

Human Rights and Technology

Submission by Intopia to the AHRC

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Summary

- Accessibility is an essential facilitator to a range of human rights.
- Accessibility can either be helped or hindered by technology.
- There are more than 1 billion people with disability globally, and more than 4.5 million people with disability in Australia (and growing).
- The earlier that accessibility is embedded into technical specifications for technologies – of all types, shapes and sizes, the better (and cheaper) for all.
- Laws and policies can be harmonised with global standards, incentivised and enforced to promote accessibility, which will make it easier for companies, non-profits and educational institutions to implement.
- Australia can drive discussions globally to support accessible, inclusive and safe technologies for all.

Recommendations

1. Update the Government's Digital Service Standard, the Australian Standard AS EN 301 549, the Disability Discrimination Act Advisory Notes and the National Standards for Disability Services, to refer to conformance with the latest version of the Web Content Accessibility Guidelines (currently WCAG 2.1).
2. Consider recommendations on accessible formats to include the latest version of EPUB (currently EPUB 3) in relevant Australian guidance documents.
3. Embed universal design and accessibility in the core curriculum of universities, vocational education and training, and ICT courses at all levels.
4. Promote digital inclusion in all discussions related to smart cities, artificial intelligence, research grants and technological innovations.

Question 1: What types of technology raise particular human rights concerns? Which human rights are particularly implicated?

Types of technology	Human rights implicated
Systems with inaccessibility built-in	<p>Examples:</p> <ul style="list-style-type: none"> • Article 9, CRPD (Accessibility) • Article 21, CRPD (Freedom of expression, opinion and access to information) • Article 27, CRPD (Work and Employment) • Article 24, CRPD (Education)
ICT hardware that is built without considering accessibility – such as voting stations, information portals	<ul style="list-style-type: none"> • Article 9, CRPD (Accessibility) • Article 21, CRPD (Freedom of expression, opinion and access to information) and 19, ICCPR • Article 27, CRPD (Work and Employment) • Article 24, CRPD (Education) • Article 29, CRPD (Participation in political and public life) and 25, ICCPR
ICT software with inaccessible payment systems, HR systems	<ul style="list-style-type: none"> • Article 9, CRPD (Accessibility) • Article 27, CRPD (Work and Employment)
ICT used for education that is inaccessible – such as videos that do not have captions or textbooks that do not have an EPUB or accessible alternative	<ul style="list-style-type: none"> • Article 9, CRPD (Accessibility) • Article 24, CRPD (Education) • Article 28, CRC (Education) • Article 21, CRPD (Freedom of expression, opinion and access to information) • Article 17, CRC (Information)
Technology that collects personal information	<ul style="list-style-type: none"> • Article 22, CRPD (Privacy) • Article 16, CRC (Privacy)

Question 2: Noting that particular groups within the Australian community can experience new technology differently, what are the key issues regarding new technologies for these groups of people (such as children and young people; older people; women and girls; LGBTI people; people of culturally and linguistically diverse backgrounds; Aboriginal and Torres Strait Islander peoples)?

Key issues regarding new technologies	Groups affected
Inaccessible systems and services	<ul style="list-style-type: none"> • People with disabilities of all ages
Cost of new technologies	<ul style="list-style-type: none"> • People with lower socio-economic status in all groups, often particularly affects people with disabilities experiencing unemployment or underemployment as well as older people with age-related impairments on pensions
Security and privacy	<ul style="list-style-type: none"> • People with disabilities, who are also women, children and young people, older people, LGBTI people, people with cultural and linguistically diverse backgrounds, Aboriginal and Torres Strait Islander peoples
Complexity of 'tech-speak'	<ul style="list-style-type: none"> • People with intellectual disabilities, or low literacy, or children, may find technological language too complex
Internet of Things (IoT) requires reliability of networks	<ul style="list-style-type: none"> • People living in remote areas or where internet access is not consistent - including people with disabilities – may find that if the network is not reliable, access to information is also not reliable
Access to Virtual and Augmented Reality	<ul style="list-style-type: none"> • Standards for accessibility can be supported through Virtual Reality (VR) but equally, advances can be made to make VR more accessible for people who are blind or have other disabilities
Access to conversational and voice interfaces	<ul style="list-style-type: none"> • While AI may have more sophistication in voice recognition, if a person has voice fluctuations, or artificial voice such as a person with Cerebral Palsy, or who has an artificial larynx, it is important that voice-to-text and voice interfaces can be accessed in different ways.
Use of AI and associated bias	<ul style="list-style-type: none"> • Data bias • Algorithm bias • Consumer trust
Introduction of digital identifiers and biometrics	<ul style="list-style-type: none"> • Not everyone has an iris or a fingerprint. • Biometric identifiers often require stability, which may be difficult if a person has tremors, or limited dexterity. • ISO standards on accessible construction (ISO 21542:2011) recommend that biometric identifiers are supplemented with accessible systems.

Question 3: How should Australian law protect human rights in the development, use and application of new technologies? In particular: a) What gaps, if any, are there in this area of Australian law? b) What can we learn about the need for regulating new technologies, and the options for doing so, from international human rights law and the experiences of other countries? c) What principles should guide regulation in this area?

<p>Gaps in Australian Law to protect human rights in the development, use and application of new technologies</p>	<ul style="list-style-type: none"> • There are explicit legal provisions for protecting human rights in some sectors such as Education • There is an accessibility-awareness abyss across many other sectors. • The Fair Work Ombudsman (FWO) provides a potential avenue for people with disabilities to seek redress against discrimination in accordance with the Disability Discrimination Act (DDA). Job-seekers with disabilities also need to navigate technology in the recruitment processes (i.e. before employment commences) for example, not to be excluded through inaccessible screening questions, online systems or exams. • The Disability Services Act (DSA) as amended in 2017, has provisions for certificates of compliance to be issued by an accredited certification body. Part of the accreditation process can be to require providers to show conformance with the latest web accessibility guidelines (currently WCAG 2.1). • Australian law is not explicit about the requirements of private sector to meet accessibility requirements, in the absence of a case being brought under the DDA, however the case of Sydney Olympics in 2000 demonstrated the applicability of the digital service requirements. In this regard, the DDA Web Advisory Notes need to be regularly updated to reflect the current standards and best practices.
<p>How to regulate new technologies, lessons from other countries, or international human rights law</p>	<ul style="list-style-type: none"> • Learn from the General Comment #2 of the CRPD Committee on Article 9 (accessibility) and General Comment #6 on Article 5 (equality and non-discrimination) (OHCHR) • Learn from good practice e.g. the Zero Project Awards
<p>What principles should guide regulation</p>	<ul style="list-style-type: none"> • Transparency • Equity • Currency: advance as technology advances • Consistency: align with global standards such as on accessibility; harmonise with international regulations where appropriate • Privacy • Inclusion

Question 4: In addition to legislation, how should the Australian Government, the private sector and others protect and promote human rights in the development of new technology?

Roles to protect and promote human rights in the development of new technology:

- Government
- Private Sector
- Others (non-profit sector)

- Australia has ratified the CRPD, the CRPD Optional Protocol, and the Marrakesh Treaty.
- The Government has made commitments to employment of people with disability
- Government needs to require that procurement of ICT considers relevant standards such as AS EN 301 549
- To reflect the latest web content accessibility guidelines WCAG 2.1 Australia can commit to public websites meeting at least AA of WCAG 2.1 reflect this in an update of the Standards Australia AS EN 301549, the Government's Digital Service Standard and the AHRC's DDA web advisory notes; keep these documents up-to-date as updated accessibility guidelines and standards are released
- Cities can make sure that "smart cities" are accessible smart cities for all (in line with the cities4all initiative and calls by the UN Special Envoy on accessibility, for ASEAN cities to be accessible)
- Government grants and start-up funds need to not prioritise innovation over inclusion. Technology can be both innovative and inclusive.
- Government could run targeted and broad public awareness raising campaigns and provide a series of trainings on accessibility.
- Private sector can publish and publicly demonstrate commitments to accessibility and human rights of people with disabilities in their public statements, websites, annual reports, recruitment and communications.

Question 5: How well are human rights protected and promoted in AI-informed decision making? In particular, what are some practical examples of how AI-informed decision making can protect or threaten human rights?

How can AI-informed decision making protect or threaten human rights?

- AI-informed decision making is only as good as the data – and the underlying algorithms. Data is imperfect. Algorithms can be imperfect. Data can also reflect and be interpreted based on views and potential bias of the humans that set up the structures around what data is collected and used.
- AI has many potentials to protect and promote human rights of people with disability.
- As a sub-category of AI, with AI-informed decision making, there are potential threats to the privacy and human rights of people with disability if a mechanism chooses to exclude people based on disability or the data didn't include them in the first place.
- Even projects that aim to embed moral or human rights decisions into the algorithms, may have internal bias. There is a difference between AI-informed decision making to re-route a driverless car around a hazard, and AI-informed decision making that could inform who is eligible for a kidney transplant or not.
- A challenge with AI-informed decision making is that sometimes it will be difficult for people to understand exactly how decisions and processes were understood and applied; AI engines can be 'black boxes' that cannot be traced back or easily understood.

Question 6: How should Australian law protect human rights in respect of AI-informed decision making? In particular: a) What should be the overarching objectives of regulation in this area? b) What principles should be applied to achieve these objectives? c) Are there any gaps in how Australian law deals with this area? If so, what are they? d) What can we learn from how other countries are seeking to protect human rights in this area?

<p>AI-informed decision making: Overarching objectives required? Principles to be applied?</p>	<ul style="list-style-type: none"> • AI-informed decision making needs to have an objective to improve lives, as per the “do no harm principle”. • Principles need to focus on people-centredness – with transparent information on decision making - to avoid potential big data bias and potential profits overriding ethical behaviour • To develop principles further, suggest ANU’s 3ai Institute and the UNSW Disability and Innovation Institute and forward thinking organisations can share lessons and embed human rights at the core of research, teaching and innovation
<p>Gaps in Australian law to protect human rights when it comes to AI-informed decision making?</p>	<ul style="list-style-type: none"> • As a thought experiment – if there was a court case about AI-informed decision making that resulted in finding bias and discrimination against a person with disability, how would this be proven, and who would be held accountable? • If a person with disability was excluded from employment screening because AI algorithms interpreted requests for reasonable accommodation incorrectly, how would a person take action on the basis of discrimination?
<p>What can we learn from other countries?</p>	<ul style="list-style-type: none"> • Review the General Comment from the CRPD committee on article 9 and other relevant articles and consider a report from the Special Rapporteur on Disability on potential implications of AI

Question 7: In addition to legislation, how should Australia protect human rights in AI-informed decision making? What role, if any, is there for: a) An organisation that takes a central role in promoting responsible innovation in AI-informed decision making? b) Self-regulatory or co-regulatory approaches? c) A 'regulation by design' approach?

Opportunities for Australia to protect human rights in AI-informed decision making

- A central organisation has opportunities to promote responsible innovation in AI-informed decision making and can make sure that principles are consistently applied.
- Self-regulation or co-regulation can result in retrospective issues being found without having clear recourse. While self-regulatory commitments to meeting principles around AI-informed decision making can be positive, there needs to be an enforcement mechanism.
- Given the global nature of AI-informed decision making, having a regional or global roundtable or high-level discussion around this may be required.

Question 8: What opportunities and challenges currently exist for people with disability accessing technology?

<p>Challenges for people with disability in accessing technology</p>	<ul style="list-style-type: none"> • Cost of technology • Keeping abreast of new developments and opportunities • Potential upgrades to technology which no-longer support assistive technology • Technology that gets developed or distributed without incorporating accessibility standards (e.g. AS EN 301 549) such as having terminals for information that are inaccessible for a person using a wheelchair, or a person who is blind • Many underlying systems, such as content management systems, client referral systems, internal HR systems, are not accessible, which constrains the ability of staff with disability to work on an equal basis with others.
<p>Opportunities for people with disability to access technology</p>	<ul style="list-style-type: none"> • Technology can allow for transfer of accessible formats of documents across borders, in line with the Marrakesh Treaty (which Australia has ratified) • Technology can be amended more easily than the physical world, to be made more accessible and compatible with assistive technology • There are innovations such as the ‘storysign’ application which use avatar-based options to convert text to sign-language, or ‘be my eyes’ and other applications to provide sighted information. • In addition to NDIS funding, Australia’s ‘Job Access’ provides opportunities to access reasonable accommodation, which can include assistive technology – however ideally employers will require accessible systems and workplaces in general, incentive programs need to help employers to make workplaces more accessible in the first instance. • There is interest with Habitat III, and the UN Sustainable Development Goals, especially Goal 11, focusing on cities for all, to have cities take a leadership role to promote inclusion and technological innovation though making smart city initiatives accessible too.

Question 9 What should be the Australian Government’s strategy in promoting accessible technology for people with disability? In particular: a) what, if any, changes to Australian law are needed to ensure new technology is accessible? b) what, if any, policy and other changes are needed in Australia to promote accessibility for new technology?

Recommended Australian Government strategy to promote accessible technology for people with disability

- Legal / policy framework:
 - Embed reference to the latest Australian standards around accessibility, including for accessible ICT procurement (AS EN 301 549).
 - Ensure that EN 301 549 is referenced in the DDA web accessibility notes
 - Embed reference to accessible ICT procurement in the next iteration of the Government Procurement guidelines.
- Other recommendations:
 - Commit to employing more people with disability across the Australian Public Service and to meet the existing targets, through providing flexible arrangements
 - As per the UNESCAP report (2015) on employment of persons with disabilities, Australia can also “provide funding support and tax incentives to start ups and social enterprise initiatives that aim to hire persons with disabilities or address specific needs of persons with disabilities.” ([UNESCAP Disability at a Glance 2015: 32](#))
 - Create a national reference group to drive accessibility improvements, for example like the US Access Board
 - Standards Australia can review the accessibility of current standards and consider the [ISO / IEC guide 71](#) in all future standards development.

Question 10 How can the private sector be encouraged or incentivised to develop and use accessible and inclusive technology, for example, through the use of universal design?

Opportunities to encourage the private sector to develop and use accessible and inclusive technology, including universal design

- Promote the principles of universal design and the goals of universal design
- Require organisations that receive public funding or grants, including through innovation challenges, to demonstrate accessibility as a key feature.
- Require organisations that provide software services to government, to demonstrate how accessibility features have been integrated.
- Embed accessibility and universal design for learning into mainstream University, vocational education and training and secondary school ICT courses – across Australia. So that graduates will have a more solid understanding of universal design being core to technology – or architecture – rather than it being seen a separate specialisation or an add-on.
- Suggest that boards consider diverse representation – noting the return on investment that this generates. E.g. an aspirational target of 5-10% of board membership to include people with disability.
- Suggest boards track how accessibility is integrated into systems and technologies being used or deployed in the course of their business.
- Corporate Social Responsibility and accessibility can be promoted as mutually beneficial. In addition, the UN guiding principles for business and human rights can integrate accessibility and inclusion considerations in reporting.

**Accessibility is just the beginning.
It is usability that makes the difference.**

Patti Moore

About Intopia

We are a digital consultancy, but we're a consultancy with a difference. We're change makers. We believe everyone has a right to inclusive digital experiences that enrich their lives. This is our purpose, our quest, the white rabbit we follow.

We do what we love, to help make the world more inclusive. We place the user, regardless of their ability, at the centre of everything we do. We work to break down the barriers and make technology universally accessible.

Intopia is not an ordinary company but a social enterprise committed to supporting our community. One of our key social commitments is to give 5% of our revenue to community and non-profit activities that support access, inclusion, and women in technology.

We work with socially progressive executives, managers, designers and developers who are looking to support an inclusive digital world and want to maximise their service delivery. These champions, from small to large organisations and state and federal government agencies, are the real heroes of the story. Our role is to be a trusted guide and advisor to help them create a better digital world.

Intopia is also a member of the World Wide Web Consortium (W3C) and contributed to final version of WCAG 2.1 (the Web Content Accessibility Guidelines) through the W3C's Education and Outreach Working Group (EOWG).