

WEBINAR TRANSCRIPT:

How to Design a Digital World Where Children Can Thrive

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PRESENTED BY:



IN COLLABORATION WITH:



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*The transcript is presented for the convenience of the audience, and is lightly edited for readability.**

Beeban Kidron:

I am the chair of 5Rights Foundation, and I am absolutely delighted to invite you to this IEEE event “how to design a digital world where children can thrive.” Let me just say a quick couple of housekeeping things. First of all, as you can see, we have ASL (American Sign Language) interpretation that is being presented for the convenience of some of our attendees and is being provided voluntarily, not as an official translation. And we thank you very much for your assistance with our job today. And then I would like to remind everybody that this event is being recorded and it will be posted afterwards for other colleagues who can’t be with us today. So we are here to celebrate Safer Internet Day, a day on which the world considers the need for and celebrates the advances towards making children safe in the digital world.

At 5Rights, our mission is to build the digital world that young people deserve. And so every day at 5Rights is safer internet day, with our groundbreaking work on data protection for children, systems and processes that are age appropriate by design, and towards the realization of children's rights online. So it is with considerable pleasure and quite a lot of pride that I'm here with colleagues from IEEE to discuss something that encompasses all three strands of 5Rights’ work. One of our mantras is to make a difference to children's lived experience. We're focused on legislative, technical, and cultural change with practical outcomes and nothing could be more than those three things than the IEEE standard 2089. The framework for designing age appropriate digital services is an exemplar of this approach. Now, in a moment, I'm going to hand over to Dr. Konstantinos Karachalios, the managing director at IEEE Standards Association, to say a little bit about IEEE, introduce the standard, and explain why it is we are here today. And after that, he and I will be joined for a panel discussion, which we will then open for your questions. And I will be calling for questions. So please do be ready to participate. But before we start, I'd like to show a very short clip, which may remind us why we're all here.

===Begin Video===

VIDEO: Our Voices

[Text] What do children want from the digital world?

[Different children’s statements] Recording of children of different ages from different countries.

The Internet is vast, but it can be a wonderful place if used correctly.

Children want to understand how the digital world works and who is benefiting from it.

At different ages, children need different technologies, support, and freedoms.

Children want to meet and spend time with their friends, and enjoy being part of their community in every environment.

It's also good to play online because it's a way of meeting new people and being a little bit more social.

Information that children find online should be true, relevant, and easily available, unless it is likely to cause harm.

No digital service should be allowed that interferes with the child's wellbeing.

The digital world must take account of this in the way it provides for different ages.

[Text] What does this mean for the design of the digital world?

[Different children's statements] Children have the right to information, freedom, and privacy.

When making any decision, adults, including governments and businesses, must do what is best for children rather than themselves.

Children of different ages in different situations from all over the world deserve the same protections.

Governments and businesses should make sure that children aren't exploited or exposed to violence by adults or other children when they are online.

Stop businesses putting profits above children's rights.

[Text] You heard what children want.

Now let's explore how to build the digital world they deserve.

===End Video===

Beeban Kidron:

So that short video was just some of the children from 28 countries who participated in the creation of the General Comment 25 with 5Rights and in doing so, they wrote their own version of how children's rights apply online. So there is a longer version of that at same video, if you want to hear everything that they had to say, but I think you can hear in their voices, an argument for the work that we have done in a technical standard. So let me please introduce Konstantinos. As I said, he's the managing director of IEEE Standards Association, a global standards organization within IEEE. Konstantinos is known for his forward thinking on the social ethical implications of technology. And he has encouraged, championed 5Rights to create the 2089 standard to turn the important pre principles into implementing implementable design processes. Constant. Can we see constant?

Konstantinos Karachalios:

So I'm very pleased to be here with you today. And I still remember the day we met in London. There was sitting a woman I didn't know, I'm seeing you for the first time, and you told me, I was in a conference where everybody was happy and somebody said "we're very proud that we give the same access to everybody on the internet." And you were the only one at this conference who thought, "Hmm, there may be a problem with this," and you were right. And I saw in you something that we were very much leading in our IEEE environment. I saw a leader who would really help us, the technical community, join forces with the political actors like you. You're not only a policy maker, you're a political actor, and do something that could help go beyond this.

We cannot anymore afford to expose our children. And I'm not talking about the content here. The study we're talking about is about defending and respecting the privacy of children online and protection of their data. And we have been hearing a lot during this journey. We have been hearing, "oh, we cannot do this. I mean, this is the problem of the parents. You take care of your children, we cannot code for it, but if we cannot code for it cannot be a law" and so on. And you know, all these reactions, and we didn't give up, we closed ranks with you and we made it very clear: It is not the technology that is hindering you, it is your business model.

And if this business model is conflicting with the mental wellbeing of our children, then change your business model. And we turn it around. First, you did it as a lawmaker. Then the ICO in the UK, they followed, and they did this code, which is the age appropriate design code. But for every such framework to work, you need really more concrete guidelines for the companies and the industry, how the ones who want to do a good job, how to do it. And this is a standard, this is an instruction on how to do a better job. And this must be sync with what the legislators and what the regulators have done. And we have worked really together all along with this. And this was very forward looking from your side, and we were lucky enough to join with you forces at the right time.

And here we are today, and this standard is part of a broad strategy. It is not something, let's say, one piece. It is part of a strategy and more will come, because what we really want is to give back to our children their childhood, away from the addiction that the algorithms are driving and the business model are driving them in purposely. So this is not anymore by coincidence. It is the purpose and we have to change this purpose and we must give our peers and the engineers, and so on the tools to do a better work as they do the design and the architecture of the systems. But I will say more when during the panel, but this is the historic moment we're going through here. And we are very proud to be part of this history.

Beeban Kidron:

Thank you, Konstantinos. Indeed it was a great pleasure meeting and a meeting of minds, and actually a difference of background and seeing how actually principles can be engineered into systems. And I have learnt a lot from the IEEE community in respect of that. Now, before we are joined by Katina and Angar, I want to just take a moment to recognize the broader IEEE working group who spent almost two years creating the standard. They were an extremely dedicated group of people from multiple disciplines, engineering, academia, children's rights, AI, enforcement and business, and many of whom got up at inhuman times of day to do our work across several time zones. I know that the entire working group would also join me in acknowledging the pivotal role of Ali Hessami, who was both our technical editor and the provider of many snippets of poetry to give us inspiration.

Without him, it may have taken us another year. And whilst I cannot mention all who supported this endeavor, I do thank Ali, and I would like to do a quick shout out to Giselle, Rys, Natasha, and Soo Kim for their contributions and above all, all the young people whose views and experience shape our work.

So with that, it is my pleasure to introduce Dr. Ansgar Koene and Dr. Katina Michael. Katina is a professor at Arizona State University. Her research is focused on the social ethical implications of emerging technologies. This includes the impact of digital services and products on children. And importantly, in this context, she was indeed the chair of the working group for the standard. Ansgar is the global AI ethics and regulatory leader at EY and a senior research fellow at the university of Nottingham. His work focuses on AI frameworks and how they relate to public policy engagements.

He's a trustee at 5Rights, for which I am deeply grateful, and he's part of the Digital Futures Commission. He also was a member of the standards working group. Now, each of us on this panel has a different route to being involved in creating this standard. As in my case, it was an encounter with Konstantinos, and I saw from him that we could encapsulate some of the work that 5Rights was doing in a practical way trying to answer that perennial question of "is it technically feasible to make the digital world age appropriate?" And I wanted to start by asking each of you how you think you came to this project and why you gave up your time. And maybe I can start with our esteemed chair Katina with that question.

Katina Michael:

Thank you so much for the privilege to be part of this panel, but also as the working group chair to this amazing team, it was absolutely the best experience I've ever had in standards setting, and that team cohesion and that diversity in the team was one of the reasons we were so successful, I believe. I came to this area because of my work on emerging technologies, particularly looking at the effects of emerging technologies on all people, not just children, but also in the intentional design for children. What kinds of values would be espoused and identified by a stakeholder called a child, who we recognized to be anyone under the age of 18? So in actual fact, I was looking at by design processes and in this instance, the recognition of a child as an end user, but also within a sociotechnical ecosystems perspective, how might we better design technologies, services, and platforms when we engage young people building together in order to allow for their human rights to be retained, and also their flourishing as individuals that are highly respected according to various international laws and of course, local policies and regular relations in nation states.

So the very fact that we could work with a child, with other stakeholders, direct and indirect, is what was so appealing to me in the development of more robust emerging services. That we could mitigate risks and ensure we treated them, acknowledged them, and actually overcame them for the benefit of the individual. So I think they're my introductory remarks Beeban.

Beeban Kidron:

Yeah. Fantastic. And I think that invisibility of children as a user group is something we might return to. Ansgar, how about you? Why give up your valuable time to this endeavor?

Ansgar Koene:

This endeavor for me is it's a continuation of a longer journey that I've had when it comes to thinking about, first of all, how are we using data that exists online? This is a journey that started for me back in 2014. I started thinking from an academic perspective of computational social science "We can use online data to understand human behavior," to rapidly thinking about "but actually these people put that data online for completely other reasons. And what are the ethical implications of us doing an analysis us on somebody's data in a way using their data completely differently from what they thought."

And really while thinking about that kind of dimension about the use of data, starting to think about recommender systems and how are these shaping the experience that people are having online which

back in 2016, led to a research project we did on bias and algorithmic systems, where we quickly focused in on young people, 13 to 17 year olds, because they're both considered to be the digital natives. Those for whom engaging online is a natural space, but at the same time, they don't have the life experience for many things to make that judgment. Is this a proper engagement that I'm having or not, and they have both a lot of energy and need for developing themselves, which is what we're really exploring heavily in the Digital Futures Commission, for instance.

But also of, of course, a lot of protections are needed for them, and it is internationally recognized that they deserve those kind of protections. And that was also really the beginning of my journey of collaborating with Beeban in this space. It was also the beginning of my work with IEEE initially looking at the questions about bias. As was mentioned, I chair the algorithm bias considerations working group at the IEEE. But this standard, focusing on the protection of children, is an important parallel, from the side of the work that I'm doing to that other work around bias is, but actually these specific extra protections that children need and how do we treat their data and how do we respect their concerns in this space and really providing the technical guidance for, how do we implement this in, in the technical space was a very important motivator for this work.

Beeban Kidron:

Yeah, that's fantastic. I mean, I think we're going to return to some of the points you made, but I'd like to just pull out that point you made about 13 to 17. In no other environment is 13 to 17 considered adult. And as someone who spends most of my hours, my daily hours, discussing this in different environments I find myself very often having arguments about what is a child, the age of majority, the sort of developing, and this idea of age appropriate framework that we have in the standard is an acknowledgement that children have different ages, different stages, different development, and actually, you know, bad luck, you're a service you have to deal with all of that complexity in an empathetic way, in a reasonable way, and at a minimum, in a safe way. So that actually increasingly we are seeing lawmakers understand that it is not good enough to have the age of adulthood at 13 in a digital environment, because if you make a child of 13 adult, then they are adult offline also, that is just simply how it works.

Konstantinos, you've said a little bit about how you came to be involved in this. So maybe you could just give us a tiny little glimmer of your broader work around the sort of bringing ethics to engineering. And I think that when I talk about you and your leadership in this area, I think people are very surprised that this drive is coming from an engineering association. And I always quote you to them, which is "engineers are problem solvers. And this is a problem." So I just wonder whether you could just say a few words around how IEEE has actually created a broader framework of ethical design into which this fits.

Konstantinos Karachalios:

Yeah. So this is not a trivial matter, because for us engineers and scientists, it is the simplest thing is to assume where technical problem solvers. You know the metaphor with hammer: "We are just making a hammer. If you use the hammer to break someone's head, it is not my problem." But things are not so simple anymore because here we're talking about systems and technologies, which are very invasive intrusive in our everyday life, pervasive and so on. And can be very manipulative, and of course they can be very enabling also and very empowering. So we want to build systems that are enabling, empowering, and reduce the possibilities for manipulation, and also for the addiction that is taking place.

And this is not only a matter of business models, unfortunately. I think we, the system builds the architects and the coders, we have a really a significant part of responsibility because this, the technologies themselves are complex enough for the bosses not to understand exactly what we are doing. So we have a degree of freedom there, which we could use for a good purpose, and we do not. So a missed opportunity there. So the work we're doing has really two target groups. One is people like you, Beeban, we, we can help you really implement top down policies by coming from bottom to meet you as you come from the top, this is one thing. And the other is to, from peer to peer, that we defend the integrity of the honor of our profession. And if we don't do it, nobody else can do it. That means we develop tools by ourselves for ourselves to do a better job and to use these degrees of freedom, these spaces of freedom, and I know they exist, I know I have experienced them, in a better way and thus create less problems for everybody. So this is a double function we are doing.

Beeban Kidron:

It is fantastic. I think in the year of whistleblowers, I think the idea that you are working for the integrity and honor of your profession is something maybe we need to make a t-shirt out of. That's a fantastic image. Katina, maybe you could just actually talk a little bit about the structure of the standard and the sort of life cycle approach that it took for people who haven't had the chance to look at it. And I might actually do a little bit of a shout out now that the standard is available and IEEE have magnificently made it free of charge because they felt it was so important, so important to get out into the world. So maybe you could just take us through some of the key approaches in the standard.

Katina Michael:

To begin with preparatory phase. And in this instance, what we're doing is defining the goal of the system, the societal context within which it lies and why, what is its purpose. And often we are rushing to go to market with new technologies and new services, but we are really, really asking people to stop and think about the motivation of the creation and the creativity that goes along with a new innovation right at that preparatory phase. So why, how, what's the purpose, what's the motivation? What are the drivers? And if they're just dollars, we know we're not going to do our job appropriately in the public interest. And in this case, we're talking about the interest of the child. What is this preparatory phase about? It's objective setting, goal setting, and understanding the drivers for this new innovation.

Then we are really solidifying these 5Rights principles, which I briefly want to go over: recognizing the child user, their needs and diversity, and hear that word diversity; upholding child's rights; a child centered approach; intentional design for children, especially in the use of the data as Ansgar was saying, moderation and redress; and this fifth one, which is so crucial - presenting published terms and conditions to children that are comprehensible and age appropriate. I'll give you an example. A child is asked to if it's okay with them that their camera can be looking at them and allow their face to enter a game. Well, how does a child at three, four or five years of age of which my own children that we're exposed to at that age, make a decision when they don't actually understand the terms and conditions that are surrounding all the implications for that matter, a camera being turned on. So their face and their backdrop actually being encapsulated within a game for a particular broadcasting corporation somewhere in the world. So if this is happening and we are unmuting and we are showing video and children may not be wearing their clothing appropriately, they could be in their pajamas, they could be outside, they could be playing on the floor innocently while they're interacting with their devices.

There has to be some responsibility without the need to call a parent, okay. And without the need to call a guardian, who's supposed to be there all the time. And we know that's not feasible given our lifestyles. So how do we shift the burden away from parents, guardians? I'm not saying that they're not

responsible for their children. I'm not saying the child as they develop are not responsible for their own actions, but how do we make this everyone's problem? This is not just the designer's problem. This is also the media's problem. This is also the education system's problem. Where is the media literacy, this is about the ecosystem, given the complex environment we're operating in. Then we talk about implementing age appropriate digital services framework. We use a risk based design approach.

And finally, we do the age appropriate deployment, the operations, the maintenance, we don't just say we're deploying and those services perfect. And look at the the number of users that are uptaking the service we go back and iterate. We go back and check and treat those risks as they may arise, and then also improve our systems. It's not just a one step, okay, we're launching this new social media app, this location based app, this other app, which happens to be intrusive, which potentially into the near future may encapsulate virtual reality, augmented reality, and much more. So I think this age appropriate register is a highlight of this standard, allowing us to trace throughout the life cycle, and we don't really stay on that life cycle, we talk about activities, they're not sort of linear, but we iterate and we get to that point that says, look, this is how we build robust services for children.

Beeban Kidron:

Yeah. And I think that's very helpful. And I think that that's something that came up a lot over a couple of years, was this sort of the idea that actually consciousness is the first port of call because so many people certainly in my political life and definitely even in the process of building this standard, so many people say, I have never thought about that before, that the actual first and last line of defense was not that they were bad people or in a bad situation, but actually the consciousness, that they hadn't really conceived of it. And what you've just described is a series of triggers to make sure that you've actually thought about the child as the end user, as you put it before.

Ansgar, I'm really interested. You sit there at EY, you have a lot of clients. I imagine they're coming to you sort of both with a risk sort of profile going, Hey, how do we do the good, the right thing in order to be not at risk of finding us in dis dispute or having done the wrong thing, but maybe you've got some people who are also coming to you and saying, actually we'd like to do the right thing. We just don't know what it is. And I, I think maybe if you could explore that first and then also perhaps sort of extrapolate how this standard might be of use to either one of those groups or indeed, both.

Ansgar Koene:

Certainly. And I think that's a really good point about there are, there, there are actually quite a number of firms that start conversations when it comes to the ethics of how automated decision making processes or digital services are those are being designed, that they're saying we have started to get a sense that there are problems that can arise with this, especially in this kind of ethics space that frankly we don't really understand that well. We have an idea what sort of financial ethics or those kinds of things mean, but what does it actually mean in the digital kind of space? We have risk management procedures in place, but are they going to be sufficient to cover us for these kinds of questions because we don't really understand them enough. To be honest, the engagement that I'm having in my EY capacity have not been much on the child concerns kind of space, the engagement clients have not been in that kind of domain so much, but more in that general space, there is the well we've, we, we put in place things to address GDPR and data protection around GDPR.

Do we need to do more? What else do we actually need to do in order to try to go beyond that, to make sure that we actually address these things. And so this kind of a standard is going to be very important in that space. And I think also this kind of standard also in sort of the timing when it is coming

out relative to the work in regulation and in various regions, be it the UK, be it the EU and beyond is important because it is a look we've actually already start to thinking about how to do some of these things, how you would implement these things, even though you're still in the process of crafting this piece of legislation, which really gives a foothold that is missing so much when it comes for instance, around the discussions around the AI Act, where there's a huge concern that they act just going to say, you need to put in place these things, but none of the standards is ready for people, for companies to be able to know how to do it. And just to end this sort of rant around regulation and things, I mean, the Digital Services Act (DSA) in the EU is moving towards its completion, and it contains in part thanks to 5Rights references to the need to think about the rights of children. And so in that space, this standard will become an important tool because the DSA does for instance call for the need to be audited on your compliance with the standard with the act.

Beeban Kidron:

Okay. That's really interesting. I'm beginning to see some really interesting questions coming up in the chat and actually some of them follow on quite neatly from this. We are going to have a little video break just very briefly which is that at 5Rights, we often find it very difficult to explain the purpose of our work. And we had this idea last year that we would create a satirical website and we would put all the features of the digital world into traditional toys and show just how bizarre it is that we accept it. So I am going to ask those of you have questions, keep putting them in the Q and a, because in a moment I am going to come and ask our panelists those questions, but for one moment, in fact, for 60 seconds I am going to ask for the 5Rights Twisted Toys Commercial for Terms and Conditions to be shown to us all.

===Begin Video===

Twisted Toys Terms and Conditions Commercial

Bringing the online world to life – it's Twisted Toys.

[Jingle] The writing's really small but you've gotta read it all, it's my first Terms and Conditions

Deliberately unfair, you'll be pulling out your hair, nobody reads the Terms and Conditions

Tick the box to say agree, [Child:] Yeah!

Say goodbye to being free

That intimidating, obfuscating, infuriating

[Children] My first Terms & Conditions

[Disclaimer] Caution, a university graduate reading level is required to understand the text in this book. Legal Representation may be required. It weights around 30 pounds.

[Commentary] We do not accept this anywhere else. We must not accept it online.

5Rights Foundation

www.Twisted-Toys.com

===End Video===

Beeban Kidron:

Thank you. So the twisted toys, you can find twisted underscore toys dot com on the internet, there were four commercials and a toy catalog, and it was much loved, widely shared at last year. But I think that it's just one way of saying what in fact Katina was saying is, that we got to start being really practical

about how we approach children online. And we cannot expect a child of the age in the video, I mean, it would be preposterous to expect them to really read that. And for those who like facts, that particular book contains the exact number of words in “blah, blah, blah,” as the full set of TikTok terms and conditions across privacy terms, community rules, et cetera, et cetera. So, so even the size of the book is not accidental.

So many thanks for all your questions I'm going to start. I can't quite see Konstantinos. Hopefully he will rejoin us in a moment, but for now, I'm actually going to really ask this to Ansgar, and say Paul says “software should go back to their roots. We should sell offline version of applications, word processors, spreadsheets, encyclopedias, graphics and not susceptible to failing due to forgotten license verification and give kids away from need.” Now I would like, oh, Ansgar, what do you say to that? Does that, does that, is, is going backwards going forwards, or is there another answer?

Ansgar Koene:

Well, I think there's ways of thinking about what was good in particular aspects of how we used to do things and how can we reintroduce them into the way in which we're working now. So one aspect being, maybe we want to retain the ability to update services as we're through using services that are connected to the internet, but maybe we don't need to be transferring the actual data of the user every time we're doing things. So there are different models that are being explored, where we're doing more edge based computing, or maybe even beyond that, just keep the data on your device and we can push the analysis if that's necessary to be run on your device. The devices are getting more powerful every day. And frankly, most of our home uses of PCs and phones, et cetera, don't really need the complete power of the device anyway.

So we can actually do a lot more of the processing on the device instead of pushing the data outward anyway, protecting more of the data of users. Thinking about how are we actually designing these kinds of processes and not just from the “well it's convenient way we've to collect all of the data in one database in a centralized location.” You know, it's not just the data privacy side, there's even the energy consumption side, how much energy are we wasting by continuously streaming data up and down to the cloud and back again.

Beeban Kidron:

So forward back sideways, it's a wealth, is the plain English version of that. I mean, really interesting question. We also have a couple of questions that relate to the same thing and maybe Konstantinos you can talk to this, how do we, so here we have a standard. How do we ensure that people a) use it and b) that when they do use it, that actually they use it in a way that fulfills the promise of the standard. So there's a couple of people really asking about quality control here. And, and I wonder whether you could extrapolate on that. Yes.

Konstantinos Karachalios:

So for any such standard to be used. So two ways, one is really bottom up. That means that the awareness grows within the communities that do the architecture, the coding of these systems that they should not continue doing this, what they're doing right now. They should really change track, what Ansgar said, that it is possible to move the intelligence of the algorithms to the edge of the smartphone, so that the data do not need to go to the center service, this is now possible. And there must be some incentive for the people to do this because they have the freedom within the companies to do so, but they choose not to do themselves. Nobody tells them not to do so. So, and I know what I'm talking about, because it is ingrained -- this attitude that they have to do this way.

This is not true. It is not that the bad capitalists are forcing the good coders to do the dirty work, we do the dirty work ourselves, and this is outrageous, and this is where we have to stop, to put it very clearly. This is an ethical problem of a large, large scale. This is one thing the second is of course companies can be forced by law, and this is what you have been doing in the UK. And this is really let's say a pioneer role. We would like to see this propagating through other countries too. And we are working also now with the European standardization organizations, to take this standard and promote it to the different countries of the European Union. We are doing this as we're talking. So it should not be just, let's say, of course our standard is valid for everyone. It is not just for the UK, but in the UK can work better because then you have the full stack. Yeah.

Beeban Kidron:

And just to finish on that point, do you foresee the certified certification schemes will come in?

Konstantinos Karachalios:

Yes, of course. And this is the second question. If we have a meaningful certification suite, then people can show that they have a really, let's say, taking care of the standard. They have developed the systems according to the standard, and we're going to do this. We're going to offer also certification schemes, which companies may use to show that they have followed the standards. And within with that, they have a safe haven when they their platforms and so on, this is all feasible. And we're working on this

Beeban Kidron:

Fantastic. Katina, someone here is asking really one of the perennial questions that one faces, it says, "one of the challenges of designing for children is many are adults would argue to design of many current online services are overwhelming for them as well. How do we go the extra mile and ensure we're designing not just a fair service for adults, but also provides specific protection children, merit." So I think I might take that in half because I think to a degree, you put forward really powerfully why children need this standard, but I'm really interested in why children first, what would your argument be when everybody is feeling overwhelmed?

Katina Michael:

What's the truth of the matter. We are all feeling overwhelmed. Adults will rarely read terms and conditions. And so if we're feeling a, a back foot and overwhelmed by the data that's being thrown at us, literally on the fly, we can imagine how much more children would be feeling overwhelmed or in some since is completely oblivious to what's going on. And so I want to hit here on a point and extend what Konstantinos was talking about, and Ansgar, when we talk about the scope, when we talk about boundaries, when we talk about interfaces, when we talk about data flows, the limits, when we talk about age setting and appropriateness in context, what is the service that we're talking about? We could talk about broadly, why children should be protected. But when I communicate to my three kids, why it's not a good idea to actually identify one's physical location on a mobile social media app, there's a conversation that has to take place.

And often we don't have that conversation with children. When are we going to have that conversation? If it's not the companies that will say, okay, we need to innovate responsibly. We need to become public interest technologists. We need to think about our children first and foremost, who are in a developmental mode, right? Talk to any psychologist. They'll tell you, they're not fully formed human beings. They are human, but they're developing their awareness, the capability to sort of do the smell test, the mum test, the fishy test, the in someone else's shoes test the TV test. This is emerging. And so

if we don't provide some support and build with the children, we will find increasingly we are exploiting children. We are manipulating children. We are doing things without their knowledge. We are impacting their privacy. So I would say we need to be even simpler with children, but we need to consult with children, none of this business of creating a new service, because it's a great idea.

Where are the ethical alignment that we talk about in IEEE Standards Association? Where is the traceability of the decision making in the organization? Where is the consultation process that says, I interviewed these kids. I surveyed these children in this particular context, in this particular location. And it's expensive, but if we're going to generate a lot of money from these services, we better be prepared to invest dollars at the front end, which is to better build these boundaries, these interfaces, these needs that children may have for their protection and their safety, but also for the upkeep of their rights. So I would say we need to do a much better job of, of building services for children and what we're going to learn from this process is how to build better services for adults as well.

Ansgar Koene:

If I can just add to that please. I think one of the reasons why I think it's a good idea to start with how do we build these good services for children is because in a way children are honest: "I will honestly tell you, I don't understand how this works, expecting me to make a decision for myself on this doesn't make sense." Whereas too many adults will cringe, refuse to say, "I didn't actually understand; I actually ticked this box without knowing what I was doing." And so I think children is also just a great way of clarifying to all of us. Where are we challenged with making a decision for ourselves on these things without having this kind of a guidance?

Beeban Kidron:

I think that's really interesting. And I think, going back to that list, that fabulous list you just gave, Katina, about where is the accountability, where is, within the company who's making the decision, exactly what questions have you asked, have you thought about children's rights, et cetera, et cetera. I want to do a shout out for the standard, because actually if you follow the standard, you will have done all of those things. And so in a funny way, I am very often asked, but what does good look like? Good looks like honest answers. So putting, Ansgar's point with your point, honest answers to those questions and mitigating anything that you find that may be sort of difficult. And I think this is one thing that people don't think about very much, and it speaks to a really fabulous comment and that I'm about to read out, but people don't realize there's not an on, off button.

You can delete a feature that is highly risky. You can redesign a feature that is really risky, or you can manage a feature because actually you can manage the risk out of that thing. You have at least three approaches to the same problem, but if you take none of them, because you're not acknowledging a child as a child, then I think that the sort of slight moral outrage that I'm feeling from our panelists has a justifiable place. I am going to read this from Samira: "it not so much question, more comment as a developer in the Excel field. I often see myself confronted with the take it or leave it mentality of SDKs and APIs of companies. I actually really tried to find a face tracking algorithm for a game idea, but ended up writing my own code from scratch, because we could not be that the Google API is not further using the data of the children that that game was designed for."

I don't know whether anyone wants to particularly comment on that. Please wave at me if you do, but I wanted to shout out to Samira, fantastic that you did that; fantastic, that you shared that. And in a sense, those are the things that we're trying to uncover, and we're trying to uncover, as Konstantinos said earlier, the responsibility in all of us. I mean, think the shareholders have a responsibility, the executive has a responsibility, but actually as you build these things, you kind of know whether you're

doing right or wrong in that moment. And actually the more people who have something to point at to say, actually, we'd like to do it this way, because that's the right thing to do, the better. I am aware that we're coming to an end, but I really would like to ask this question and I would love my panelists to indicate whether they want to answer: "From a children's rights perspective, what can we do to minimize digital inequalities amongst children in terms of digital skills." And this is because the person who's posted this says "digital skills being directly related to the risks, which children may be exposed to online." I'm going to throw a, a privilege of the chair and say to design the services more safely is one of the best ways that we can actually minimize the inequality of skill. But I wonder whether anyone else wants to come in and answer that question at all. Yeah. Katina.

Katina Michael:

So for a long time, we've discussed the possibility of introducing media literacy courses. You know, you get a pen license and we still have children getting pen licenses in grade four in grade five of elementary school, so they can use a pen. Where is the media literacy course, not just the online safety course or the cyber safety course of which there are many around the world, but media literacy, there is nothing as great in today's digital world, than graduating out of primary school or high school or university with technical skills. The pay scale is dramatically different. The opportunities are very different. The access to information, health, and wellbeing, all those things that we talk about in the sustainable development goals, which are achievable through information, access, high speed networking, mobile networking, cloud computing. We're not saying these technologies should go away. We're saying we should be building them appropriately for the benefit and flourishing of all. So I would say, as one of the political parties in Australia have said, if they get into government in the next election, they will introduce a \$6 million injection, which is not enough, but it's a \$6 million injection with respect to media literacy courses where we start early and we start talking to kids at preschool. I'm not saying we place devices in children in preschool, but we start to have the conversation early, often, and graduate with these skills.

Beeban Kidron:

Yeah. Fantastic answer. There's a question for you, Konstantinos, here. It says, "I think this standard should be part of the business model for private companies and public authorities in a similar way when offenders are not allowed to work with children in certain professions, any thoughts?" So unless you do it, you're not allowed. How about that? Well, this,

Konstantinos Karachalios:

This is the plan. It should be like this, for the people here who are the engineers who do the Wi-Fi® and the Ethernet, this is our standard. This should be really the Wi-Fi for ethics. So there is a way to go there because is not about interoperability. People are not forced to use it, but the pressure, the social pressure must be high enough to get there. This is our ambition.

Beeban Kidron:

Yeah. Fantastic. I'm going to ask all of you, I'm aware that we're coming to the end. So I'm actually going to ask all of you to answer this question, which is sorry, I'm scrolling through cuz they go up it's from Chloe and she says, "do you think it's too late? Is the damage already done?" So really you have a one minute to answer that subject. Ansgar first.

Ansgar Koene:

A lot of damage has been done, but it's never too late to fix things and to make it better for the future.

Beeban Kidron:

Okay. Konstatinos.

Ansgar Koene:

It is always too late, but you have to start sometime to do something.

Beeban Kidron:

And Katina.

Katina Michael:

I would like to say, is it at the point of no return? I'd say we're close, but there's always hope. And this standard is our future hope in how we're going to build better services for all.

Beeban Kidron:

It's fantastic. Now you've all answered that so rapidly. We actually have a tiny little bit of time at the end. And I think I just do want to say both to the people who've put questions, to those of you who are out there, I want to thank you for your interest. And I also want to thank you for the very many people who are saying nice things in the chat, who are thanking, who are saying, this is the way forward, who are, who are supporting this work. And I think that maybe what we'll do is ask you who are on the call to do your bit now, to actually socialize the standard where you are and whether you are in fact a parent, a citizen, a school in the school environment, whether you're in the digital business part of this and or indeed if you are regulator government politician and so on.

I think that what we are asking is for you to pick up the standard, to understand what it means, the way that our panelists have explained it and understand how it could make a difference. Because I think that is our responsibility, all of us individually. And I was really struck by what Konstantinos was willing to say to his professional peers, engineers: This is for you to do, don't wait for the boss, don't wait for the shareholder. And I think that I accept that challenge as a politician, as a law maker in parliament. And I think that maybe our audience could accept the Konstantinos challenge, to make it relevant and important in your context. So what we are actually going to finish with is really, Ansgar, what is the one thing we haven't said in this conversation that people really need to think about, take away with them?

Ansgar Koene:

I think elements about how are we using the technology ourselves and how are we communicating with people around us who might not be aware of certain issues.

Beeban Kidron:

Fantastic. Katina.

Katina Michael:

Say, everyone is a designer in this complex ecosystem, and we need to work towards evidence based design, where we are operationalizing those principles we are talking about, let's prove we're doing this in businesses. Let's prove, not just lip service, not just ethics washing, but real public interest technology.

Beeban Kidron:

Fantastic. Konstantinos. You have the last word. I will say as is right.

Konstantinos Karachalios:

I will. Thank you. First of all, there were so many questions. Please send them to us and we're going to take this offline and answer was impossible. It was a lot of interest and Moira, you should give your email that people can contact you. And then what my message is very clear: The time of innocence is over. We have to get serious and that everybody, what Katina said, we have to assume our set of responsibility. Everyone, the lawmakers, the regulators, the technical communities, we cannot go on destroying the childhood of our children. Over.

Beeban Kidron:

Fantastic. Okay. So it falls to me to thank Katina and Ansgar. I have to thank Konstantinos and everybody IEEE for making this possible for supporting this work and for their vision. I want to thank the 5Rights team because they are incredible. It's a very small team and they make such impact in the world. And I really want to again, do a shout out for Ali, our technical director, without you we are nothing. And finally, let me thank the attendees for your interest, for your questions and for your support. Please take this out and make it yours. Thank you very much.