system from
511 scratch or adapt an existing entity in the course of their research activities that may engage with children
512 or are likely to be accessed by or engage with children either directly, indirectly, deliberately, or in the
513 course of their operations

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5.2 Specified context of use

Many organizations engage with children intentionally, others engage with children in the course of their general activities. Some impact on children without engaging directly with them, and some engage unintentionally. In each case the organization has a responsibility to that child to provide an age appropriate service. Designing or reconfiguring a product or service to be age appropriate means you take steps necessary to offer a product or service that is designed with child users in mind taking into account the age range of your audience and the needs of children at different ages and stages of development. Clause 7 sets out the methodology of interrogating the service from the point of view of the established rights of children promotes their well-being and provides any organization a starting point from which to adapt its service to be age appropriate.

Systems support values relevant to a context of use. For example, with different contexts (school, game, home, public body) come different considerations and impacts. This specification assumes that systems can apply their methodologies and child-centred values to take specific actions that are relevant across different use contexts.

In addition to this, consideration needs to be given to verify relevant national and regional legislation and industry standards in the jurisdiction(s) in which the service or the product will be offered are met, including the following:

— Data protection law, including regulations that protect children's data specifically

— Human rights legislation including civic, political, economic, and social rights

— Consumer legislation

— Equality legislation

— Children's acts or other legislation that covers treatment of children (for example, education, health, justice)

— Health and safety legislation

— Such legislation and regulations that protect children and promote their rights in any jurisdiction

5.3 The organization

This specification is intended to be used in systems and software engineering and digital services organizations of all types and sizes, whether they apply a hierarchical or a relatively flat organizational model. It is also usable by components of an organization, such as a product development team or a corporate division, although conformance to the specification will likely require participation across organizations in an integrated value/supply chain. It is intended for local, regional, national, or international use with various cultural values and governance systems. In applying this specification, one person can assume many roles, and one role can be held by numerous individuals or subgroups within the organization. There are no requirements for independence of roles in this specification, but the duties associated with all roles shall be fulfilled.

Design and service provision decisions that impact children are not the sole responsibility of top management, although top management has an undeniable role in setting expectations for organizational values and priorities and establishing control of performance and final outcomes. This specification requires the informed judgment of systems and software engineers while making design decisions about a system under development and may not be left solely to management. Both engineers and others in the organization, including those with responsibility for compliance, can benefit from learning and regularly applying specific processes and methods to make age appropriate choices throughout the life cycle. Just as engineering analyses, decisions, and risk assessments have always involved balancing and trade-offs of priorities and values, in this context, engineers participate as the organization balancing and finding solutions for competing interests (e.g., risks/harms). Although involvement with internal or external experts (e.g, in child rights or child development) may improve outcomes and efficiency, it is not required to engage an expert to conform with the specification.

5.4 Stakeholders

There may be a wide range of stakeholders involved in the products and services that impact children. Internal stakeholders include the many roles required to commission, develop, build, and market products and services. Primary stakeholders include, for example, a child, groups of children, parents, educators—and often adults. There

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may be third parties that have specific interests, for example, an owner or developer of an app will have an interest and be affected by an app store's policies and practices, a regulator, a trade association to whom the system owner is accountable, or a data broker or agent that may impact the child in ways that are both visible and unseen. Additionally, there are those who interfere or exploit digital systems, such as hackers, scammers, predators. These groups of stakeholders often have an asymmetric influence on the design of the product. An asymmetric influence means having more power to assert your interests and views. Typically, those connected with the proprietary ownership of the technology are the most influential and the end user may only have the power to reject or accept the product or service in its entirety. In the case of systems that impact a user without their knowledge, for example by obtaining their data from a third party, they may have no influence at all. This power imbalance is particularly acute when the end user is a child. This specification offers a set of processes that engage stakeholders with each other to develop a product or service that upholds the rights of children and promotes their well-being. The person(s) or company building the product or service can, by following this specification, identify the risks and benefits of their system to children and take steps to mitigate risks, amplify benefits, and keep both under review. This set of processes does not seek to undermine engineering realities, nor does it offer an aspirational or perfect world for children, rather it offers actions that, if followed, will make your product or service conscious of and suitable for the children you engage with. They describe a set of minimum requirements without prejudice to the implementation of higher standards based on (international or regional) best practice. It is anticipated that smaller or newer companies will seek to adopt or purchase age appropriate systems built by others. In that instance they should adopt certified products or products that come from trusted sources.

5.4.1 Children as users

Along with these internal stakeholders and the customer, the class of stakeholders that is intrinsic to age appropriate design is the users, in this instance, a child. Users frequently are categorized by the levels or types of system access and permissions they need to perform various tasks, or have services provided to them. These include the hands-on system operators (often agents of the customer) as well as those who benefit from or are harmed by use of the system, both through direct transactions using the system and through its impact on the environment and their culture. The word "users" here also includes those whose personal data is held in a system, whether they have access to that data or are aware of that data or not. In the case of children, there cannot be a presumption that they are able to assess the risk or benefits of use of any system nor that providing "more information" is a suitable response to offering an age appropriate service, informing them of their rights, or trying to meet their needs. Nor can it be assumed that all children have a parent or adult in loco parentis who is engaged, literate, skilled or able to act on their behalf. The purpose of the specification is to provide children with services and products that consider the vulnerabilities associated with their age and are age appropriate by default. Not all children are the same, and children of different ages, contexts, ethnicity, capacity, and socioeconomic groups may require different levels of support or consideration. By capacity, we mean primarily but not exclusively the cognitive ability to comprehend materials plus the ability to be able to read materials. Designers need to take particular care that the system design and algorithms do not unjustifiably favour or select users in certain geographic areas, of certain biometric or demographic characteristics, or based on unvalidated reports and unfairly target or exclude other classes of users.

5.4.2 Who can threaten the best interest of the child?

Certain actors may have interests that oppose the system or may interfere with its use. These include competitors, cybersecurity hackers, or opponents of the organization, system owner, or customer. There is also a significant group of producers and consumers of child sexual abuse material who may seek to access the service for illegal purposes.

5.4.3 Who can or must support the best interest of the child?

Other external stakeholders can offer divergent perspectives. Government regulators and external advocacy groups, whose expertise, cultural norms, and values may differ from the system owner, can expose a clash in values or demand a higher bar of safety or benefit for children. These conflicting and often oppositional values may even constrain and/or aid the decisions of the system owners that are a direct threat to the needs, rights, and values of children. To counteract any threats to children, the organization may consider the use of the third-party assessors, and independent verification and validation contractors. These are other types of stakeholders who can point out flaws or unstated assumptions that have influenced or skewed the organization's ethical choices against the needs,

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rights, and values of children. This specification helps to identify how internal and external stakeholders, users, opponents, and independent authorities can be treated differently when age appropriateness and risks are evaluated. Information about potential system characteristics and performance and the balance of values and stakeholder interests are rarely shared openly with all stakeholders. Therefore, it is one of the goals of this specification to present a set of processes that helps organizations to better address competing stakeholder interests and values.

5.5   Stages and processes

This specification allows any organization, systems developer, or digital services provider to achieve the requirements in this specification by means of their own set of standard system development processes, methods and practices. This specification has distinct processes which can be applied to systems and software engineering and which relate to the general processes in ISO/IEC/IEEE 15288:2015 and ISO/IEC/IEEE 12207:2017 (see Annex C).

This specification is intended to be suitable for use by organizations and software projects using iterative approaches and methods as well as in those using other formal engineering approaches.

The activities and tasks in this specification are not sufficient by themselves to produce a product or service. They are intended to be an integral part of an organization's comprehensive approach to managing the development of a product or service.

This specification does not prescribe a sequence of processes within the life cycle model. However, many of the activities and tasks logically apply outputs from other tasks, so there is an inherent sequence of activities that can be applied iteratively. The sequence of the processes is determined by project objectives and by selection of the life cycle model. But to conform to the specification all processes shall be undertaken and achieved.

6   Key roles in Engineering project teams for age appropriate design

6.1   General

There are many roles required to successfully complete the tasks and activities outlined in this specification. The roles and their associated competencies that shall be fulfilled are documented in 6.2. These roles may be assigned to one or many people so long as the workload, competencies, and accountabilities are all met. There is no requirement for a separate team member for each role.

6.2   Role descriptions

6.2.1   Top Management Champion

The Top Management Champion sets strategic policy and enables work as a leader in the organization, e.g., part of the executive board, Chief Executive Officer, Chief Technology Officer, Chief Information Officer, Chief Operating Officer, Chief Experience/Design Officer, or someone who is responsible for the unit or area in which the system is developed. In the case of a Very Small Entity, the role of the Top-Management Champion may be filled by the entity's owner.

The responsibilities of the Top Management Champion include the following:

a)   Establish corporate commitment to age appropriate products or services

b)   Help project teams to uphold age appropriate priorities

c)   Resolve conflicts in strategies and age appropriate priorities

d)   Uphold these priorities throughout the system's life cycle

e)   Direct communications with leaders of customer, deploying, or acquiring organizations regarding age appropriate outcomes and technical decisions made in system design

f)   Receive and direct responses to concerns and information from project team members or stakeholders about project decisions

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653   g)   Communicate with the board, shareholders, customers, and team both regularly and when needed

654   h)   Support a culture of age appropriate priorities from hiring values to core business model

6.2.2 System Expert

656   The System Expert contributes understanding of existing systems, potential capabilities for new systems, and the
657   context for operation of the product or service (the installed base of legacy systems and technologies with which
658   the new system is to be interoperable), e.g., a systems engineer, software engineer, hardware engineer,
659   requirements engineer, business analyst, or systems architect.

660   The responsibilities of the System Expert include the following:

661   a)   Listen to stakeholders and team members to understand concerns and potential solutions rather than
662   jumping to a readily available technical solution

663   b)   Develop system/software requirements that enable age appropriate design

664   c)   Evaluate alternatives and trade-offs for suitability to the context of operation and the organization's long-
665   term strategy while maintaining the commitment to age appropriate design and the best interests of the
666   child

667   d)   Optimize technical solutions to support age appropriate values among a range of system requirements

6.2.3 Age Appropriate Lead

669   The Age Appropriate Lead focuses on the identification, analysis, and prioritization of age appropriate outcomes
670   and their incorporation in the system/service design. The Age Appropriate Lead contributes subject matter
671   expertise and facilitative skills, bridging gaps between engineering, management, and age appropriate outcomes
672   in a constructive way. The Age Appropriate Lead also leads the identification, analysis, and mitigation of risks to
673   age appropriate outcomes for an organization or project.

674   The responsibilities of the Age Appropriate Lead include the following:

675   a)   Organize, analyse, communicate, and record age appropriate concepts, concerns, activities, and decisions
676   in a project

677   b)   Include other stakeholders in an inclusive and timely fashion

678   c)   Facilitate discussions and age appropriate-related activities to accompany a project in its design efforts

679   d)   Build benefits to children and organization through practices like participatory design

680   e)   Apply age appropriate risk evaluation and assessment methodologies for design and development stages

681   f)   Establish and sustain activities to manage different age appropriate risks and priorities throughout the life
682   cycle

683   g)   Manage the formation, updating, and integrity of the Age Appropriate Register (AAR) (see Annex B)

6.2.4 Child Rights Advocate

685   The Child Rights Advocate represents future direct and indirect child users of the system, working with
686   functionally oriented members of the design team.

687   The responsibilities of the Child Rights Advocate include the following:

688   a)   Apply a child's rights perspective to products or services with the aim of embedding age appropriate values
689   and resolving conflicts in the best interests of children

690   b)   Represent stakeholder groups, including children, that cannot be directly involved in project team meetings

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6.2.5 Senior Product Manager

The Senior Product Manager in an organization directs the development, supply, or sustainment of one product or a portfolio or products at some part of the product life cycle.

The responsibilities of the Senior Product Manager include the following:

a) Lead the vision and application of age appropriate development principles for service and product design

b) Direct the implementation of age appropriate decisions within engineering, user experience design, marketing and outreach, policy compliance, and/or customer support teams

6.2.6 Moderator

The Moderator brings sufficient knowledge of the technical domain and relevant context to moderate discussions with stakeholders, including children.

The responsibilities of the Moderator include the following:

a) Elicit information, viewpoints, and recommendations from all stakeholders, including children

b) Encourage fair and equitable consideration of different views without allowing individuals to dominate the discussion

c) Mediate between different viewpoints and help participants reach thoroughly strategic, practical, and valuable outcomes for children

d) Articulate the full range of views to superiors including but not limited to the Senior Product Manager and the Age Appropriate Lead

6.2.7 Transparency Manager

The Transparency Manager leads the communication of technical options, decisions, and system functions to stakeholders in a way that is understandable to them.

The responsibilities of the Transparency Manager include the following:

a) Record decisions in a consistent and as easily retrievable form, including those who are accountable for the decisions

b) Track and report related decisions in keeping with the principle of transparency

c) Verify that considerations about transparency are made at regular intervals and crucial milestones

d) Consider releasing the Exploration of Context for Children, as created in Clause 7

6.3 Team competency

It is prudent to select for team roles on the basis of competence. In this context, competence is the ability to perform a task correctly, knowledgably, efficiently, and consistently to a high quality under varying conditions to the satisfaction of the end client. Competency may also be attributed to a group or a team when a task is performed by more than one person in view of the multidisciplinary nature, complexity, or the scale. A suitably competent person or team requires requisite qualities and capabilities, as follows:

a) Technical domain knowledge: empirical, academic, or a blend of both

b) The experience of application (knowing what works) in different contexts and the requisite skills

c) Drive and motivation to achieve the goals and strive for improvement or excellence

d) Sharing appropriate behaviours, such as teamwork, leadership, and compliance with professional codes

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728   e)   The ability to adapt to changing circumstances and demands by creating new knowhow

729   f)   The ability to perform requisite tasks efficiently and reduce waste of physical and virtual resources

730   g)   The ability to understand the needs of stakeholders and deliver high quality service

731   h)   A commitment to creating an age appropriate product or service

732   The above capabilities are fundamental to a person or group of people (a team) being competent in achieving the
733   desired outcomes consistently and efficiently, satisfying or exceeding expectations for providing an age
734   appropriate services or products.

7 Preparation phase

7.1 Purpose

737   The purpose of this process is to undertake an initial overview of your service or product and identify the potential
738   and or known impacts. It is the first step of this specification.

7.2 Outcomes

740   When you have successfully implemented the Preparation phase, you shall be able to show the following:

741   a)   Design features and data processing activities in your product or service that have an impact on children's
742   rights and well-being, both those manifest by normal operation as well as those that are as a result of
743   misuse and malicious intent are identified

744   b)   A comprehensive and holistic AAR is created (See Annex B)

745   c)   All hazards, opportunities, and requirements for age appropriate design and operation of the product or
746   service are identified

747   d)   The steps necessary to embed children's rights, needs and well-being in the product of service are clarified

748   e)   The risks associated with a product or service may be available via the initial AAR

749   f)   The benefits the products or service may bring to children's rights, and well-being

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7.3 Activities and tasks

752   The project shall implement the following activities and tasks in accordance with applicable organization policies
753   and procedures with respect to the child rights impact assessment as follows:

754   a)   Undertake an initial impact assessment of how your product or service upholds children's rights, and
755   promotes their well-being

756   1) Organize your team and appoint role holders and verify that they act in good faith and in the best
757   interests of the child

758   2) Plan for and identify key stakeholders to participate in the impact assessment through the following
759   means:

760   i)   Forming a representative panel of stakeholders or independent stakeholder advocates with
761   sufficient expertise to represent all parties

762   ii)   Creating mechanisms by which a diverse range of children can be consulted directly or
763   with the help of a third party. This may be through participation on your stakeholders'
764   panel or through other means. This could be interviews, focus groups, surveys, or formal
765   participatory and codesign processes, among others

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iii) Creating mechanisms by which a diverse range of parents can be consulted directly or with the help of a third party. This may be through participation on your stakeholders' panel or through other means. This could be interviews, focus groups, surveys, or formal participatory and codesign processes, among others

3) Identify and record all impact on children's rights and well-being and address all the known sources of common hazards or opportunities in addition to identifying further sources of hazards that may be unique to the product or service, verifying that they include the following:

i) All functional, non-functional, and operational aspects and scenarios that potentially impact children, with due regard for the evolving capacities of the child, differences between children in terms of age and capacity, and also intersectional vulnerabilities such as gender, ethnicity, and disability

ii) Both intentional impacts and unintentional impacts on children's rights and well-being

iii) Normal and misuse/abuse cases

iv) Accounting for all risks to children, according to the OECD risk typology, including content, contract, conduct, consumer risks as well as the cross-cutting risks (privacy risks, advanced technology risks and risks to health and well-being)

NOTE: consumer risks also include contract risks

v) Accounting for any legislation or protections that pertain to your jurisdiction, including fair terms, data protection law, and human rights law

vi) Accounting for children's rights under the UNCRC, including specifically the UN General Comment 25 on children's rights in relation to the digital environment

vii) Accounting for risks arising from your data processing

viii) Accounting for risks that arise from design features deployed in combination with other features, which in isolation are not judged problematic

ix) Accounting for risks that develop over time as well as those that present immediate risk of harm

4) Consult and verify the outcomes with your stakeholders' panel or stakeholders' advocates, including children and parents

5) Verify that children's views are reflected through additional means where necessary, which may involve your diverse range of mechanisms and diverse consultation mechanisms (as required by 7.3.a.1.ii)

6) Document all impacts on children as agreed by your team and stakeholders and children

7) Identify and note all legal, regulatory, and best practice requirements for the product or service that need to be implemented

b) Establish an AAR

1) Adopt or define an appropriate information structure and platform for an AAR (see Annex B)

2) Record all hazards, opportunities, associated preliminary mitigation or fostering measures, as well as legal and best practice requirements

c) Consider publishing the findings of your Preparation phase and AAR

NOTE—These activities can benefit from close cooperation with stakeholders and the guidance of the age appropriate value lead.

7.4 Inputs

The following resources constitute a suitable, but neither exhaustive nor normative, suite of the process inputs:

20

809   a)   A product or service that engages with children directly, indirectly, or unintentionally

810   b)   A clear understanding of what the service/product does and how it operates (concept of operation) in order
811   to shape the terms of the offer

812   c)   A route or mechanisms by which you are able to test your terms with children directly or with the help of
813   a third party

814   d)   Sufficient resources and developer time to mitigate any risks or violations identified by the child impact
815   assessment, including those needed for moderation, redress, and expert advice

816   e)   Organizational commitment to age appropriate service and upholding published terms at a strategic
817   leadership level and throughout the organization

818   7.5   Outputs

819   The following work products constitute a suitable but non-exhaustive suite of the process deliverables:

820   a)   An AAR

821   b)   An agreed holistic child-rights based process by which to evaluate, assess, mitigate, manage, and test
822   changes in relation to risks presented to children, as well as benefits and opportunities to promote
823   children's rights and their well-being

824   c)   A process through which changes are user tested with a diverse audience of children and iterated to
825   incorporate their views and needs

826   d)   Published terms that include clear understanding of residual impacts and risks to children

827   e)   An organizational Age Appropriate Policy Statement

828   8   Recognizing child users and meeting their needs and diversity

829   8.1   Purpose

830   The purpose of this process is to prepare the product or service for child users, and to recognize them when they
831   engage with the product or service, so that the product or service is able to meet needs arising from their age, level
832   of development or circumstance.

833   8.2   Outcomes

834   When you have successfully implemented the Recognizing Child Users and Meeting their Needs and Diversity
835   process, you shall be able to show the following:

836   a)   Where relevant, privacy preserving age assurance mechanisms proportionate to the risk and nature of your
837   product or service

838   b)   A set of steps to identify children to offer them an age appropriate service or, alternatively, a product or
839   service that is appropriate for all users, including children

840   c)   Published terms that are responsive to the evolving capacity and inclusive of all children and young people

841   8.3   Activities and tasks

842   The project shall implement the following activities and tasks in accordance with applicable laws, regulations,
843   organization policies and procedures with respect to the recognition of children.

844   a)   Consider child age/capacity, which consists of the following tasks:

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1) Consider the nature of your service and the appropriate age assurance tools/approach required to establish the age/capacity of users, including age verification, age estimation, and third party confirmation as appropriate, in conformity with established standards and official guidance. Any age assurance systems should meet the following minimum standards:

i)   Protect the privacy of users in accordance with applicable laws, including data protection laws and obligations and human rights laws, in particular only process the data strictly necessary for the given purpose of age assurance

ii)   Be proportionate to the risks arising from the product or service and to the purpose of the age assurance system.

iii)   Offer functionality appropriate to the capacity and age of a child who might use the service

iv)   Be secure and prevent unauthorised disclosure or security breaches, and not use data processed for the purposes of the age assurance system for any other purpose

v)   Provide appropriate mechanisms and remedies for users to challenge or change decisions if their age is wrongly identified

vi)   Be accessible and inclusive to users, particularly also to users with protected characteristics

vii)   Not unduly restrict access of children to services to which they should reasonably have access, for example, news, health and education services

viii)   Provide sufficient and meaningful information for a user to understand its operation, in a format and language that they can be reasonably expected to understand, including if they are a child

ix)   Be effective in assuring the minimum age or age range of a user as legally required

x)   Not rely solely on information provided by the user when age verification is legally required or the context raises risks for children

2) Implement appropriate age assurance measures where necessary.

3) If your service or a particular part or feature thereof should - for legal/regulatory reasons or in accordance with contractual terms and conditions – not be made available to children under a given age, then take steps to comply with the law or applicable terms and conditions by adequately preventing access or making the relevant service or feature unavailable to children under that age.

b)   Offer a service appropriate to the age of the user designed to uphold their rights and promote their well-being, which consists of the following tasks:

1)   Reduce and address harmful content as follows:

i)   Reduce automated recommendation of material that may be harmful for children's development

ii)   Prevent products and services from recommending poor quality information

2)   Reduce and address harmful contact as follows

i)   Implement high privacy by default settings

3)   Reduce and address harmful conduct as follows:

i)   Uphold community rules.

ii)   Offer a high bar of moderation.

iii)   Offer swift and easy access to expert advice.

iv)   Offer swift and easy access to redress (see 11.3.b)).

22

890   v)   Protect from design features that extend use, particularly at night.

891   vi)   Encourage time off.

892   4)   Reduce and address harmful consumer risks as follows

893   i)   Require and obtain valid, informed, and meaningful consent that is transparent about the
894 risks associated with the nature and features of product or service. Valid and meaningful
895 consent shall be obtained from children and, where necessary, parents or a responsible
896 adult, consistent with all applicable laws and regulations.

897   ii)   Avoid exploitative persuasive design features such as dark patterns as well as gambling-
898 style features.

899   iii)   Ensure verified parental permission is obtained if required by applicable laws and
900 regulations

901   5)   Offer a high bar of data protection and only process children's personal data if it's in their best
902 interest.

903   6)   Prevent and address harm which results from any combination of risks according to the OECD
904 risk typology, including content, contact, conduct, consumer risks as well as the cross cutting
905 risks (privacy risks, advanced technology risks and risks to health and well-being).

906   c)   Verify inclusivity, which consists of the following tasks:

907   1)   Offer content in local languages, including moderation and redress.

908   2)   Consider the needs of vulnerable groups and protect specific group's gender, race, ethnicity,
909 sexuality or disability.

910   3)   Consider the needs of children who may not have active parents or caretakers.

911   d)   Verify accessibility, which consists of the following tasks:

912   1)   Verify that your product or service meets the latest accessibility requirements such as Web
913 Accessibility Directive (WAD), European Accessibility Act (EAA) and standards such as EN
914 301 549 Accessibility requirements for ICT products and services.

915   2)   Accommodate children with special educational needs or disabilities

916   3)   Consider the affordability of your product or service.

917   e)   Record all obstacles, unfair terms, hazards, opportunities, and identified requirements to recognizing
918 children in the AAR.

919   NOTE—these activities can benefit from close cooperation with stakeholders and the guidance of the value lead.

920 ## 8.4   Inputs

921 The following resources constitute a suitable, but neither exhaustive nor normative suite of the process inputs:

922   a)   A product or service for which published terms are necessary

923 ## 8.5   Outputs

924 The following work products constitute a suitable but non-exhaustive suite of the process deliverables:

925   a)   Product or service that is child-centred by design and responsive to the unique developmental capacities
926 of diverse children, upholding children's rights and promoting their well-being

927   b)   Published terms that can respond to the age and capacity of its users

928   c)   Updated AAR with all child related hazards, opportunities and identified requirements

23

9   Upholding children's rights

9.1   Purpose

The purpose of this process is to verify that the design and published terms for the product or service embody children's rights and promote their well-being

NOTE—Children's rights have been established and codified for over 30 years; they outline the privileges and protections that a child enjoys in all environments—including the digital environment. Codified in the United Nations Convention on the Rights of the Child (UNCRC), children are afforded widely understood set of interconnected protections, privileges and supports. UN General Comment 25 on Children's Rights in Relation to the Digital Environment sets out how the UNCRC applies to the digital environment.

9.2   Outcomes

When you have successfully implemented the Upholding Children's Rights process, you shall be able to show the following:

a)   Children's rights are realized in the product or service

b)   Published terms that incorporate and realize children's rights

9.3   Activities and tasks

The project shall implement the following activities and tasks in accordance with applicable organization policies and procedures with respect to the age appropriate presentation of published terms.

a)   Consider your product and service in relation to children's rights as set out in the UN General Comment 25 on Children's Rights in Relation to the Digital Environment. In the case of conflicts between rights, the best interests of the child shall be paramount.

b)   Consider relevant domestic legislation that offers protection and provision for children in the jurisdiction where your product or service will engage with children either directly, indirectly, deliberately, or in the course of their operations. However, children in all jurisdictions in which the company operates should be given an equally high standard in respecting all of their rights, even where compliance with national laws does not strictly require this. See Annex E for some examples of relevant domestic legislation.

c)   Verify that your product or service reflects any industry codes or norms that offer protection and provision for children.

d)   Where in doubt about standards, local, or national law, verify that your product or services reflect the best interests of the child and refer to competent legal counsel with expertise in the relevant jurisdiction.

e)   Incorporate the views and wishes of children in your product or service on an ongoing basis.

f)   Reflect the rights and views of children in your published terms.

g)   Record all obstacles, unfair terms, hazards, opportunities, and identified requirements to upholding children's rights in the AAR.

NOTE—these activities can benefit from close co-operation with stakeholders and the guidance of the value lead.

9.4   Inputs

The following resources constitute a suitable but neither exhaustive nor normative suite of the process inputs:

a)   A product or service that engages with children directly, indirectly or unintentionally

b)   Relevant legislation that references children's rights in the jurisdictions in which your product or service operates (see Annex E for examples)

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968   c)   Relevant industry codes and agreements

969   d)   UN Committee on the Rights of the Child General Comment No.25 (2021) on Children's Rights in
970   Relation to the Digital Environment

971   e)   'The Case for Better Governance of Children's Data: A Manifesto', UNICEF 2021

9.5   Outputs

973 The following work products constitute a suitable but non-exhaustive suite of the process deliverables, specifically:

974   a)   A product or service that upholds children's rights, reflects relevant legislation, industry codes, and
975   children's views

976   b)   Record all child-related hazards, opportunities, and identified requirements for implementing the
977   AADSF in the AAR

10 Child-centred approach to data use

10.1 Purpose

980 The purpose of this process is to verify that best practice data protection regimes are used in relation to child users.

981 NOTE—Aspects of design that maximize data extraction are very often not in the best interests of children.

10.2 Outcomes

983 When you have successfully implemented the Child-centred approach to data use process, you shall be able to
984 show the following:

985   a)   The product or service does not employ exploitative commercial practices such as dark patterns, deceptive
986   nudging and targeted advertising to children.

987   b)   The product or service does not employ profiling or use of children's personal data that is not in their best
988   interest.

989   c)   The product or service can provide a high level of data protection to children.

990   d)   The corporate culture recognizes children's rights and their well-being, and prioritizes the best interests of
991   the child over commercial considerations.

10.3 Activities and tasks

993 The project shall implement the following activities and tasks in accordance with applicable organization policies
994 and procedures.

995   a)   Eliminate behavioural nudging for commercial purposes, as follows:

996   1) Turn off persuasive features that push engagement by default.

997   2) Turn off features that lessen privacy by default.

998   3) Turn off features that have been identified as risky or dangerous and make them unavailable to children.

999   4) Verify that automated processes optimized for commercial purposes do not infringe on children's rights
1000   or undermine their needs.

1001   b)   Ensure a high level of data protection for children, as follows:

1) Ensure that all children are offered the highest available standards of data protection, in line with GC 25 and international best practice for data protection, consistently over all jurisdictions where the service is operated, even where national laws do not strictly require this.

2) Only collect and retain online the minimum amount of personal data you need to provide the elements of your product or service in which a child is actively and knowingly engaged, in line with principles of data minimization.

3) Where children's data is shared with parents or responsible adults, accompany it with age appropriate information that helps explain what data or activities are being shared.

4) Do not disclose, sell, share, or make available children's data unless you can demonstrate a compelling reason to do so, prioritizing the best interests of the child over commercial interests.

5) Protect children's personal data from uses that recommend content or behaviours detrimental to their rightsand well-being.

7) Provide freemium services free for children; do not exchange them for data.

8) Verify that data is only processed for purposes for which a lawful ground exists. If the lawful ground for processing personal data is consent, make sure it is legally valid, informed and meaningful. Children can only give consent if they have reached the age of digital consent pursuant to the applicable law; in all other cases a parent must give legally valid, informed and meaningful consent. Consent must be as easy to withdraw as it was to give. When children reach the age of digital consent, ask them for consent if it was initially given by a parent.

9) Do not profile children for targeted advertising or other commercial purposes.

10) Children (or parents or responsible adults where relevant) shall be able to retract, correct, and delete children's data, consistent with applicable laws and regulations. These options shall be provided in a way that is accessible and transparent. This includes creating a right to be forgotten.

11) Avoid dark patterns and manipulative design.

c) Create a corporate culture that realizes children's rights, as follows:

i) Carry out a child rights impact assessment in line with UN Guiding Principles on Business and Human Rights.

ii) Commit and publish a shareholder commitment to realise children's rights and promote their well-being.

iii) Publish a commitment to meet the spirit as well as the letter of relevant regulations and legislation.

d) Create a zero tolerance culture for child sexual exploitation and abuse (CSEA):

i) Implement systems that focus on reducing CSEA and the creation, upload, and sharing of child sexual abuse materials (CSAM).

ii) Put in place systems that allow for detection, reporting, and takedown of CSEA.

e) Record all obstacles, unfair terms, hazards, opportunities, and identified requirements to adopt a child-centred approach to data use in the AAR.

NOTE—These activities can benefit from close co-operation with stakeholders and the guidance of the value lead.

10.4 Inputs

The following resources constitute a suitable but neither exhaustive nor normative suite of the process inputs:

a)   Corporate policies and processes

b)   Shareholders' views

26

10.5 Outputs

The following work products constitute a suitable but non-exhaustive suite of the process deliverables:

    a) Products and services that are free from behavioural nudges for commercial purposes or that are not in the best interests of the child

    b) Published corporate values that protect and promote children's rights

    c) Technical systems that are focused on the reduction, uploading, and sharing of CSEA

    d) Technical systems that detect, report, and take down CSEA

    e) Record all child related hazards, opportunities, and identified requirements in the AAR

11 Moderation and redress

11.1 Purpose

The specification thus far has defined a set of processes that shall create "fair terms" that meet the reasonable expectations of children (and parents). The purpose of this moderation and redress process is to verify that fair published terms are met and legal obligations to children are upheld. This process proactively addresses the reasonable expectations of children and parents/responsible adults to require adequate moderation and redress in order to deliver these fair terms.

11.2 Outcomes

When you have successfully implemented the moderation and redress process, you shall be able to show the following:

    a) The product or service shall uphold fair terms to children

    b) The product or service shall uphold all published terms

    c) The product or service shall be in the best interests of children

11.3 Activities and tasks

The project shall implement the following activities and tasks in accordance with applicable organization policies and procedures with respect to the age appropriate presentation of published standards process.

    a) Terms shall not form an illegal or unfair contract between a product or service and a child

    b) Moderation: Offer oversight of the impacts on children, those that they see and those that they may not be aware of, by use of the following:

        1) Trained human moderators

        2) Automated systems that are highly privacy protecting, and that do not produce discriminatory outcomes or other outcomes that violate child rights

        3) Investment in moderation that is proportionate to the size, risk and activities associated with your product or service

        4) Where relevant, undertake regular evaluation of your moderation systems

    c) Redress, as follows:

        1) Provide prominent, accessible, and easy to use tools to help children and parents seek redress

        2) Provide children and parents access to expert advice and support where needed

        3) Have clear penalties applied fairly and consistently

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| 1080 | | 4) | Offer opportunities to appeal decisions and escalate unresolved appeals to expert third parties or |
| 1081 | | | regulators |

1082   5)   Reasonable response times

1083   6)   Provide children and parents with the following:

1084   i)   Opportunity to correct digital profile/footprint

1085   ii)   Termination rights (user)

1086   iii)   Right to deletion of personal data (right to be forgotten)

1087   d)   Clarity and unambiguity around upholding your published terms, as follows:

1088   1)   Inform children of action taken in the redress process

| 1089 | | 2) | Seek and obtain valid, informed, and meaningful consent as required for upgrades and |
| 1090 | | | amendments to service |

1091   3)   Publish your corporate policies

1092   4)   Regularly evaluate and report matters that appear in your AAR

1093   d)   Enforce only fair terms as follows:

1094   1)   Do not enforce any terms that are unfair nor do not meet the requirements of this specification

| 1095 | | 2) | Where terms are found to be unfair, note them in the AAR and create a "blacklist" so that these |
| 1096 | | | terms are not used nor reintroduced at a later point |

| 1097 | e) | Record all obstacles, unfair terms, hazards, opportunities, and identified requirements to moderation |
| 1098 | | and redress the AAR |

1099   NOTE—These activities can benefit from close co-operation with stakeholders and the guidance of the value lead.

11.4 Inputs

1100

1101   The following resources constitute a suitable, but neither exhaustive nor normative suite of the process inputs:

1102   a)   Industry codes

1103   b)   Corporate policies

1104   c)   Relevant regulation and legislation, see Annex E for examples

1105   d)   UNCRC, including General Comment #25

1106   e)   AAR

11.5 Outputs

1107

1108   The following work products constitute a suitable but non-exhaustive suite of the process deliverables:

1109   a)   Published terms that offer fair terms

1110   b)   Revised corporate policies that commit to fair terms for children

1111   c)   Age appropriate services or products for children

1112   d)   Updated AAR with all child related hazards, opportunities and identified requirements

12 Presenting published terms in age appropriate formats

12.1 Purpose

The purpose of this process is to verify that published terms are presented in an age appropriate manner and are accessible to all children and their parents. Simplifying the content of terms and conditions is only one requirement of age appropriate presentation, and published terms shall be presented in forms, at times, and in ways that children engage with them. The content of the published terms shall also be age appropriate.

12.2 Outcomes

When you have successfully implemented the Age Appropriate Presentation of Published Terms process, you shall be able to show the following:

a) Published terms can be understood by children of the age or age ranges that are using the service. These terms shall then also be easily understood by parents and caretakers

b) Published terms are presented in formats that children can understand and relate to

c) All interactions are geared to ongoing, meaningful engagement at regular intervals and at crucial moments, including every instance where consent is sought or required

d) Published terms are suitable for children from diverse settings and diverse contexts

e) Published terms are accessible to children with a wide range of abilities

f) Published terms are a true reflection of the service

g) Published terms offered to children render an age appropriate service

h) Published terms are presented in languages the children in the respective geographical area are able to understand

12.3 Activities and tasks

The project shall implement the following activities and tasks in accordance with applicable organization policies and procedures with respect to the age appropriate presentation of published terms.

a) Verifying accessible information. This activity consists of the following tasks:

   1) Verify that published terms use accessible language, as follows:

      i) Establish language and concepts are age appropriate to the age or age range of user, as follows:

         i) Use language assessment tools.

         ii) Engage in user testing with a diverse range of children of different age ranges.

         iii) Engage professional communicators where possible.

      ii) Make key terms easy to find, using bold text or graphics and icons if needed.

      iii) Make redress and reporting information prominent and accessible, to help children and parents exercise their rights and report concerns.

      iv) Make information available in bite size pieces.

      v) Make terms searchable.

      vi) Ask permissions at times that are proven to encourage engagement with key information.

   2) Provide multiple formats, as follows:

29

1149 1150	i)	Consult with children on most appropriate formats, including but not limited to, cartoons, video, audio, pictures, subtitles—including those written, presented or co-created with children.
1151	ii)	Provide more than one format for children of different age ranges and diverse contexts.
1152	iii)	Provide formats that are accessible to children of all needs by default.

1153   3) Test draft published terms as follows:

1154   i) With diverse group of children of different age ranges

1155   ii) In diverse scenarios

1156   iii) In all formats

1157   iv) Iterate terms and retest to verify that they now meet and continue to meet children's views and
1158   needs

1159   4) Address diverse audiences as follows:

1160   i) Consider the age, gender, ethnicity of children.

1161   ii) Consider the context: urban, rural, geography, language.

1162   iii) Consider the circumstances, for example, sharing devices, cost of connectivity, children without
1163   adult guidance.

1164   5) Verify that simplification of language or use of multiple formats does not confuse, change or hide the
1165   meaning of terms.

1166   b) Unbundling consent to the terms, as follows:

1167   1) Unbundle consent to allow a child to access only the part of the service they wish.

1168   2) Verify that "unbundled" consent is easy to understand and access.

1169   3) Do not use tick box or unread consent where the end user is a child.

1170   c) Timing of consent, as follows:

1171   1) Use the timing to obtain meaningful, valid consent. Do not drive ill informed consent, for
1172   example getting a child to agree to terms as they register that will not result in their valid
1173   informed consent.

1174   2) Embed strategies to capture valid, informed, and meaningful consent at multiple or significant
1175   times in the user journey.

1176   3) Obtain meaningful, active, and valid consent again where published terms are updated or revised.

1177   d) Recognizing children's evolving capacities, where children are unable to provide legally valid consent
1178   for themselves, a risk-based approach to seeking consent from parents or responsible adult shall be
1179   adopted. This is likely to be legally required for certain features of your product or service, such as
1180   contracting and payment features. Children shall not be asked to agree to terms to which they cannot
1181   validly and meaningfully consent, or that they cannot conceptually understand. Where parental or
1182   responsible adult consent is required by law, that consent should be meaningful and valid, and steps
1183   taken to verify that the parent or responsible adult or other legally authorized person is who they say
1184   they are. Parental or responsible adult consent should not be used to lessen protections for children nor
1185   silence children's views or voice.

1186   e) Design for children's best interests. Published terms shall not "nudge" in ways that are detrimental to
1187   children. For example, privacy settings should be set to high by default. It should not be left to children
1188   or parents to find and select the high-privacy settings.

1189   f) Record all obstacles, unfair terms, hazards, opportunities, and identified requirements to publishing
1190   terms in age appropriate formats in the AAR.

1191   NOTE—These activities can benefit from close cooperation with stakeholders and the guidance of the value lead.

12.4 Inputs

1193 The following resources constitute a suitable but neither exhaustive nor normative suite of the process inputs:

     a)   A product or service that engages with children directly, indirectly, or unintentionally

     b)   A clear understanding of what the service/product does and how it operates, in order to shape the terms of the offer

     c)   A route or mechanisms, by which terms can be tested with children and parents, directly or with the help of a third party

     d)   Access to language age/capacity testing, translation (into local languages) or creative skills necessary to the production of age appropriate terms

12.5 Outputs

1202 The following work products constitute a suitable but non-exhaustive suite of the process deliverables:

     a)   One or more formats of published terms with prominent key terms and age appropriate language that accurately reflects the service

     b)   One or more formats for published terms that is compliant with children's rights, fair terms and relevant regulation, and voluntary standards

     c)   One or more formats of published terms reflecting diverse settings and incorporating the views of a diverse audience of children

     f)   Updated AAR with all child related obstacles unfair terms, hazards, opportunities and identified requirements related to the age appropriate presentation of published terms

13 Implementing the Age Appropriate Digital Service Framework (AADSF), including across your supply chain

13.1 Inputs

1214 The following resources constitute a suitable, but neither exhaustive nor normative suite of the process inputs:

     a)   The AADSF specification text

     b)   Comprehensive documentation about who are the suppliers across the supply chain

     c)   Tools to conduct/review suppliers (e.g., how are they reviewing them to demonstrate due diligence)

     d)   Suppliers' compliance register

     e)   Resources and/or staff to enforce AADSF

     f)   A list of staff and roles, in order to identify training needs

13.2 Purpose

1222 The purpose of this process is to verify that the AADSF that this specification creates is implemented in your organization, and across your supply chain. It shall verify that the protections afforded by Section 230 of the US Communications and Decency Act 1996 (and reflected in similar legislation around the globe) does not prevent you offering an age appropriate service to children.

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13.3 Outcomes

When you have successfully implemented the AADSF process, you shall be able to show the following:

a) The AADSF specification is explicitly adopted and implemented.

b) The supply chain in use by a digital service or product is reviewed and also verified as offering age appropriate digital services.

c) Employees with roles in design, governance, and procurement are identified and training in child compliant design is implemented.

d) Protections and privileges of childhood and children's rights are understood and routinely applied in design and business decisions throughout the development of services and products as a corporate norm.

13.4 Activities and tasks

The project shall implement the following activities and tasks in accordance with applicable organization policies and procedures with respect to the AADSF process.

a) Use suppliers and contractors that uphold the AADSF and have mitigated risks and seek to enhance opportunities identified by the AAR.

b) Provide staff training on implementing the AADSF.

c) Demonstrate corporate and management buy-in to providing age appropriate digital services.

d) Record all obstacles, unfair terms, hazards, opportunities and identified requirements to implementing the AADSF.

NOTE—These activities can benefit from close co-operation with stakeholders and the guidance of the value lead.

13.5 Outputs

The following work products constitute a suitable but non-exhaustive suite of the process deliverables:

a) A supply chain that offers age appropriate terms to child users and prioritizes the best interests of the child

b) Staff training materials and staff training register

c) Updated AAR with all child related hazards, opportunities and identified requirements

14 Risk based age appropriate design and development

14.1 Purpose

The purpose of this process is to evaluate the child-related product/service hazards, opportunities, and requirements identified during the child rights impact assessment process and noted in the AAR, and to specify and implement technical and operational mitigations for the unacceptable levels of risk while embedding and fostering children rights and relevant regulations in the product or service. It is worth noting that the processes described in up until this section have required the knowledge and leadership of the Child Rights Advocate and Age Appropriate Lead. This process is a process of "handover," where the obstacles, unfair terms, hazards, opportunities, and requirements noted in previous processes are passed over to the technical leads to assess and address.

14.2 Outcomes

When you have successfully implemented the Risk-Based Age Appropriate Design and Development process, you shall be able to show the following:

a) Activities that impact children are appropriately addressed in the product or service design, ensuring child-centred design and operation

b) All functional and operational aspects and scenarios impacting on children noted in an AAR are evaluated and suitably addressed through risk assessment

c) Children's rights and developmental needs are given priority in the product or service design

d) A baselined product, service, or system is defined and placed under Change Control and Configuration Management (CCCM)

e) Published terms articulating remaining risks to children are published by default.

14.3 Activities and tasks

The project shall implement the following activities and tasks in accordance with applicable organization policies and procedures with respect to the risk-based and opportunity-based age appropriate design:

a) Review the AAR for areas of functional and operational impact on children as follows:

    1) Plan for age appropriate design activities

    2) Verify that both intentional and unintentional impacts are addressed in the design

b) Identify criteria for risk tolerability of hazards, opportunities, and requirements in each context of use. This enables you to assess the tolerability level for each risk and establish the necessity for further risk mitigation

c) Assess risks and rewards arising from the identified hazards and opportunities as follows:

    1) Assess the risks of each hazard using the evaluated level and the tolerability criteria.

    2) Assess the benefits (rewards) arising from opportunities and note the commitment to foster and enhance these in the AAR.

    3) Rank the importance of each risk, reward, or requirement.

        NOTE—The importance may be derived from the desirability and significance for safety and/or realization of children's rights and promotion of their well-being, or it may be related to the financial damage if the risk or requirement is unmitigated/untreated.

    4) Decide how to address each risk or potential reward/benefit of your product or service that you are able to by prioritizing which risks or potential benefits need addressing soonest and recording these decisions about prioritization in the AAR.

        NOTE 1—Figure 2 depicts an illustrative matrix that can assist with the prioritization of the treatment options for risk/reward and requirements.

        NOTE 2—All risks, rewards and requirements prioritized for "Treatment" shall undergo review and identification of technical or procedural measures whereas those classed as "Accept/Own" shall be monitored and reassessed at appropriate intervals.

    5) Identify how to address the prioritized risks/rewards in a way that mitigates/fosters these to an acceptable level. This could be achieved through functional, procedural, or operational measures.

    6) Implement mechanisms to keep children out of the parts of your product or service that are not appropriate for them, ensuring that you document the reasoning for excluding children rather than allowing them access with protection mechanisms in place.

    7) Verify that the measures you have implemented to address risks/rewards are acceptable to stakeholders, including children.

    8) Record the outcomes of this risk/reward assessment and how you addressed them in your AAR.

33
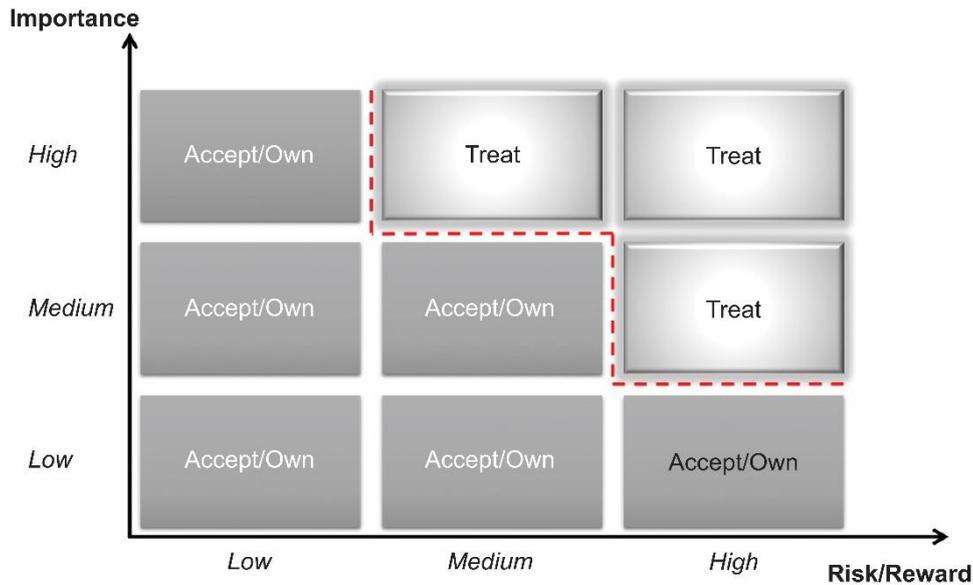
Figure 2—Illustrative analysis and preliminary risk/reward prioritization matrix

d) Develop technical and operational mitigations as follows:

1) Evaluate the design and operational options that optimize solutions with stakeholders, including children.

2) Implement any regulatory requirements, measures needed to mitigate identified risks, and measures needed to foster/enhance benefits into the design of your service or product.

NOTE—Risk mitigation and opportunity fostering solutions can be technical, operational, procedural, or a combination thereof.

3) Record the outcomes of these risk-based and opportunity-based design decisions in the AAR.

e) Verify Age Appropriate Design as follows:

1) Test the developed design and the Concept of Operations with a group that fully represents stakeholders, including children.

2) Note all the observations and recommendations including additional design modifications in the AAR.

3) Implement the identified design and operational improvements arising from stakeholder trials.

4) Define a CCCM process for the product, service, or system.

5) Define the initial baseline of Age Appropriate Design for your product or service (i.e., where you are starting from) based on the measures you have undertaken so far to make your product or service age appropriate.

6) Draft the Case for Age Appropriate Conformity (see Annex A for a suggested template).

14.4 Inputs

The following resources constitute a suitable, but neither exhaustive nor normative suite of the process inputs:

a) AAR

14.5 Outputs

The following work products constitute a suitable but non-exhaustive suite of the process deliverables:

34

a) A completed and documented age appropriate design and operational concept for the product, service, or system of interest

b) An updated AAR with the risk and reward treatments adopted and the requirements implemented

c) The outlined Case for Age Appropriate Conformity (see Annex A)

15 Age appropriate deployment, operation, upgrade, monitoring, and decommissioning

15.1 Purpose

The purpose of this process is that the product or service is operated, maintained, upgraded, monitored, and decommissioned in accordance with its age appropriate requirements. It allows the project teams to assess the effectiveness of any steps you have taken to address identified hazards and opportunities and to strategize for further improvements of your risk management processes, policies, and practices.

15.2 Outcomes

When you have successfully implemented the Age Appropriate Deployment, Operation, Upgrade, Monitoring and Decommissioning process, you shall be able to show the following:

a) Appropriate monitoring that the deployment, operation, maintenance, and upgrades of the product or service are age appropriate

b) Any child-related issues observed are noted in the AAR and addressed

c) Where necessary, preparations for standard and risk assessment are repeated for newly identified obstacles, unfair terms, hazards, and opportunities

d) Disposal and decommissioning are performed in line with age appropriate requirements and guidelines

15.3 Activities and tasks

The project shall implement the following activities and tasks in accordance with applicable organization policies and procedures with respect to the age appropriate design:

a) Monitor the product or service deployment, operation, maintenance and upgrades with a view to age appropriate requirements. This activity consists of the following tasks:

   1) Evaluate whether the product or service has been deployed consistent with the requirements in the AAR and define a baseline and record in the AAR.

   2) At regular intervals, determine whether the product or service is operated, maintained and upgraded in accordance with age appropriate requirements in the AAR.

   NOTE—The organization should specify the intervals of revisiting the system in co-operation with stakeholders.

b) At regular intervals, collect field data and stakeholder feedback and analyse the product or service with a view to the following criteria:

   1) The age appropriate risk treatment options implemented retain their effectiveness in the contexts of application.

   2) New and emerging aspects of risk that may impact on children are recognized and addressed in the subsequent redesign or adaptation of the product or service before re-deployment.

   3) In the event of inadequacy of risk treatment options, consult stakeholders and either strengthen these or identify new treatment options to maintain the protection demand for each age appropriate requirement in the product or service.

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1367   c)   Properly dispose of the product or service. This activity consists of the following task: verify that no
1368   children's rights, data, or privacy aspects are undermined when disposing of or taking the system out
1369   of service, consistent with applicable laws and regulations.

1370   d)   Record lessons learnt in the AAR.

1371   NOTE—If feasible within corporate practice, make lessons learnt available for other organizations.

1372   NOTE—The monitoring is particularly relevant to data driven services and systems and those with emergent behaviours due
1373   to machine learning or adaptative behaviour.

15.4 Inputs

1375   The following resources constitute a suitable but neither exhaustive nor normative suite of the process inputs:

1376   a)   A functional system designed incorporating age appropriate requirements.

1377   b)   A product or service concept of operation.

1378   c)   Intended and potential context(s) of system use.

1379   d)   An AAR for product or service.

15.5 Outputs

1381   The following work products constitute a suitable but non-exhaustive suite of the process deliverables:

1382   a)   Refined concept of operation

1383   b)   Updated AAR for the product or service life cycle maintenance by the relevant duty holders

1384   c)   Updated Case for Age Appropriate Conformity

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Annex A
(normative)
Case for Age Appropriate Conformity

This specification provides advisory and normative requirements for age appropriate aligned design, development, operation and decommissioning activities. It is highly desirable, however, that the effort, resources, and time spent, as well as evidence and outcomes attained in the course of implementing the requirements and the spirit of this specification, are recorded, consolidated, structured, and presented in an adequate, consistent, and coherent narrative: a Case for Age Appropriate Conformity. The case for age appropriate product/service conformity is a project memory and an auditable repository. Similar to a safety case, the Case for Age Appropriate Conformity is intended to provide a structured account of the ethical and technical activities undertaken in the course of pursuing an ethically aligned age appropriate design for the product or service. The Case for Age Appropriate Conformity is a key contribution toward the organizational memory and maturity in ethically aligned design, and a foundational information product for subsequent assessments and potential certification.

The structure, contents, and arguments pertinent to a final claim for an ethically aligned age appropriate product, service, or system of interest should be developed in an evolutionary manner throughout the life of a system. The Case for Age Appropriate Conformity encourages the process outputs, evidence, and outcomes to be recorded at each stage of the ethically aligned age appropriate design, development, and operation to provide a process or project repository and memory as well as a structured argument for the age appropriateness of the product, service, or system. It constitutes indispensable inputs into any subsequent age appropriate assessment for the product or service and the organization.

The following list of contents is recommended for the Case for Age Appropriate Conformity for a given product or service that also serves as a checklist that can be satisfied by the organization's content mapping, templates, and information models. This outline is not intended to address all possible contents or to mandate the title of the information item, nor the order or titles of the sections in documents presenting some or all of the contents of the Case for Age Appropriate Conformity.

a) Introduction

    1) Societal context

    2) Key drivers

b) System of Interest, Scope, and Boundaries

    1) Purpose

    2) Context: Scope, Boundary, and Interfaces

        i)   Direct and indirect stakeholders

        ii) Data flows

        iii) Processes

    3) Initial Concepts of Operation

    4) Other supporting or dependent systems

c) Setting the Age Appropriate Context Outcomes

    1) Realistic scenario description

        i)   Envisaged market share assumption (as outlined in the business plan)

        ii) Assumed place(s) of service usage

        iii) Assumed geographic location(s) of service offering

        iv) Assumed primary user interface(s)

    2) Preliminary harms and benefits

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1429   3) Key stakeholders involved in consultation

1430   4) Consultation

1431   5) AAR

1432   i)   List of areas of impact on children

1433   ii)   Child related hazards and opportunities

1434   iii) Value narrative (e.g., scenario or use case illustrating the effect of the value)

1435   d)   Enterprise Age Appropriate Strategy

1436   1) Enterprise Age Appropriate Policy Statement (see Annex D)

1437   2) Enterprise Age Appropriate aligned processes

1438   e)   System Level Age Appropriate Requirements

1439   1) Age Appropriate Values impacted by the product or service

1440   f)   Ethical Age Appropriate Risk Assessment and Management Outcomes

1441   1) Age Appropriate scenarios of Risk evaluation and tolerability criteria

1442   2) Age Appropriate opportunities sustained or promoted

1443   3) Risk mitigation and control options for Age Appropriate scenarios of Risk

1444   4) Derivation of Age Appropriate functional and non-functional requirements

1445   5) Balancing of Age Appropriate requirements against other system requirements

1446   g)   Age Appropriate functional and non-functional Requirements traced in the System Design

1447   h)   Claims for the Age Appropriate product or service and Conclusions

1448   i)   Principal resources and references

1449

Annex B
(informative)
Illustrative AAR

This specification advocates the adoption or development of an AAR as a repository of all relevant aspects of a product or service inclusive of all beneficial and detrimental aspects that may impact on children at different stages of development. The AAR is the "medium" that is used to document, communicate, and "handover" between the Child Rights Advocate and Age Appropriate Lead, who steer Processes 7 through 13, and the technical leads, who steer Process 15. An illustrative list of information items for AAR is given in Table B.1.

Table B.1 Example of AAR information structure

Age appropriate information	Explanation	Comments
Unique reference	A unique identifier for each record in the AAR	
Date	Date for information entry	
System of interest	The name or title of the product, service, or system under consideration	
Aim and purpose	The key purpose of the product or service as a product, service, or system	
Aspect	The particular and referenced aspect of the concept of operation of the product or service under consideration	Can be a technical, functional, or operational aspect
Context	The context of application under consideration	The environment and specific setting for the application
Impact on children	Whether the aspect and context have any relevance and impact on children	
Hazard or opportunity	The type of impact, undesirable/threat, or desirable	
Scale of impact	The estimated scale of impact as hazard or opportunity	This can be qualitative or quantitative
Potential mitigation options	The likely acceptable protection and mitigation solutions	Typically a range of risk controls
Potential fostering options	The likely opportunity fostering and enhancement solutions	These are additional positive actions to enhance the benefit from good features
Risk tolerability criteria	The criteria for acceptability or tolerability of risk factors	These can be qualitative or quantitative
Selected design solution	The specific options chosen for technical or operational modifications of the product or service	
Verification observations	Outcome of checks for correctness and applicability of the risk and reward options and impact	Verification is a local check for relevance and correctness
Validation observations	The outcome of trials of the risk control and reward fostering options with stakeholders and children	Validation is a whole service/product level of fitness for an age appropriate purpose
Deployment observations	Any relevant issues and observations from putting the product or service into use	
Regulation/law	The requirements arising from specified regulations and laws	Requirements to be noted in the AAR
Code of practice	The requirements arising from specified adopted international or national codes of practice for child protection	Requirements to be noted in the AAR
Age appropriate duty holder	The name of the person responsible for the record and risks	Could be the Age Appropriate Lead risk manager

> NOTE—These can be implemented in any IT platform or tool that the project finds appropriate.

1460

Annex C
(informative)
Frameworks for Age Appropriate Design

A number of frameworks for age appropriate design are referenced here to set the context for this specification.

a) Australian Institute of Family Studies - Online Safety resource sheet

https://aifs.gov.au/cfca/publications/online-safety

b) Child Protection Online – OECD

https://www.oecd-ilibrary.org/sites/796ac574-en/index.html?itemId=/content/component/796ac574-en

c) Child Rights Impact Assessment

https://fra.europa.eu/en/publication/2015/mapping-child-protection-systems-eu/impact-assessment#:~:text=Child%20rights%20impact%20assessment%20is,development%20of%20policies%20and%20laws.

d) Child Safety Online

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/487973/ukccis_guide-final__3_.pdf

e) Children's Right impact assessment tool

https://www.unicef.org/csr/css/Children_s_Rights_in_Impact_Assessments_Web_161213.pdf and https://fra.europa.eu/en/publication/2015/mapping-child-protection-systems-eu/impact-

f) Education for a Connected World – 2020 Edition

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896323/UKCIS_Education_for_a_Connected_World_.pdf

g) Office of the eSafety Commissioner

https://esafety.gov.au, https://www.esafety.gov.au/educators

h) Safeguarding Children in a Digital World – Developing an LSCB e-safety Strategy

https://dera.ioe.ac.uk/7372/2/A9R40BD_Redacted.pdf

i) Safeguarding Children in a Digital World – Wise Kids

http://www.wisekids.org.uk/BECTA%20Publications/safeguarding_digital_world.pdf

j) UK Council for Child Internet Safety Digital Resilience Framework

https://www.trustnet.pro/news/dyn/d9498db9-621a-4f5c-b4eb-ebbcd179f1d8

l) UK Council for Internet Safety

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Annex D
(informative)

Illustrative Age Appropriate Enterprise Policy Statement

The ….(group name)…. values young people and children as being a vital part of the stakeholder community within the context of the (product or service) and desires to see them grow, mature, and be challenged in a healthy and safe digital world.

Purposes

The purpose of ….(group name)…. children and young people's program is to offer the children a safe and welcoming environment with fun activities where the children can grow and learn. Whether this be through (groups name) activities or through other independent groups working in partnership with ….(group name)….

Aims

— To provide services and activities for children and young people to help them develop from childhood into adulthood and to provide support for them.

— To enable the children to express themselves.

— To assist the children in integrating into the community.

— To help children/young people appreciate the diversity of their cultures.

• What is age appropriate child protection?

• Organization (whether group or name) or a partner group/organization)

• Age Appropriate Child Protection Representative

• Training

• What you should do

• What you should not do

This policy was adopted by the ….(group name)…. on _____ ____

Signed on behalf of the Management Committee by:

Signature_____

Name_____

The policy has been reviewed by the Management Committee on: Date_____

Annex E

(informative)

Examples of regulations

E.1 Data protection regulations in Europe, including regulations and guidelines that focus on the protection of children's personal data specifically

— EU General Data Protection Regulation (GDPR), 2018

— Council of Europe Recommendation CM/Rec(2018)7 on Guidelines to respect, protect and fulfil the rights of the child in the digital environment

— Swedish Guidance on Children's Rights Online, 2020 (Sweden)

— Age Appropriate Design Code, 2020 (UK)

— Fundamentals for a Child Oriented Approach to Data Protection, 2020 (Ireland)

— CNIL Recommendations for Protecting Children Online, 2021 (France)

— Dutch Code for Children's Rights, 2021 (Netherlands)

— The UK ICO Children's Code UX Design Guidance, 2022 (UK)

E.2 Consumer legislation

Editor's notes: To be completed with European references

E.3 Equality legislation

Editor's note: To be completed with European references

E.4 Children's Acts or legislation that covers the safety, well-being and treatment of children

— Council of Europe Recommendation CM/Rec(2018)7 on Guidelines to respect, protect and fulfil the rights of the child in the digital environment (2018)

— The new European strategy for a better internet for kids (BIK+) (2022)

Editor's note: To be completed with European references

E.5 Health and Safety legislation

Editor's note: To be completed with European references

E.6 Human Rights legislation

— European Convention on Human Rights, 1950

— Charter of Fundamental Rights of the EU, 2020

— The EU Strategy on the Rights of the Child and the European Child Guarantee (2021)

— Council of Europe's Strategy for the Rights of the Child (2022 – 2027) (2022)

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1554 *Editor's note: To be completed with European references*

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Annex F
(informative)
Bibliography

Bibliographical references are resources that provide additional or helpful material but do not need to be understood or used to implement this specification. Reference to these resources is made for informational use only.

[B1]   5Rights Foundation 5Rights Framework.[13]

[B2] ISO/IEC 25063.3, Systems and software engineering—Systems and software product Quality Requirements and Evaluation (SQuaRE)—Common Industry Format (CIF) for usability: Context to use description.

[B3]   UK Information Commissioner's Office, Introduction to the Age appropriate design code.[14]

[B4]   United Nations Committee on the Rights of the Child General Comment (15), 2013 on The Right of the Child to the Enjoyment of the Highest Attainable Standard of Health.[15]

[B5] United Nations Committee on the Rights of the Child General Comment (16) on State Obligations Regarding the Impact of Business on Children's Rights.[16]

[B6]   United Nations Department of Economic and Social Affairs, Transforming Our World: the 2030 Agenda for Sustainable Development.[17]

[B7]   United Nations Guiding Principles of Business and Human Rights.[18]

[B8]   United Nations Millennium Declaration.[19]

[B9]   United Nations Principles for Responsible Management Education. The Six Principles for Responsible Management Education.[20]

[B10] United Nations Sustainable Development Goals: A Guide for Business and Management Education[21]

[B11] The Case for Better Governance of Children's Data: A Manifesto, UNICEF 2020

[B12] Policy Guidance on AI for Children, UNICEF 2021

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[13] Available at: https://5rightsfoundation.com/about-us/the-5-rights/

[14] Available at: https://ico.org.uk/for-organisations/guide-to-data-protection/ico-codes-of-practice/age appropriate-design-code/

[15] Available at: https://www2.ohchr.org/english/bodies/crc/docs/GC/CRC-C-GC-15_en.doc

[16] Available at: https://www2.ohchr.org/english/bodies/crc/docs/CRC.C.GC.16.pdf

[17] Available at: https://sdgs.un.org/2030agenda

[18] Available at: http://SoI.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf

[19] Available at: https://SoI.ohchr.org/EN/ProfessionalInterest/Pages/Millennium.aspx

[20] Available at: https://www.unprme.org/

[21] Available at: https://SoI.un.org/sustainabledevelopment/sustainable-development-goals

1586 **Annex G**
1587 (informative)
1588 **Listing of Applicable Regulations, Standards and Guidelines**

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