

# Design for All



## Women Designer year

**Guest Editor: Debra Ruh,  
CEO, Author, Global Goodwill Ambassador**

## June 2020 Vol-15 No-6

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## **Guest Editorial:**

***Debra Ruh, Design for All Vulnerable Groups, CEO of Ruh Global IMPACT***



**Debra Ruh**

### ***Debra Ruh***

***Debra Ruh is the Founder and CEO of Ruh Global IMPACT. The firm consults with Corporations, Governments, UN Agencies, Academia and NGOs on disability inclusion, digital inclusion, Tech4Good, and the UN SDGs.***

***The UN President's office invited Debra to address the United Nations General Assembly at the Conference of State Parties 9<sup>th</sup> session on May 13, 2016. Selected as the North American representative for UN ILO Global Business and Disability Network (GBDN). US State Department global speaker and ambassador since 2018. Nominated as Global Goodwill Ambassador in 2018.***

***Debra is an author of three books, Inclusion Branding (available in English, Spanish, Arabic, and Voice via Audible), Tapping into Hidden Human Capital, and Finding Your Voice using Social Media. Learn more at [www.RuhGlobal.com](http://www.RuhGlobal.com) or <https://tiny.cc/DebraRuh>.***

***Debra was inducted into the 2019 Disability Hall of Fame by the National Disability Mentoring Coalition. Debra is a global influencer, with over 350,000+ on social media.***

***Co-founder of award winning #AXSChat one of largest tweet chats in the world with over 8+ billion tweets. Named in the "Top 5% of Social Media Influencers" and "Top 0.1% of people talking about Disability Inclusion and Accessibility" by KLOUT, #15 in Digital Scouts, and Top #100 Global Digital Influencers in Sept 2018. Debra has been featured on CBS, ABC, NBC, Washington Post, INC, Entrepreneur, Forbes, Huffington Post, NY Times, Christian Science Monitor, and more.***



## **Introduction**

**It is a great honor to be the Guest Editor of June 2020 edition, Vol-15 No-6 for Design for All India newsletter. I would like to thank Dr. Sunil Bhatia for providing me with this opportunity and I would like to express my gratitude to all the authors.**

***"I believe through the vision and strategy of Ruh Global IMPACT that real weakness and disability is our inability to see true human potential".***

**Hence, how do we bring out the potential in all people through Inclusion and design for all, especially when we see vulnerable groups being overlooked and ignored when products and services are designed in their name?**

**Vulnerability is about being at risk and it is often understood as the effect of limited physical or cognitive capabilities, such as age, frailty, or illness. Vulnerable people are frequently excluded from the design of technologies that could, in fact, supporting them in tackling these risks in addition to fostering social resilience.**

**Designing with vulnerable people is practically, methodologically, and ethically challenging for people with disabilities, chronically ill teenage patients, isolated, women and, elderly adults.**

**Social impact, inclusion, empowerment, and design for all enhance the respect to human diversity and works for a world where everyone enjoys equal opportunities for personal development including vulnerable groups.**

**Design for All should be implemented in all areas and for all people because human beings are diverse, and everyone has the wish, the need, and the right to being independent and choosing the own**

**lifestyle without facing physical and social barriers. It should respect the diversity of users. Nobody should feel marginalized and everybody should be able to access it.**

**Designing for persons with disabilities, the elderly, and vulnerable groups should be by placing an emphasis on the approach design of new technologies to support such individuals in the current time and future. we hope through this newsletter "Design for All India" inspires alternative visions of technology where provided individuals are provided means to having a voice rather than being stigmatized as vulnerable or in need of assistance.**

## **Design for All**

**The term Design for All (DfA) is used to describe a design philosophy targeting the use of products, services, and systems by as many people as possible without the need for adaptation. "Design for All is design for human diversity, social inclusion, and equality" (EIDD Stockholm Declaration, 2004). According to the European Commission, it "encourages manufacturers and service providers to produce new technologies for everyone: technologies that are suitable for the elderly and people with disabilities, as much as the teenage techno-wizard. The origin of Design for All lies in the field of barrier-free accessibility for people with disabilities and the broader notion of universal design.**

**Design for All has become a mainstream issue because of the aging of the population and its increasingly multi-ethnic composition. It follows a market approach and can reach out to a broader market. Easy-to-use, accessible, affordable products and services improve the quality of life of all citizens. Design for All permits access to the built environment, access to services, and user-friendly products**

which are not just a quality factor but a necessity for many aging or disabled persons.

Including Design for All early and throughout the entire life cycle of the design process is more cost-effective than making alterations after solutions are already in the market. This is best achieved by identifying and involving users ("stakeholders") in the decision-making processes that lead to drawing up the design brief and educating public and private sector decision-makers about the benefits to be gained from making coherent use of Design (for All) in a wide range of socio-economic situations. *Source: "Wikipedia"*

## **Designing for Vulnerability**

- **Design for All- Disability**
  - *The trend in making products – and information – more accessible to those with any kind of disability is gathering momentum. Interestingly, seeking design solutions that meet the needs of the disabled results in a better overall design, benefitting both the able and disabled.*
  - *New terminology has been coined to describe more inclusive design processes, including terms such as accessible design, barrier-free design and assistive technology. Universal design is a relatively new approach that has emerged from these models and describes the design elements of buildings, products and environments that allow for the broadest range of users and applications.*
  - *The Center for Universal Design at North Carolina State University in the U.S. developed Principles of Universal*

***Design, which guide a wide range of design disciplines. The Center defines universal design as designing products and environments in such a way that they are usable by all people, to the greatest extent possible, without the need for adaptation or specialized design for particular users.***

- **Design for the elderly**

- ***Demographic trends show that the over-60 group will keep increasing to encompass an ever-larger percentage of the population, with significant implications for the world of design. Objects and environments designed for the aging have tended to look less appealing than other options on the market. But unaesthetic designs are not a necessary evil for older persons.***

**Design for all and inclusion can alleviate the suffering of vulnerable groups of peoples through designing the programs in which all groups of peoples can include.**

**We have to look for technology-based solutions and explore options public-private partnership to enable greater access. The 'golden rule' for the design that was developed by Berdichevsky and Neuenschwander says: "*As a designer, you should never do to others what you don't want to be done to you. For this golden rule to be meaningful, however, a designer needs to assume that everyone is more or less like her, while in reality, they are not. When you design for people who, as a result of their inherent or situational vulnerabilities, do not have the same needs or interests as you do, how does the golden rule guarantee that you as a designer create what is best not only for yourself but also for others*"?**

**The pitfall is that designers compile an idealized person that is based on their own experiences, needs, and preferences and take that as their vantage point. Thus, they do not take real-life contexts adequately into account, and vulnerable users who differ from this idealized vantage point do not receive sufficient attention and provision in the technology design.**

**Technology is valuable tools to improve administration and services, but as digital systems become more pervasive, there is a danger that inequality will deepen unless governments and stakeholders and tech industrials recognize that tech-driven solutions are as important to the poor, as they are to the affluent. For example, smart city planners can deploy technology in ways that make cities more inclusive for the poor, people with disabilities, the elderly, and other vulnerable people, and there are many examples already in this context.**

**In Kolkata, India, a Dublin-based startup called Addressing the Unaddressed has used GPS to provide postal addresses for more than 120,000 slum dwellers in 14 informal communities. The goal is to give residents a legal means of obtaining biometric identification cards, essential documentation needed to access government services, and register to vote. But while these innovations are certainly significant, they are only a fraction of what is possible.**

**The good news is that considering the needs of the disabled will ultimately lead to designs that are safer, more flexible and more attractive for all consumers. We are hopefully working towards a world where design solutions are found for people of all degrees of ability including all vulnerable groups.**

## **In this Issue**

**In this issue of the Design for All journal, we present five articles from leaders all over the world.**

**The first article focuses on research on "Women and diverse people add value to inclusive design". Nabil Eid talks about the involvement and integration of women with disabilities themselves in leading and influencing work is vital and, pointed out to diversity as an important and ultimately creates better businesses for inclusive and design for all. Nabil believes that Women's empowerment is enabling women to participate fully in economic life across all sectors and recognizing that this is essential to build stronger economies, achieve internationally agreed goals for development and sustainability, and improve the quality of life for women, men, families, and communities.**

**The second article was written by Kevin Ruh, "Millennials View of the World –The Power of Youth". He talks about the prevalence of social media and, he assures that we all have a front-row seat to world events, social media can be used for powerful positive change and connect us all, we can look at what was not working in the past and work to fix it, and it is now the time to let the ones you were making room for to make decisions to all take care of one another with respect always. When we leave out voices then we leave out so much.**

**The third paper is about "Accessibility and Usability in mobile apps beyond TalkBack and VoiceOver" by Mohit Goenka and Nikita Varma .**



**The two authors indicated to the web as a primary medium that requires a keyboard and mouse to navigate and access the product/service, thus making the web inaccessible to many people even in the case of mobile apps and, touch gestures play a key role in accessing a service or product, such as screen reader software like VoiceOver, TalkBack, etc, makes it easier for people to navigate a website or an app if it is developed to work with the screen readers. However, even with screen readers, the user has to gain an understanding of how each screen reader works and learn all the commands in order to navigate effectively across the application. Accessibility in the simplest terms is the ability to access. Accessible design is a good design.**

**The fourth article was created by David Perez. David lives in Costa Rica and has an interesting perspective on disability inclusion and inclusive design. His article focuses on Future of Work. During the COVID-19 crisis many people were sent home to work.**

**Many of David ideas in his article are timely and topical as we rethink our world. David's article explores the different parts of Future of Work and ways we can improve work for all people.**

**The fifth and final article was written by Marcie Roth. Marcie is a global expert on emergency preparedness and disaster recovery specially from the lens of disability and elderly community. This issue comes out in the middle of the COVID-19 Crisis. Her leadership is changing lives. Marci shows us the framework she has created with other leaders to achieve the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15**

**years. Sadly, she explains that according to UN reports, the mortality rates for persons with disabilities in disasters is estimated to be two to four times higher than for persons without disabilities. During the COVID-19 crisis we can learn a lot from her work and assure all people are protected during a pandemic.**

## **Women and diverse people add value to inclusive design.**

***Nabil Eid, Director of Global Inclusion, Ruh Global IMPACT***



**Nabil Eid**

### **Nabil Eid**

***Nabil is currently the director of global inclusion at Ruh Global IMPACT, and has graduated with a master's degree in engineering, department of planning and strategies for community development from Aleppo University in Syria. He also holds more than a higher diploma in a field of ICT accessibility, Assistive Technology, ICT4D, and inclusive design.***

***Nabil has held several positions and worked with numerous INGOs, civil society networks, UN agencies, governments, private sector, and grassroots organizations to successfully create positive change at global, regional, and national levels.***

***More than 20 years of experience in disability inclusion strategies, providing counseling, coaching, research, evaluation and monitoring, ICT accessibility solutions, and assistive technology services.***

***Develop policies in the field of development, rehabilitation, integration, and empowerment of persons with disabilities in cooperation with ITU, UNDP and UN-ESCWA.***

***As regional community manager in the Middle East and North Africa in the Telecentre Foundation, he worked previously for support inclusive communities, a community of disability services in inclusion, refugees, and IDPs with disabilities in camps and the host communities in the domain of social life skills, accessible services in the fields of education, employment, rehabilitation, and others. He is also an author of 6 books in English and Arabic about disability inclusion and ICT accessibility.***

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## **Introduction**

**Only 17 women have won a Nobel Prize in physics, chemistry or medicine since Marie Curie in 1903, compared to 572 men. Today, only 28% of all of the world's researchers are women. Such huge disparities, such as deep inequality, do not happen by chance.**

**Science and innovation underpin the achievement of all 17 SDGs, including for example SDG9, 'Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation and the SDG5 focuses on gender equality also has a target to enhance the use of ICT to promote women's empowerment to help create a more inclusive society, in addition, a more inclusive design that recognizes the range of achievements that can be made by persons with disabilities. What I think we need is a more inclusive design that embraces, celebrates, and welcomes the diversity of the human in achieving this goal of "empowering disability".**

**Women with disabilities need to be included in the inclusive design, implementation, monitoring, and evaluation of programs.**

**Women's empowerment is enabling women to participate fully in economic life across all sectors and recognizing that this is essential to build stronger economies, achieve internationally agreed goals for development and sustainability, and improve the quality of life for women, men, families and communities.**

***"Most designers and developers believe that building products and services with accessibility in mind is for the minority. My goal is to dismiss that thought and educate on how accessibility can benefit all and in turn, make online more inclusive. Accessibility means***

***enablement for us all. Inclusive design is not only for the minority”.***  
***"Molly Watt"***



**Molly Watt: Image by Herman Caroan**

**Women are key players in crafting solutions to improve lives and generate an inclusive design that benefits all. They are the greatest untapped population to become the next generations of Science, Technology, Engineering, and Mathematics STEM professionals – we must invest in their talent. though, and according to data from the [National Science Foundation](#) (NSF) The majority of scientists and engineers with disabilities are in the labor force. However, while only 14 percent of scientists and engineers without disabilities are not in the workforce in any capacity.**



**The involvement and integration of women with disabilities themselves in leading and influencing work is vital. Diversity is so important and ultimately creates better businesses. diversity and collaboration, two vital components of inclusive design.**

### **Make gender equality a reality**

**Girls' under-representation in Information and communication technology is deep-rooted and puts a detrimental brake on progress towards sustainable development.**

**We need to understand the drivers behind this situation in order to reverse these trends.**

**It's time to do for gender equality across numerous industries, including Technology to make gender equality a reality,**

**Research supports that diverse and inclusive teams tend to be more creative and innovative than homogenous groups." Gender equality leads to greater psychological safety. And boosting women in the tech industry will also help advance efforts to inclusive design.**

**Inclusivity is beneficial not just for the people in the industry, but for the work too. Representation is important and needs a balance of gender, age, ethnicity, and other factors – not just for 'fairness' but to ensure that we design solutions that will meet the needs of all kinds of people, the goal should be to design with inclusivity, creative teams that include women have better ideas to create a more inclusive design.**

**The technology and inclusive design worlds need more balanced leadership, and this requires getting more women into an inclusive design that requires holistic and integrated responses that reach**

across sectors and that engage girls and women in identifying solutions to persistent challenges.

Doing so moves us all towards gender equality where women and men, girls and boys can participate fully, develop meaningfully, and create a more inclusive, equitable and sustainable world.

Women have been making history for centuries; for some, this was the only choice they had. For [women with disabilities](#) in particular, it was either live the way others expected them to or fight for the lives they knew they deserved.



**Women With Disabilities Who Made History**

ICTs are currently an integrated part of society. Being able to take part in the information society is a prerequisite for fully being able to take part in an inclusive society.

**Universal design can help all human beings experience the world around them in a fair and equal way by creating safe and accessible environments for all members of the community.**

**Inclusive Design is the design of an environment so that it can be accessed and used by as many people as possible, regardless of age, gender and disability.**

**An environment that is designed inclusively is not just relevant to buildings; it also applies to surrounding open spaces, wherever people go about everyday activities. It's worth clarifying that inclusive design is a process, a way of including and learning from people with a range of needs and ways of interacting with the world, and using these insights to build in joined-up thinking and make products truly usable and open to all.**

**By thinking about all kinds of people and situations at the beginning of a project, it's possible to design in a diverse number of ways people can use technology to set their own preferences and adapt them as life changes.**

**The good inclusive design looks at business processes, user experience, data architecture and the technology to make sure they work well together, creating a positive experience that's to all.**

**Accessibility is more than ticking boxes on a checklist, it's about real people, grey areas, and smarter solutions. Every design decision has the potential to include or exclude users.**

**Accessibility, on the other hand, is about meeting a set of standards to help make websites, apps and so on work for people with disabilities and the aids (assistive technology) they use.**

**It is essential to involve and consult people with disabilities (including women), as well as other potential users and stakeholders because:**

- Users' perspectives, combined with professional expertise and technical guidance, are essential to ensure that facilities and services are appropriate and provide value for money.***
- Better understanding of the barriers faced by people with disabilities helps mitigate against design-stage obstacles, thereby avoiding the costly modifications.***
- Consultation promotes disability awareness within the community, enhancing acceptance and integration ([WHO & WB, 2011](#)).***

**Every stakeholder wins when designing for individuals is standard practice. Inclusively designed products and services that have edge users in mind, can reach and benefit up to four times the size of the intended audience.**

**A recent study from Accenture, in partnership with Disability: IN and the American Association of People with Disabilities found that companies that make efforts to hire those with disabilities performed better and saw, on average, 23 percent higher revenue.**

**For example, Inclusive design has provided companies like [Microsoft](#) with the inspiration to leverage artificial intelligence, biometrics, edge computing, touch and other transformative technologies in powerful new ways.**

***"My ability to build rapport, to think about alternative ways of doing things, is really directly because of having a disability,". I have to be, day in and day out, super innovative. With over 1 billion people***



*with disabilities around the world, it has never been more important to ensure that we reflect that diversity. It brings invaluable expertise and strength to the company, as well as insight into product and service improvements that will impact the accessibility and usability of features. This is essential to our long-term success".* Jessica Rafuse, senior program manager for accessibility at Microsoft".

## **Inclusive Design is part of the solution**

Creating workforce diversity and inclusiveness will be hard work, but for the next generation of women in digital design and for the endlessly diverse users who rely on to create experiences that fit their lives—it will be worth it

There are three dimensions to inclusive design: 1) Recognize diversity and uniqueness. 2) Using inclusive processes and tools. 3) the broader beneficial impact implementing inclusive design can lead to financial, economic and social benefits.

Some of these include:

- 1. An increase in education, employment, and inclusion*
- 2. Inclusive design enables organizations to increase their revenue by growing the size of their target markets and reducing the need to make costly retrofits when products and services don't meet the*

*needs of excluded population groups. In turn, organizations can improve their brand reputation and recognition.*

*3. Inclusive design should be used at the beginning of the design process because the cost to implement inclusive design increases the later it is introduced. Design that is not inclusive can lead to complaints, legal challenges, planning delays, and costly retrofits as a product or service matures. Poor design can also negatively impact brand reputation.*

## **The value that inclusive design can bring**

### **“Transforming Today into Tomorrow”**

The inclusive design approach should be implemented by all organizations, championed and promoted by the government, and demanded by all organizations that tackle the design challenges to realize the benefits that an inclusive design approach presents.

- *For organizations - recognize the growing diversity in our community and consider this in the design of your goods and services. Put the end-user, and more importantly, the vulnerable user(s) at the center of your culture. Iterate, test and learn with them to incorporate insights that generate exceptional products and services that are available and suitable for everyone. Organizations should hire inclusively to reflect the diversity of our society and champion the inclusive design methodology. This will lead to untapped markets and revenue opportunities.*



- ***For government*** - champion change, incentivizing organizations to focus on designing inclusively and hiring inclusively. Encouraging these practices from a policy perspective will shift the dial on organizational culture.
- ***For customers and communities*** - consumers are the drivers of demand, and their choices will make known the products and services that are extraordinary. Customers are and should be, the beneficiaries of inclusive design. Above all, consumers should speak out about how they can best be included.

## **The future builds an inclusive brand for every woman**

***"We believe the future is building a brand for every woman, regardless of her shape, size, age, ethnicity, gender identity or sexual orientation. This shouldn't be seen as groundbreaking; it should be the norm."***, ***"Heidi Zak, CEO of Third Love"***.

Brands are beginning to realize the power of incorporating diversity and inclusivity in their marketing and product development, inclusive brand identity and product design can be done right.

Matt May, Adobe's head of inclusive design, stressed that "the time is now to rethink how designers create products with diversity and inclusion in mind."

Inclusive design starts with a truly diverse and inclusive design team and environment. The design has to reflect the true philosophies and ethos of the organization. When we see brand marketing and product design going wrong, it is usually because of the lack of a truly diverse team that can bring multiple viewpoints.

**An inclusive product should be able to initiate a conversation with the user, and between the diverse communities of users. The focus has to be on the user, and empathy and compassion for the user.**

**Kat Holmes, UX Director at Google believes that “designing for inclusion begins with recognizing exclusion.” This has to be the start. Recognizing and acknowledging the factors that create exclusion, and divisions between different communities have to be the first step towards creating a truly inclusive product or brand identity.**



Figure 2 Debra Ruh, Author of Inclusion Branding Book

***“The inclusive brand creates a social impact and attracts not only people with disabilities and their families as loyal customers but also the socially conscious emerging consumer. It is an exciting and sometimes scary time in our world. I believe that humanity is trying to evolve, and inclusive brands are a huge part of these efforts. Inclusive design that aligns with employing persons with disabilities not only expands the pool of possible talent, but it is also smart business”.*** “Debra Ruh”

## **Conclusion:**

**Diversity, inclusion, and equity are topics on the radar of corporations around the world. Gender equality remains a major issue in the corporate world but while there are still some outstanding questions about what will power the future.**

**The involvement and integration of women with disabilities themselves in leading and influencing work is vital. Diversity is so important and ultimately creates better businesses. diversity and collaboration, two vital components of inclusive design.**

**Women's empowerment is enabling women to participate fully in economic life across all sectors and recognizing that this is essential to build stronger economies, achieve internationally agreed goals for development and sustainability, and improve the quality of life for women, men, families, and communities.**

# **Millennials View of the World – The Power of Youth**

***Kevin Ruh, Chief Marketing Officer, Ruh Global IMPACT***



***Kevin Ruh***

## ***Kevin Ruh***

***Kevin Ruh – Chief Marketing Officer, Ruh Global IMPACT***

***Kevin handles all the social media, marketing campaigns, and social inclusion efforts for Ruh Global IMPACT. He manages all Brand Ambassador, Brand Manager, Community Manager, Content Strategist, Digital Communications, and Digital Content Manager activities. He also blogs, participates in several weekly chats as an expert and has a show about Millennials. He is a graduate of Virginia Commonwealth University (VCU), with a BA in Fine Arts and Kinetic Imaging.***

***Kevin is a podcaster, social media expert and very interested in climate action, UN Sustainable Development Goals (SDGs), Human and Equal Rights for all people, Tech4Good, Digital Inclusion and ways to reduce the Digital Divide. He is proud to be a Millennial and has been a vegan since he was 16 years old so a big supporter of reducing animal suffering and supporting climate change. He is also a supporter of Food not Bombs and other programs to end hunger in his lifetime.***

## Introduction

Today's youth is thinking differently. this is a simple statement that is much like the visible part of an iceberg. There is a lot that is not seen on first glance, the depth of understanding is complex and needs to be nurtured. Judas Priest said: "you don't have to be you to be wise" and those words are just as true as ever.

I look at strong young people like Greta Thunberg and think about the change in thought leaders. I'm so excited to see someone with such passion and with good reason. The urgency is felt now more than ever and a hopeless feeling sets in as we contemplate the grave situation we are in. A 65f degree temperature in the Arctic should concern us all, global pandemics should concern us all.



***Figure 3 Greta Thurburg was named Person of the Year in 2019 by Time Magazine***



**With the prevalence of social media we all have a front row seat to world events, good and bad. This is a mighty tool, social media and the internet as a whole. It can be used for powerful positive change and connect us all.**

**We just need to cultivate that outcome with our actions. As I sit here writing this, I am not a young person. I am a 31 year old white man and do not pretend to be hip to the younger generation or anything. I have great respect for those who are in that group and are striving to make real change, it shows a lot to strive for change at any age.**

**I do believe we owe them all a platform and should actually listen when they speak because if we are not then we are the ones perpetuating ignorance. I have written on this before, but when we actively listen we learn about others and what they experience in a way that is unique to all other methods. Discounting anyone based on their age is done at one's own peril, life is not a set course where things happen the same for anyone with the exact same quantifiable results. We impose a lot on others very simply by talking before we listen.**

**I like to think that we can learn a very valuable lesson from our elders, Good and bad. Climate change is just one example, we can look at what was not working in the past and work to fix it. We take the positive things from then as well with a new take that is updating as well as streamlining what once worked well into what works even better. If you are part of an older generation than you deserve credit for teaching our society how to be up to a point. It is now the time to let the ones you were making room for to make decisions. We can all take care of one another if we approach each other with respect always.**

**Let's let these responsible young people have their say and maybe we can all learn from each other to get somewhere better than we could have ever dreamed alone, we will succeed as long as we go together. We all offer value, it may not be the first thing out of each and every person's mouth, but it is in us all. Take time to find not only your own value, but others value as well. The only way to do this is to really listen.**

**As I write this we are all dealing with a global pandemic. Times like these are very uncertain, but we all have an opportunity to really be self-aware. Sometimes that's all we can do if things feel uncontrollable. I myself have been self-isolating as much as possible, I feel that if we can all try to do this then we can really get a grip on everything.**

**Smart steps and awareness go so far. We all need to remember this lesson and grow as we stabilize from all of this in the coming months. This is a time that more than ever we can learn from each other, regardless of age, we are all having unique experiences and others can value from learning how life can be for all. We can learn as well, we only need to seek out the information and listen.**

**The internet is a tool that can help immensely, as long as we are giving access to people to use this tool. This is one reason that digital accessibility is vital to us all.**

**When we leave out voices then we leave out so much. It is not possible to understand the full range of the human experience if we are shutting certain groups out. Internet access is something we all deserve, because it can really change lives. Leaving some behind is leaving behind a very vital part. We really do need to listen to all**

equally and seek to understand more, we have all thought that we "get it" up until the point that we understand on a better level.

That is one of the reasons that I support the United Nations, Sustainable Development Goals. All 17 goals are about creating a better world for all people.



***United Nations Sustainable Development Goals***

At this point we can look back at how dumb we were or we can see that there is always more room to learn and grow. If we are done learning then we are done growing and I will not do that until my death. Regardless of your personal spiritual beliefs, we are all on this planet and journey the same. Our experiences vary, in this way we grow differently. Ignorance breeds from not understanding fully and we can fix this issue if we seek to educate.

**Education is a basic human right and it nourishes us all. So I say go and seek out this live giving experience that is this world. Seek to find the answers to what it is you do not know yet.**

**Ask a diverse group of people for the answer that they find is most appropriate, the answers may be surprising, but we will never fully understand anything unless we seek to. Our time is not short, if we want to grow we can, go forth and start today.**

# **Accessibility and Usability in mobile apps beyond TalkBack and VoiceOver**

***Mohit Goenka and Nikita Verma***



**Mohit Goenka**

***Director of Engineering Verizon Media a11y@mohitgoenka.com***

## ***Mohit Goenka***

***Mohit is currently Director of Engineering at Verizon Media leading Yahoo Mail's Android division, one of the largest consumer applications in the Verizon Media ecosystem. During his tenure at the company, he assumed different roles as a web developer, product manager and engineering manager, and received numerous recognitions by winning multiple hackathons and companywide challenges.***

***He was also the recipient of the prestigious Yahoo Super Star award in 2015 for his individual contributions and Master Inventor award in 2018 for an extensive number of patent filings. Earlier, he graduated from the University of Southern California (USC) with a Master's of Science degree in Computer Science. His thesis emphasized on Game Theory and Human Behavior concepts as applied in real-world security games.***

***What adds feather to his cap are Mohit's poetic skills. Some of his works are part of the University of Southern California Libraries archive under the cover of The Lewis Carroll Collection. When not coding, Mohit spends his time exploring new cities, playing Cricket or developing strategies on winning his latest board game adventure.***



**Nikita Varma**

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### ***Nikita Varma***

***I graduated with a Master's degree in Software Engineering from San Jose State University. I currently work as a Senior Software Applications Engineer (for the Yahoo Mail app) at Verizon Media. I was always passionate about front-end development. Even before joining Yahoo (now Verizon Media), my two prior internships at Autodesk and Ericsson gave me the real-world experience of working on big-scale applications and helped me get better at web application development. It's after joining Yahoo in 2015, I had my first introduction to accessibility.***

***It was the first Friday after I joined, we had a company-wide all-hands event. I saw a lady translating the live event in sign language and there were 2 big screens which provided live captioning for the entire event. I was amazed! I thought, how thoughtful of Yahoo to do this for its employees.***

***At that moment I realized, if the company can do so much for its employees, it must be even great as to what it does for its customers, its end users. From the beginning, I wanted to work on something different than my day to day work. A few years ago when we were building a completely new version of the Yahoo mail web application, that's when I got the opportunity to lead the accessibility effort to make the new version of Yahoo Mail accessible to low-vision and hard-of-hearing users, making it the most accessible mail ever.***

***Apart from my day to day job, I have filed more than 30 patents (approved). In 2018, I also received the Master Inventor award. The award is intended to be an annual award that spotlights some of the company's most prolific inventors. It is the highest award made by the patent team at Verizon Media.***

***Outside of work, I enjoy traveling and exploring new places. In fact, the picture in the bio is from Yosemite National Park. I love visiting the park especially during the winter season, it's a winter wonderland.***



## **Abstract**

***15% of the world's population has some type of disability. People with disabilities depend on accessible apps and services to communicate, learn and work. By making the apps accessible, you can reach more users [1]. Any modern communications services and products are truly accessible and usable to everyone only when it can be made accessible to people with disabilities. The 21st Century Communications and Video Accessibility Act (CVAA) makes sure that accessibility laws enacted in the 1980s and 1990s are brought up to date with 21st-century technologies, including new digital, broadband, and mobile innovations [2].***

***What this means is that people with disabilities can perceive, understand, navigate, interact and contribute to the Web [3]. This also benefits light-sensitive and low-vision users [4]. Most of the current mobile applications work on touches, gestures or extended keyboards. This paper presents ideas that go beyond making mobile apps accessible with screen readers like TalkBack and VoiceOver. It reflects on two key ideas: 1. Designing the apps keeping accessibility, usability, and discoverability in mind and 2. Integrating with cutting-edge technologies that help improve the overall experience of using and navigating an app. These ideas serve as guidelines that can be incorporated into any mobile app to make it accessible and usable.***

## **Introduction**

**The web is primarily a medium that requires a keyboard and mouse to navigate and access the product/service, thus making the web**

inaccessible to many people. Even in the case of mobile apps, touch gestures play a key role in accessing a service or product. Screen reader software like VoiceOver, TalkBack, etc, makes it easier for people to navigate a website or an app if it is developed to work with the screen readers. However, even with screen readers, the user has to gain an understanding of how each screen reader works and learn all the commands in order to navigate effectively across the application.

As mobile devices are getting bigger by the day and as the content that a user is interested in changes based on an individual's needs, redesigning the mobile apps, keeping user feedback, ease of use, accessibility and discoverability in mind is a step in the right direction. Apart from creating apps which work well with screen readers and also provides keyboard support, apps can also be integrated with virtual assistants like Google Assistant and Siri to make it easier for people with disability or others to access the product easily with voice commands and thus, making it easier for accessing the app and the content inside.

## **Redesign and Implementation**

In this section, we are using the Yahoo Mail Android and iOS app as an example and showing how the redesign was planned and executed. As part of the redesign, the key focus was on two things:

1. Analyzing and visualizing the content of the email that mattered to the user, making it more customizable, that it is easier to discover, navigate and access and
2. The ability to navigate the app easily and intuitively with a single hand so that people with limited hand mobility find it easier to access the app.

The hamburger icon and the sidebar where all system and user folders were present, is now moved to the bottom of the app. This makes it easier to navigate the app as earlier it was difficult to reach the top of the screen with one hand especially in the case of large hand-held devices. The bottom navigation bar has Inbox in the first position. When you tap on the chevron icon next to the Inbox folder, it shows a list of all system and user folders. The rest of the views in the bottom navigation bar are customizable. For example, the default order for a user in the US would be Inbox followed by Deals, Attachments, Groceries and more menu which has Starred, Unread, Receipts, Travel, People and Subscriptions.



**Fig 1. Redesigned Yahoo Mail**

In the five-screen attachment above, the first screen shows the Subscriptions view which lists all the subscriptions the user has

subscribed to and provides a single tap way to unsubscribe from the subscribers. The next screen shows Attachments view, where the user can easily find all their attachments like files, photos and the emails that have attachments in them. The next screenshot shows the Inbox and the bottom navigation bar. The screen following the Inbox is the Deals view where the user can browse and save all the promotional deals they receive in their Inbox. The last screen is the Groceries screen where the users can take advantage of discounts using their loyalty card at any participating grocery store.

As customization, discoverability, and ease of use were one of the key areas to focus while redesigning, the tabs in the bottom navigation bar can be customized. The user can tap on the “more” menu and tap on customize to drag and drop the views they would like to see in the bottom navigation bar. This helps in two ways: 1. The user can choose the views they interact frequently and move them to the default bottom navigation bar and 2. For accessibility, the user doesn’t have to navigate several screens to be able to reach the view they wish to interact with. For example, if a user is interested in seeing starred emails, then they can drag the starred view from the more menu and replace it with any other view in the bottom navigation bar.

The number one requested feature from our users was the ability to have a darker theme. Especially for users with low vision, the dark theme provides a complete, soothing and satisfying experience. When we started redesigning the app, we wanted to make sure we address this concern and as a result, the new Yahoo Mail app provides 14 different color options for themes, all available in light or dark mode. Both the apps provide smart color inversion, that is if

**a user has iOS13 or Android 10, the dark mode will change automatically with the device.**

**Some users prefer to have a larger font size for their devices. Both the Android and iOS apps have the ability to support dynamic text resizing and they honor the default system setting for text resizing.**

**It can be overwhelming when a user gets a notification for each email that comes in. In order to provide personalization and not overwhelm the user, the redesigned app provides users with an ability to choose categories for which they wish to receive notifications for and also the user can select a custom sound. The user can also apply different settings to each of the accounts to help them keep separate. Users can also get active updates on shipping confirmations, real-time package tracking, and flight status updates.**

**With the redesign, we wanted to ensure that the new design is easily accessible as well. The redesign included several custom views like the theme picker, which has an arc with a knob that can be dragged over to change the theme and the customizable navigation bar where a user can drag and drop views. It is easier to make text views, buttons and other simple layout elements accessible. However, as custom views controls require non-standard touch event behavior, additional care must be taken to ensure that they are accessible. In order to maintain compatibility with accessibility services, the code that handles the custom click must generate an appropriate accessibilityeventfor the interpreted click action and must enable accessibility services to perform the custom click action for users who are not able to use a touch screen [5].**

**For people with limited hand mobility, a physical keyboard is the only way in which they can use the app. The most common way to handle keyboard navigation is to make sure the tab and enter key are handled seamlessly. To focus an element using tab, elements must have a tab order specified. For example, in Yahoo Mail Android app, a user can navigate and use the app by using tab and enter key.**

**To make sure all elements are clickable using the keyboard keys (tab and enter), the `onKeyListener` for the given view should be set. When a key is pressed, it triggers a key event and the `onKeyListener` callback is invoked before the key event is given to the view. Inside the callback, one can handle each key event differently.**

**For example, for tab key (`KEYCODE_TAB`) when identified, the element can be focused and selected. When the enter key (`KEYCODE_ENTER`), is pressed, the callback can perform the same action as the system would have performed had the user tapped on that element. Even when keyboard navigation is handled, there is no visual focus on the active element, which makes it impossible for the user to see where the focus is set currently. To fix this issue, we added a visual focus that helps in clearly identifying the currently focused elements. To add visual focus, the `onFocusChangeListener` should be set for the view. When using the tab key, the focus is set on an element, the `onFocusChangeListener` callback is invoked. At this time, a visual focus in terms of a border can be set on the background resource. Even a 1px/1dp border can make the difference from an invisible element to a clearly visible one.**

## **Integrating with Virtual Voice Assistants**

Using screen readers require knowledge of the tool and all the shortcuts to use the app. Touch gestures, keyboard navigation all require a certain level of dexterity. For a person with little or no dexterity, it becomes challenging even when your app is fully accessible with screen readers. Voice assistants like Google Assistant help overcome that barrier. It's amazing how these AI-powered virtual assistants can do almost anything a user asks it to. A few examples are emailing, texting a friend, calling someone, scheduling a meeting, setting a reminder, checking the weather, reading the news, giving directions to work and so on.

The best part about the virtual assistants is they make the product/app versatile. In fact, to use a virtual assistant, one doesn't have to invest a lot. If a user has a smartphone, the virtual assistant is usually built-in (Apple Siri) or the user can download a free app (Google Assistant app). It makes interacting and navigating the app easier for all users, not only for those with disabilities. For example, when someone is driving to work and wants to send an important email or respond to one, the virtual assistant can type and send that email for you.

Yahoo Mail has integrated with Google Assistant to make it easier for a user to navigate the app and perform actions through voice commands. When a user says 'Talk to Yahoo Mail', the first welcome intent's action is to link an account. In this step, it authenticates the user, verifies the user's credentials using OAuth flow. If the sign-in is successful, then as part of the response from the backend service, the user's tokens/cookies are sent.

**Next, when the user says 'send an email', depending on how the intents are configured by developers in Google Assistant, it asks the follow-up questions like who the recipient is, subject/message of the email and asks users to verify the content of the message before sending it. When the user says 'send it', the assistant sends an email. In this type of interaction, the Yahoo Mail app is not shown to the user. In fact, even if the user doesn't have the app installed, the action can be performed as long as the user is signed in. The user can also create an account through voice-based commands if the service allows.**

## **Conclusions**

**Accessibility in the simplest terms is the ability to access. Accessible design is a good design or in other words, a design is good, only when it is accessible. While redesigning the new Yahoo Mail experience for its millions of active users, the team wanted to ensure the redesign is accessible, usable, easily discoverable and highly customizable based on the user's needs. Also, the newly designed app has support for various screen readers and can be accessed via keyboard and with virtual voice assistants like Google Assistant and Siri.**

**Integrating an app with a virtual assistant increases user engagement and opens opportunities for a broader market. Making a product accessible is not just about making it CVAA compliant, or not just doing it because the law requires us to do. Instead, it helps improve the overall product, makes it better, it shows/demonstrates that we care for and value our users and welcome all sorts of users to use our product and make it a part of their daily routine.**



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## **Creating a more inclusive Future of Work for People with Disabilities**

***David Pérez Rueda, CFO, Ruh Global IMPACT***



***David Perez***

### ***David Pérez Rueda***

***David is a Costa Rican Political Scientist with his MBA and masters in diplomacy. He is also a leader, advocate, social media specialist, and communication strategist. David has experience in public policy implementation, development, and evaluation as well as consultancy services for NGOs like UNESCO and others linked to the European Union. David's professional background is mainly in work with minorities, ensuring they have access to their rights.***

***His primary focus is to expand the vision of Ruh Global IMPACT across the globe and impact the lives of People with Disabilities both in developed and developing countries. He has spoken in Latin America and the US on disability inclusion and accessibility. He has been asked to be a Visiting Professor on these topics and Future of Work for The University Del Norte in Barranquilla, Colombia. David recently was a keynote speaker at the Future of Work and the Employment of Persons with Disabilities in one of the first conferences on this topic in Colombia.***

## **Introduction**

**The COVID-19 pandemic has put the world upside down, with more people working from home than ever before, internet companies are being forced to adjust the way their services work in order to accommodate this growing demand. Every business that was deemed as not essential has been forced into one of two options, work from home if that is a possibility, or close.**

**Schools across the globe have had to turn to online learning platforms to keep education moving forward. The travel and tourism industries have come to a standstill, construction, automotive, and manufacturing are deemed as the most significant potential losers of this crisis. We are all noticing that the most noticeable changes predicted by the heralds of the future of work are not something that younger generations will have to worry about; they are a reality today.**

**These are worrying times, and the fact that everything is changing so dramatically is sure to bring much pain in many industries across the globe. However, we would rather look at the world from another lens, as Tracy Brower puts it: "The future will be bright—and there is cause for hope." (Brower, 2020)**

**In this article, we will take a look at what is the future of work, what will change, and how we can make it more inclusive for People with Disabilities around the world. In a crisis, there is always an opportunity, so let us work together to make the world a better and more inclusive place on the other side of this global pandemic.**

## **What is the future of work?**

**Experts agree that The Future of Work does not have one single definition, this has created much confusion since many people think that it is a blatant change that is a long way down the line, or that it is something that we will have to worry about when the 4<sup>th</sup> Industrial Revolution is in full effect.**

**Across human history, there have been several technological advancements that have changed the way people interact, work, and study. "The First Industrial Revolution used water and steam power to mechanize production. The Second used electric power to create mass production. The Third used electronics and information technology to automate production." [ CITATION Sch16 \l 5130 ]**

**The 4<sup>th</sup> industrial revolution has been part of the future of work conversations for a while, sometimes referred to as the digital revolution it represents a world in which the technologies work together and blur the lines between the physical, digital and biological spheres.**

**This has already happened in many industries, and with recent world events, and everyone being forced into an all-digital world, people realize that the future of work is closer than ever.**

**Most discussions surrounding the future of work focus solely on the not so promising future specifically, the number of jobs that will be lost to automation, machine learning, and artificial intelligence. Even though it is true that technology is reshaping many industries, this is only a small part of the future of work conversation. It is essential to keep in mind that "the changes that digital technology is introducing in the price of capital versus labor, the costs of transacting, the**

economies of scale, and the speed of innovation bring significant effects in three dimensions: the quantity, the quality, and the distribution of jobs.” [ CITATION Raj17 \l 5130 ]

There are precise predictions on how the future of work will change in the next few years; I am sure that the reader will be able to identify that some of these changes are already in full effect in today’s economy. According to the McKinsey Global Institute, 50% of the activities associated with most occupations in the United States could be automated[CITATION Man17 \l 5130 ], including those that we previously assumed were safe and according to the World Economic Forum, 47% of jobs are at high risk of disappearing. [ CITATION Wor17 \l 5130 ]

As Raja, Christiansen, and Sala said the 4<sup>th</sup> industrial revolution will have a varied impact on employment, it is no longer about the changes that are going to happen within a specific industry, but in all industries, in fact at the same time that some jobs will disappear due to automation, machine learning and technology in general, there will be many new jobs created in other industries. It is a well-known fact that at the pace the world is changing, most students starting school in 2020 will end up working in jobs that do not exist today.

Richard Johnston of the University of Ulster Center for Economic Policy said: “Sectors such as manufacturing, logistics and retail and wholesale and some of the least skilled occupations are the most vulnerable to being replaced by some technology or machinery or robots.”[ CITATION Ric18 \l 5130 ] The pursuit of profit maximization is the most critical goal, and cost reduction is an essential factor to consider. No matter how low people's wages are,

**they will never be able to compete with robots and machines, without wages, rest, and disease. Robots are better at work:**

**The National Standards Institute predicts that "machine learning can improve production capacity by up to 20%" and reduce waste of raw materials by 4%.[ CITATION Pis18 \l 5130 ]**

**Coupled with that is the demographic shift that we are starting to see in the workforce, according to the United Nations by 2030 there will be more than 1.4 million people 60 years or over, this will, of course, have far-reaching, social, political and economic implications.[ CITATION UN15 \l 5130 ] That we need to consider while discussing how will the future of work look in the next few years. One thing is clear: the workforce is also changing massively, and work is adapting to those unprecedented changes.**

### **How is the future of work changing?**

**All the information that we have shared up to this point has shown us how work is changing and how new technologies are driving that change. According to Zak Dabbas, Co-Founder And CEO, Punchkick Interactive, "The future of work will be about dismantling antiquated structures and working in ways that are more open, diverse, efficient, and healthy, for both companies and employees." [ CITATION Gis18 \l 5130 ] we have put together a simple list of changes that summarizes how those transformations will look like:**

#### **Gig Economy.**

**Jobs are becoming more flexible; companies are looking to hire more independent contractors and freelancers than ever before. These individuals usually carry out jobs for many companies at the same**

time. Traditional jobs are becoming more fluid, and they do not enter the traditional organizational tables. "This is especially appealing to Generation Z employees since 75% of Generation Z employees would be interested in having multiple roles in one place of employment."[ CITATION Mar19 \l 5130 ]

The growth of the gig economy has also faced some criticism because the: "gig economy trend can make it harder for full-time employees to develop fully in their careers since temporary employees are often cheaper to hire and more flexible in their availability."[ CITATION Cha20 \l 5130 ] This means that individuals that are looking for a traditional career path have a harder time growing.

## **Decentralized workforce**

Decentralization, although not a new concept, first introduced by Johnson and Johnson in 1999[ CITATION All18 \l 5130 ], has evolved and gained prominence recently thanks to new technologies and easy access to the internet becoming more mainstream across the globe. Because of this, remote workers are increasingly common. Employees do not have to be together in the same building, state, country, or even continent.

The benefits of a decentralized workforce are many; first, companies gain access to a global talent pool, teams are also happier because they can live somewhere affordable while having a respectable salary, and the autonomy of work adds to that sentiment of satisfaction.

The critics of a decentralized workforce always quote the difficulty of adjusting to a different process management solution and the

difficulty of building a company culture as the main reason. However, both issues fixed thanks to technology as well.

## **Motivation to Work**

Many studies of younger generations have shown that salary is no longer enough to keep an employee happy. People are looking to work for an organization that is not only creating economic value, but that is also creating a better world.

With the way the workplace is shifting, “employees have greater autonomy to shape their day-to-day, and develop a greater sense of mastery and purpose over their contributions, which increases their motivation to drive the work.”[ CITATION Dar19 \l 5130 ] These are new times, and companies are having to adapt their teams, and incentives in order to meet the needs of the talent they are gathering.

These changes in motivation pose significant challenges for corporations. However, they are a good sign that progress is reaching the point on which it is more important for people to learn and help than the sole pursuit of economic advantage.

## **Lifelong Learning.**

According to Bernard Marr in 2008, “Over the last two years alone 90 percent of the data in the world was generated.”[ CITATION Ber18 \l 5130 ] with this incredible flow of information and most of it available for free online, it is not strange that employees are looking more and more for ways to keep learning while on the job.

“Thanks to the fast pace of today’s knowledge economy, organizations are seeing lifelong learning as a core component in employee development. The idea is that employees should engage in



**constant personal learning in order to be adaptable and flexible for the organization to stay competitive and relevant” [ CITATION Val20 \l 5130 ] Knowledge translates into innovation and innovation translates into better performing organizations.**

**The benefits of lifelong learning are mutual; both companies and individuals receive a vast amount of value from these initiatives since they allow the employee to grow, which benefits the company directly and indirectly. With a changing workforce and workplace, it is only natural that learning becomes a part of the future of work.**

### **Technology will augment Human Work.**

**Most organizations are developing strategies considering not only the fact that automation, artificial intelligence, and machine learning are going to facilitate production and business processes. They are also considering the fact that machines are going to work together with humans.**

**“The activities automation is best at including predictable and physical work, data collection, and data processing. As automation strips away the rote and mundane, what remains for employees to tackle are heuristic tasks—the complex, creative tasks on which humans outperform machines.” [ CITATION Dar19 \l 5130 ] Humans will have to learn how to co-exist with machines and work together.**

**This adjustment will require a better understanding of mental health than ever before, which will translate into better working conditions for everyone.**

### **Better job quality.**

**Several factors affect the quality of a job; we can cite: wages, stability, and working conditions as only a few of them. However,**

**the advancements of technology are making it easier for organizations to automate or replace more manual intensive jobs.**

**New technologies have the potential to benefit everyone, and it is essential for governments and international organizations to take the lead in ensuring that job quality is a priority across the globe, “For many workers, real wages are stuck, and job stability has dropped. And those in non-standard work and from certain regions are more likely to have lower-quality jobs.” [ CITATION OEC20 \l 5130 ]**

### **The world is changing, but not equally.**

**As we have seen, jobs are changing in more than one way, and some of those changes are already here, and the current COVID-19 pandemic is accelerating others, there is much hope embedded deeply into all of these changes. The hope of a better world where individuals have better jobs and are doing something that is contributing to make the world a better place.**

**However not everyone is benefiting equally, there are historically disenfranchised segments of the world that are being left behind, and we need to make them part of the conversation, the benefits that diversity can bring to the future of work are immeasurable, but first we need to understand what is the situation of people with disabilities today.**

### **People with disabilities and Work.**

**People with disabilities are the biggest disenfranchised community in the world, according to the World Bank “One billion people, or 15% of the world’s population, experience some form of disability, and disability prevalence is higher for developing countries. One-fifth of the estimated global total, or between 110 million and 190**

**million people, experience significant disabilities.” [ CITATION Wor19 \l 5130 ] .**

**As evidenced by the data there is also a strong link between disability and poverty, a study published by the OECD in 2010 revealed that, in 27 countries, people with disabilities of working age faced considerable disadvantages and worse outcomes in the labor market than people without disabilities of working age. On average, the employment rate of people with disabilities (44%) was more than half that of people without disabilities (75%). The inactivity rate was approximately 2.5 times higher among people without disabilities (49% and 20%, respectively). [ CITATION Loi13 \l 5130 ]**

**People with disabilities overall face barriers joining the workforce; these stem from the systemic exclusion that they face in the early stages of education, and also the conscious and unconscious biases of employers.**

**People with intellectual disabilities have less probability of being employed than the rest of the community of people with disabilities.**

**To make things even worse, people with disabilities that do work tend to make less than their counterparts with gaps that can go as high as 17% lower incomes than their peers without disabilities in many developed countries such as Spain. [ CITATION Cal20 \l 5130 ]**

**There are many reasons for these disparities; the main one is that employers tend to discriminate against people with disabilities because they lack knowledge about disability. Usually, people think that it is going to be either too cumbersome or too expensive to accommodate a person with a disability. Different types of disability garner different levels of discrimination. However, it is clear that the**

**global situation of people with disabilities in the workforce is far from ideal, and that it is imperative to take concerted action to attack those problems.**

**In 2006 the world redefined disability.**

**Disability has many shapes and forms; the old definition of disability was a medical one. Sara Goering puts it best when she writes, “a standard medical approach, indeed a common lay-person’s approach, to thinking about disability involves viewing it as a problem that exists in a person’s body. As a consequence, that individual is thought to require treatment or care to fix the disability, to approximate normal functioning, or perhaps as a last measure, to help the individual adapt and learn to function despite the disability”[ CITATION Goe15 \l 5130 ]**

**On December of 2006 at the United Nations Headquarters in New York, the Convention on the Rights of Persons with Disabilities and its Optional Protocol were adopted and open for signatures from there on; this convention follows decades of work by the United Nations and advocates across the globe looking to change the attitudes and approaches to persons with disabilities.**

**This effort is perfectly illustrated in its 1<sup>st</sup> article second paragraph where it states:**

***“Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.”***

**This is an entirely different way of looking at disability with this effort we transitioned from a purely medical definition to a social**

**definition of disability because what defines a disability are the barriers that society puts in place and that hinder full and effective participation.**

**The social model of disability identifies those systemic barriers produced by negative attitudes and exclusion like the ones mentioned in the previous section; society can produce those barriers on purpose or without realizing it. Society is the key factor in disability; the different variations of disability can be meaningfully included in society unless we fail to include them deliberately.**

**The perception of Business Towards disability is changing worldwide.**

**A study published in 2018 titled “The State Of Diversity And Inclusion According to CEOs” gathered data from a survey to 80 CEOs across the globe to understand what they were thinking and doing about diversity and inclusion, and the findings were fascinating.**

**They were able to find that “There is a strategic knowing/doing gap. Overwhelmingly CEOs believe the data and see the business case for diversity and inclusion.”[CITATION THE18 \l 5130 ] But they do not have a strategic focus on diversity. Furthermore, the study also found that even though they overwhelmingly believe that inclusion is important 83% of them said that “It’s something that I fully support and believe is a strategic imperative and strategic advantage”[ CITATION THE18 \l 5130 ] their beliefs do not translate into action, with most activities being planned for the short-term and reactive in nature.**

**Understandably, most of them think about diversity as important, given that when Deloitte showed the relationship between diversity**

**and inclusion and business performance, they identified “80% “growth” when both conditions were high. More specifically, employees who perceive their organization to be committed and support diversity and who feel included are 80% more likely to believe that they work in a high-performance organization, compared to a workplace perceived as low commitment and support for diversity and employees who do not feel included.” [ CITATION Del13 \l 5130 ]**

**We all understand that diversity is good for business, since it brings innovation and different perspectives that help solve problems faster and easier. Less known is the fact that the real inclusion of people with disabilities in the workforce has incredible effects on the bottom line of businesses.**

**Accenture in 2018 published a paper titled “Getting to Equal: The disability inclusion advantage” they analyzed and compared companies that are considered Champions of disability and found fantastic results “Champions achieved -on average- 28 percent higher revenue, double the net income, and 30 percent higher economic profit margins over the four year period.” [ CITATION Acc18 \l 5130 ] The good results do not stop there; the study also showed that Champions were twice more likely to outperform their peers that were not including people with disabilities.**

**The data is clear and is prompting more and more action across the board, an excellent example of this is the Valuable 500 Campaign, “calls on 500 global business leaders to commit to placing disability inclusion on their business leadership agendas, making a firm and tangible commitment to eradicating disability exclusion in business.”[ CITATION The20 \l 5130 ] This fantastic initiative led by**

**Dr. Caroline Casey in 2019 was able to grow to “240 members spanning 42 sectors and 24 countries, reaching in excess of 9,863,000 employees –and engaging a global business community generating a combined \$3.8 trillion in revenue.”[ CITATION The20 \l 5130 ]**

**It is important to note that the benefits of including people with disabilities in the workforce expand far beyond the bottom line of corporations according to Accenture, employees with disabilities offer intangible benefits, including increased innovation, improved productivity, and a better work environment. And of course, workers are also consumers. The USA GDP could get a boost of up to \$ 25 billion if only 1 percent more people with disabilities joined the US workforce. [ CITATION Acc18 \l 5130 ]**

### **Making the future of work more equal.**

**At the beginning of this article I quoted Tracy Bower when she said that “The future will be bright—and there is cause for hope” and even though some of the information we have analyzed in this article may seem a little grim, there is indeed much cause for hope, even as we navigate the worst economic contraction the world has seen since 1930.**

**Throughout this article, we have been able to realize that the future of work is closer than we realize and has even received its first test due to the COVID-19 Pandemic. With people having to work from home and society becoming all-digital we see that it is possible, and it is here.**

**When we look at how we expect the future of work will change, we encounter that some of these changes like the gig-economy and life-long learning are already a full-blown reality while some like better**

**job quality are still coming. We understand that all of them seem more positive than negative.**

**Moreover, we understand that the future of work will not bring a lot of unemployment; it will have qualitative effects on jobs; people will work in different and better ways across the board.**

**It was also important to understand the reality of people with disabilities and employment, 15% percent of the population is underserved when it comes to employment, biases conscious and unconscious have made it harder for people with disabilities to be fully included until now. It is clear thanks to the CRPD definition of disability that society is at fault for the lack of inclusion, and this poses the final question.**

**What can we do to make the future of work more inclusive and accessible? We understand the power that inclusion and diversity have a societal tool for change, and we also understand that there is an incredible amount of data that supports the business case for disability inclusion. However, this information is not translating into real action in most cases.**

**We are still leaving people behind all over the world, and if we wait more, it might be too late. People with disabilities have faced historic systemic disenfranchisement; it is time we stop this and make a concerted effort as a society to ensure that people with disabilities are fully included in the future of work. The economic benefits for the world could be staggering if we only included 1% of the world population with disabilities in the workforce.**

**Let us start where we can, in our own companies and organization; we can all start by following some simple steps we can modify the trend and show the rest of the world the value of real inclusion by**



**employing, enabling, and engaging and empowering. These simple steps can completely change the way we work, study, and live and, with every step, we can change the inequalities that are so evident today.**

**The efforts of organizations like the Valuable 500 will only go as far as the sum of the individual actions taken by corporations; we can all be champions of change, and if we do the right things, the future of work might be completely equitable for everyone.**

**In times of crisis, it is hard to think about hope but imagining doing the right things today and coming out on the other side, whatever that looks like with a better world for our children and us. We are in unprecedented times, and we have the opportunity to make them times of unprecedented positive social change as well.**

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# **Universal Design as an Imperative for Emergency Preparedness, Disaster Risk Reduction and Climate Resilience**

***Marcie Roth, CEO of World Institute on Disability (WID)***



***Marcie Roth***

## ***Marcie Roth***

***Marcie Roth is Executive Director and Chief Executive Officer for the World Institute on Disability (WID), WID is a highly regarded global public policy center WID works to advance the rights and opportunities of over 1 billion people with disabilities worldwide, bringing policy into action and operationalizing inclusion.***

***Marcie has served in senior and executive leadership roles for national and global disability advocacy and public policy organizations since 1995, establishing and leading coalitions committed to operationalizing disability inclusion as an intersectional imperative for global social justice.***

***Marcie's focus on improving emergency preparedness and disaster outcomes for people with disabilities and building accessible disaster resilient communities began in the immediate aftermath of the September 11, 2001 terrorist attacks while advising the White House on the rights and urgent needs of people with disabilities living in the area around ground zero.***

***Appointed by President Obama to the U.S Department of Homeland Security Federal Emergency Management Agency (FEMA) from 2009 to 2017, she served as Senior Advisor to the Administrator and as the congressionally mandated Disability Coordinator for the agency. While at FEMA, she established the Office of Disability Integration and Coordination (ODIC), serving as its Director. Under her leadership, ODIC led national transformation towards integrating the access and functional needs of the whole community throughout emergency preparedness and disaster response, recovery and mitigation.***

***Charged with establishing and building FEMA's Disability Integration Cadre to ultimately include 285 deployable disability integration specialists, Ms. Roth managed over 400 disaster deployments, frequently serving as lead advisor to the presidentially appointed Federal Coordinating Officer and collaborating with affected state and local emergency management leadership and stakeholder groups. She also led the work of the Department of***

***Homeland Security Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities, established through a presidential executive order in 2004.***

***Ms. Roth represented the U.S. government internationally as an expert on whole community inclusive global disaster risk reduction from 2012- 2017, serving as a leader throughout the development and implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030. In 2017, Ms. Roth established the Partnership for Inclusive Disaster Strategies and Inclusive Emergency Management Strategies. She has served as a consultant to the United Nations for the development of [Inclusive Disaster Risk Reduction- A Whole Community Action](#), [IASC Guidelines on Inclusion of Persons with Disabilities in Humanitarian Action](#) and as Accessibility Focal Point throughout the Global Platform for Disaster Risk Reduction. She serves as the UNDRR Persons with Disabilities Alternate Focal Point for the Americans and the Caribbean.***

***Marcie is a Harvard University Kennedy School of Government Senior Executive Fellow with a BS in Public Safety Administration from the University of Maryland Global Campus.***

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## **Introduction**

**The frequency, intensity and duration of disasters has been increasing across the planet at an alarming rate. Our changing climate, extreme weather, public health emergencies, accidents, terrorism and other naturally occurring and human caused events all test our ability to survive when disaster strikes. When communities are recovering from catastrophic events and preparing for future disasters, they have an important opportunity to commit to build back better. This includes incorporating universal design principles throughout recovery, mitigation and disaster planning to maximize community readiness and resilience.**

**The UN reports that the morbidity and mortality rates for persons with disabilities in disasters is estimated to be two to four times higher than for persons without disabilities. COVID-19 and its disproportionate and devastating impact on persons with disabilities and older persons has further sharpened the urgency of disability inclusion, accessibility and accommodation before, during and after disasters.**

**In 2015, during the Third United Nations World Platform for Disaster Risk Reduction, the Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted, and subsequently endorsed by the UN General Assembly. The Sendai Framework is the first major global agreement following the 2030 Agenda for Sustainable Development and the Sustainable Development Goals. Together these are a “universal call to action to end poverty, protect the planet, creating a world where all people can live productive, vibrant and peaceful lives on a healthy planet.”**



**The Sendai Framework identifies seven global targets and includes expected outcomes, goals, guiding principles, and four priorities for achieving global disaster risk reduction by 2030.**

**The Framework aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years. It's focus on the important contributions of stakeholders, calls for international cooperation and global partnership in disaster risk reduction significantly recognize the important role of persons with disabilities and their involvement.**

***Universal design* recommendations for reducing disaster risk are found in Paragraph 30(c) of the Sendai Framework, which advises "building better from the start to withstand hazards through proper design and construction, including the use of the principles of universal design."**

**The 7 principles of universal design which help guide the design process of environments, products and communications for a broad range of users can easily be incorporated throughout emergency preparedness, disaster risk reduction and climate adaptation to expand accessibility and usability and minimize the need to make modifications to accommodate persons with disabilities in disasters.**

**It is crucial to point out, however that universal design is NOT a replacement for providing accommodations and modifications for persons with disabilities. Rather, the principles are especially**

important for maximizing limited disaster resources and optimizing disaster outcomes for persons with disabilities, older persons, and many others in disaster impacted communities.

#### **Principle 1: Design for equitable use**

**In planning for disasters, equitable use must include**

- ***Alerts and warnings – provide actionable information in multiple formats. Information must be accessible to be actionable.***
- ***Building evacuation- design new buildings so everyone can evacuate***
- ***Evacuation transportation – incorporate accessible transportation throughout all evacuation planning***
- ***Sheltering- all sheltering should be universally designed for use by the whole community. Entryways, toilets and bathing, sleeping areas, dietary accommodations, and information sharing***
- ***Health and Medical Care- Universal design principles utilized throughout all health and medical care and settings minimizes the need for additional accommodations for persons with disabilities and newly injured or ill persons.***
- ***Emergency and Disaster Services- Design emergency and disaster services and programs to accommodate all potential users, including users who need reading or writing assistance, additional processing time, transportation, accessing basic life-saving and life-sustaining supplies, health maintenance and***

***medical care, mental health and psychosocial services and all other services and programs provided to the disaster impacted community.***

- ***Temporary and Permanent Housing – Utilize universal design and visitability standards in the design of all temporary and permanent housing to accommodate the widest range of accessibility requirements***
- ***Build communities back better to reduce future risk- use universal design principles throughout all disaster rebuilding, recovery and hazard mitigation in residential, commercial and infrastructure repairs to increase accessibility, usability and disaster resilience for the whole community.***
  - ***Geography and landscape design are key elements in reducing disaster risk. They are also critically important for the safety and accessibility of the whole community. This includes grading land and strategically planting trees to decrease the threat of flooding, providing safe and accessible spaces for sheltering and evacuation throughout extreme weather and other emergencies.***

***Principle 2: Flexibility in Use. Design spaces and for accessibility in both standard use and in disaster for the widest range of abilities and needs.***

***Principle 3: Simple and Intuitive Use. Simple and intuitive use is especially important in emergencies and disasters when actions and decisions can mean the difference between life and death.***

***Principle 4: Perceptible Information. Emergency information must be communicated effectively to the user, regardless of ambient conditions or the user's sensory abilities.***

***Principle 5: Tolerance for Error. The design must minimize hazards and the adverse consequences of accidental or unintended actions in the exigent circumstances and chaos of emergencies and disasters.***

***Principle 6: Low Physical Effort. The design can be used efficiently and comfortably and with a minimum of fatigue taking into consideration any additional effort that might be needed in an emergency***

***Principle 7: Size and Space for Approach and Use. Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility. This is especially important in evacuation during an emergency or disaster.***

These principles must be used for reducing disaster risk when rebuilding after a disaster to “build back better”. This expands the built environment for usability by almost everyone without additional modifications and accommodations, whether sheltering-in-place or evacuation is necessary.

Universal design of the built environment should intentionally include building egress that doesn't rely on elevators that can't be used in emergency evacuation, stairs and areas of refuge. Designs that incorporate accessible egress and installation of fire-protected and structurally hardened elevators provide solutions that benefit people with temporary injuries, first responders, and many others in addition to people with mobility disabilities.

**Signage and alarms that include audible, visual and tactile alerting systems provide actionable information for a wide range of people who need accessible information to take personal protective measures and assist others.**

**Geography and landscape design are key elements in reducing disaster risk. They are also critically important for the safety and accessibility of the whole community. This includes grading land and strategically planting trees to decrease the threat of flooding, providing safe and accessible spaces for sheltering and evacuation throughout extreme weather and other emergencies.**

## **Conclusion**

**Communities utilizing universal design principles throughout their emergency preparedness, disaster risk reduction and climate adaptation planning are investing in greater disaster resilience. The benefits of this principled approach accrue for meeting a broad range of needs, reducing the need for additional accommodations in disasters, and directing those additional resources where they are needed the most.**



## **Letter from the Chairman's Desk**

### **By Sunil Bhatia PhD**

#### **'BIOLOGICAL DISTANCING' IS NEW TREND OF 2020 FOR CHALLENGES OF 'COVID 19'**

**One day a gunny bag full of wheat was handed over to me and I immediately understood that it is preparation for visiting for grinding in our local area flour mill by my mother and I was prepare for her usual every time same instructions that 'never allow the laborer intermix with other customer's wheat , once the earlier one is completely grinded and funnel ( hopper) from which intake is completely exhausted then allow him for add our wheat, note the weight with proper alert before the measurement and after grinding in mill'. She always believes her wheat quality is best and the mill owner will steal by some trick and add inferior quality flour in front of him.**

**I visited the mill that was established in a shop and an electric motorized grinding mill was turning the wheat into flour and after handing over my bag to the laborer I stood in line waiting for my turn of bag of wheat for grinding. The way the mill machine was grinding and changing sound as laborer adjusted some knobs I lost in my thought and amaze to see such simple technology that has come to the present state over the years by many unsung heroes contributions and died unnoticed , unacknowledged . Laborer was**

carrying the wheat bag on his shoulder and step up on with small ladder of two steps for platform for pouring the wheat from the mouth of the hopper that was at the top of the grinding stone that was designed with tapers downward for discharge from the bottom for input of wheat for machine into eye of the grinding stone wheel in a control manner and that help in replacing a manual laborer for adding of wheat as an when wheat for grinding is over and it is good example of use of gravity for sliding the wheat downward and other control forces were created by design of tapering of wall downward for uniform but desire quantity of wheat should go into the eye of the grinding stones. I noticed there was small hole in the a long pipe attaché to bottom of the hopper and one end was in air and its opening mouth was pouring into eye of runner stone from where laborer was keeping an eye that wheat supply is not interrupted or over and that helps in proper control for grinding and when next bag of wheat is to be added from hopper. As grinding is in process but laborer was alert and keep checking in between by lifting the small rubber strip that was covering a hole on the platform and grinding flour mouth that has tied with open ended cloth bag and other end was tucked in customer's bag for collection of flour chute and as he lifts it gives clear view of flour is slipping into customer's bag but rubber cover that gap and was not to allow the grinded wheat spread in the air but laborer takes out sample for quality of the flour and assure of proper consistency of powder. If he feels it is not what was expected he comes to the action and adjusts some knobs. He was turning the knob clockwise or anticlockwise for adjusting as and when some unusual sound of grinding appears that was sign that proper size of the powder is not achieved or possibility was stones were close enough and abrasion has started that will

**ruin the flour because of stone particles into flour that will lower the life of the stone as well electric consumption will be high.**

**Out of curiosity I started talking with laborer who was illiterate and for this job no need of any high skill is required "This machine is grinding wheat into flour and you carry such a heavy bags for throwing wheat into hopper that has good height" he replied "sir, I take that much what hopper feeder can hold and if something is more than capacity of it , I add by this feeder tray that was made with metal can carry 10 kilograms in one time. This job needs continuous attention and one person should keep an eye when the mill is working. Nothing special just machines should always have grain and consistency should adjust according to customer desire. Take his approval by taking out a sample of flour after removing that small rubber strip by handing over to the customer when grinding is in process."**

**"Why do you lift that strip every few minutes?"**

**"It gives the idea of the size of the powder and speed of the flour indicates the hopper's wheat is about to finish. Running an empty machine is harmful for the stone and it needs continuous supply of wheat for grinding." In the meantime he informed me that your bag is ready and kept on weighing scale. Do not forget to pay charges at the counter.**

**When I was coming back home my mind was occupied with a mill for grinding.**

**How come the idea of grinding surface in the mind of the people and still that practice is prevailing only thing is it is no more mechanical but motorized and operated with electricity. In the initial days people were designing the manual mill with stone or clay and as**



**mass production concept has come it has changed the designing thinking process.**

**My father asked me 'why are you disturbed?' I informed him about the mill, He said in our time I have witnessed my grandmother was grinding the wheat on a daily basis for family needs and she used to construct it with clay by adding small amounts of straw at home , not stone and it was strong enough for grinding. Her skill of making was considered best in our locality. Later on there was a water flour mill and it completely eliminated manual work and it was possible wherever some water stream with great force or design the channel by controlling water for creating such force that could rotate the grinding wheel . They designed the channel of the water for creating fall with great force on tilted blades made with wood attached as a fan for rotating the shaft that is attached with heavy stone for rotation. It was the first example of a mechanical turbine. Biggest challenge was if one wooden blade broke the problem of balancing the rotation of stone surfaces that has been eliminated by using blades made with mild steel. Ancient people realized that speed of rotating stones can be achieved higher by designing blades of the wooden turbine but they restricted it to desire where grain retained its nutritious value and not lost because of excess heat generated by high speed of grinding. In present time you can find diesel engine or electric motor driven mills and can be established anywhere and no need close to water stream or river.**

**My curiosity was disturbing and I realized the idea of crushing was known from the ancient time. They were hitting the wild animal with a log for killing and it was an attempt of crushing that generates extreme pain or even sometime breaks bones that helps in controlling movement of escaping of prey . Even noticed soft items**

can be crushed by using pressure of fingers or by placing between the palm for pressing. They understood that crushing is possible by placing something between two such hard parts and rubbing and pressing can crush. I noticed my mother kept a small quantity of fennel seeds in her palm and pressed by rubbing for breaking seeds in parts. The way she was rubbing in fact it was scissoring action for grinding . The same idea was used by placing the wheat between two stones and one should be stationary and other should be dynamic for striking with some sudden force. This idea led to mortar and pestle. The shape of holding the item in a static bowl like structure might have come much later and it was initially pestle was made of wood and later switched to stone and metal but designs of mortar remain same of bowl shape and basic principle remained same for making crushing and grinding for paste and powder. When a person strikes a pestle with force on kept material in mortar and hitting many times for crushing observed in between sometimes rotates pestle in quick succession for getting the desired thickness and texture. That involuntary act of crushing by rotation of the pestle has changed the earlier way of grinding. Flour mill is extension of this idea where two stones are lying on one above the other and it rotates by holding the handle attached close to the circumference of moving stone by manual power. Rotation of the pestle is achievable because it is light and manually can move as we wish but in case of heavy runner stone it is possible by technology. Dynamic runner wheels are a little shorter or concave in size than stationary( bed or base ) that has convex design and diameter was limited by keeping in mind the ergonomics of the human body while sitting or standing or how much a person can stretch his hand for rotation of the runner. The diameter of the wheel is that much where

a person can hold the handle with ease and can rotate with continuous manual power. Runner wheel is held by affixing the central axis at the centre of the base wheel and does not allow it to go out of control. A hole in the runner wheel( eye) at the centre is fixed in the axis of the bed wheel for holding but has hole deliberately little larger for free rotation and serves two purposes. One for pouring wheat from that gap and another manual applied force helps in rotation with little linear motion and allows for changing its position while rotating and creates a motion of cycloid for scissoring of wheat for proper crushing. Base is fixed because of its own heavyweight and the runner wheel is a little less heavy by reducing its thickness for rotation with little effort. The size of the stone is in a circle but diameter should not be exceeding than the stretch hand who is applying manual force for rotation. I have noticed that runner stone has bottom surface chiseled and base stone has dressing at the top surface for creating easy smooth rotation as well as allowing grain to stay or worked as a stopper for better crushing by friction force that helps in turning into fine powder. Chiseling is in fact dressing has a specific design for optimum output. Another unique design of the chisel surface is that it creates a cycloid pattern for crushing as well as staying within the stone as long it does not turn into fine powder. Once I got the opportunity of working a skill person of dressing the wheel I minutely looked at the worker how he is chiseling I found that he makes the small grooves on the wheel in such a way it's size and place should be close enough for help in manual operation with less effort compare with experience high friction in absence of dressing and that needed more effort in rotation and wheel runner bottom surface that is lying over the base wheel top surface has chiseling

design divide into four area by making a straight channel and then concentric circles are created by chiseling the grooves that is toward outer circumference and its motion is rotating but keep sliding for creating more friction. Once it is converted into fine powder it comes out of the wheel with the help of a straight channel and falls from all sides of the circumference of base stone and collector baggage is designed by placing a mill over plain cloth of any shape but larger than the size of stones. Later on they added very minute tapering to the stone beginning from centre falling toward circumference. That design helps in flow of powder toward circumference when rotate. Design of diesel motor and conveyor belt has changed the concept of mill . Later the presence of electricity further improved its operation and made it better but the basic principle was untouched. There are homemade mills for meeting the requirements of families where some are using blades for making powder but some are using teeth technology for crushing for turning wheat into powder.

Even in present times cane sugar crushing machines made of wooden rollers are fixed horizontally on vertical planck and a wooden handle bar is for rotation of the top cylinder that has engraved lines for holding as well for better friction for proper crushing of the cane sugar. Beauty of the design is that it has a separator that allows the juices to freely flow with gravity and need a guide as a channel for collecting in a proper container and cane sugar pulp hangs in air and manually removed. It is the aged wisdom that helped in designing the cane sugar juice in such a manner not like a flour stone mill. Later on modern people realized more number of rollers helps in better extraction and getting optimum juices. Wooden rollers are replaced with metallic and

handlebar with motors for rotation. Roller has horizontal and vertical lines making a number of rectangles of different sizes so as not to slip the cane while rolling for extraction. Extraction of fruit juices needs a different concept and there should be pulp and seed separator and should not mix with the extracted juice. Latest technology for fruit extraction is cold press where it retains the maximum nutritious value of the juice unlike by grinding or blending with blades with high speed +.

Another product that has revolutionized the human mind and it is the result of so many technologies of their times is potter's wheel. It is magical to see the magical performance of throwing the clay and the person sitting on ground for working on the wheel guide the clay by hand for throwing it in the desired shape. In Egypt mythology claims that the first human was designed with a potter's wheel. The basic principle of rotation of wheel requires minimum friction with a stationary object on which it is placed unlike in stone mills that need maximum but affordable friction for manual rotation for grinding and size of the wheel remains the same of wheel in both cases for working with the centre. When I looked at the design of the potter's wheel I found the centre has an inverted hollow cone attached to the wheel and placed on a sharp axis fix with the ground. And instead of an eye as we have witnessed in stone mills it has a small raised round platform for keeping clay as the wheel rotates that platform also rotates in a higher ratio .Best part of the design is that it has a removable long handle in the form of a stick and there are two inverted small domes in the opposite direction close to the circumference for placing a stick for manual rotation of the wheel. They realized that a fixed handle as in a stone mill will not allow the potter to work molding the clay placed at the small platform at the

centre of the wheel. In this machine the entire focus is on momentum for guiding shape for rotating clay and converting rotational motion into linear for raising the designing pot in upward vertical direction. As speed is not as potter wishes he again fixes the stick for fast rotation and that helps in proper balancing of the wheel by proper speed . Potter keeps in mind that work only with the clay after achieving potter wheel a desired balance speed of rotation . Dabbling motion is harmful for designing pots because it will throw the clay more in an imbalance of the rotation with the wheel and another area will not get sufficient clay for getting desired shape and a kind of deformity will appear in the making pot. It is little tedious process because for gaining desired momentum of rotation he has to frequently fix the stick for achieving manual rotation of wheel .In some places I have noticed potter is sitting on chair and potter's wheel is fix close to leg and instead of stick he gains the desire rotation by continuously keep striking with foot and platform for working with clay for giving shape is at the height of hand by shaft. As technology improved potter's wheel experiences pedal powered kick and at present electrical operated.

Coiling technique where clay was shaped in the form of threads and with that by placing one over another for getting desired shape of vessel. They were using a wooden plank and fixed in ground , that was the working table and starting with the bottom of the vessel and gradually placing clay threads one over another and by hand giving proper desired shape. This concept was inspired from making walls with mud. How come the idea of a rotation strike that it will help in throwing the clay in desired shape is mystery? There is a hypothesis that some people were designing vessels over the long leaf or mat and instead of rotating around the designing vessel they moved the

platform of leaf or mat . With this mechanism choice was either rotate the clay by rotating the leaf or mat and person stands in a place or vice versa for clockwise and anticlockwise for movement by manually by potter but some thought of using the same where platform was created for slow motion of platform and realized that motion helped in throwing the clay better and faster. This technology increased the efficiency of handmade pottery.

Introduction of rotation has changed the face of the pottery and used two wheel one was large that was placed at the bottom and the other was at the top work as platform for clay attached with a long shaft. As they rotate the larger one a smaller wheel was revolving faster and that could be done by using a pedal with gear and desired speed is achieved by control peddling. I have noticed in India knife sharpener used the bicycle for moving his grinding wheel that was fixed with a handlebar vertically and when needed a conveyor belt is attached with the rear wheel of the bicycle and another end with pulley attached with a wheel of grinding stone. He makes the bicycle to stand by pulling on a stand that lifts it above the ground. How beautifully using the rotation of circumference of the grinding wheel for sharpening knives is amazing. Even buffing is done for stainless steel utensils for shining by adding a ball or wheel made of cotton wool and little bit iron threads attached at one end of a rotating shaft .In both cases knives or utensils are manually moved for covering the entire surface for sharpening. Another beautiful example is winch that has designed keeping in mind the use of the circumference of the wheel for rolling threads from the cotton and ultimately led to cloth.

What an amazing thought for a manual chaff shredder machine where blades are attached with radius of the flywheel in one

diameter and that also holds the circumference ,for manual rotation a wooden handle is fixed at the circumference of the wheel and another person pushes fodder from the tray . Here the height of the person is kept in mind for designing the flywheel for easy effortless operation. Sometimes the green paddy is manually pushed into a feeding tray and in some places a groove with teeth is attached with a rotating wheel for automatically pushing forward for shredding. Nowadays it is motorized.

One thing is remarkable that whatever technology has evolved but separating the prepared clay pot from the platform of the wheel has witnessed little change, earlier it was formed over leaf or mat and its impression was left at the bottom but using of thread or very thin wire as a knife for cutting and separating the designed pot from the rotating wheel platform was master stroke and beauty is it never disturbs the balance of the base by cutting very sharply , smoothly and uniformly. Now using the bat for a platform that is fixed at the centre of the wheel but can be unbolt is another technique but it only helps in off line separation.

I am honor that Debra Ruth, CEO, Author, and Global Change Ambassador has accepted our invitation and made this special issue an international issue. Her sincerity and dedication is truly reflected in this special issue.

Lambert Academic publication for celebration of 150<sup>th</sup> special issue by publishing a book by compiling editorials "Design For All, Drivers of Design" translated in eight different languages from ENGLISH into French, German, Italian, Russian, Dutch and Portuguese. Kindly click the following link for book. "Morebooks", one of the largest online bookstores. Here's the link to it:



<https://www.morebooks.de/store/gb/book/design-for-all/isbn/978-613-9-83306-1>

***With Regards***

***Dr. Sunil Bhatia***

***Design For All Institute of India***

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## Forthcoming Issues

### WOMEN DESIGNER YEAR 2020

#### July 2020 Vol-15 No-7

**Dr. Anjana Bhagyanathan** is a landscape architect and academic with an interest in the intersection of nature, culture and design. Her research offers strategies for basing ecological planning on cultural insight and science. Bio centric interventions that have positive impact on the environment for posterity forms the bulk of the research and practice that she engages with and remains the perspective she imparts to students.



Her research focuses on GIS applications for ecological planning, society and environmental protection, and landscape ecology. The process of arriving at landscape patterns that are robust ecologically, socially and culturally especially in human-dominated landscapes forms the crux of her work. Ecosystem based approaches that are rooted in traditional ecological knowledge informs the research approach. Her teaching and research apply this approach to metropolitan and agricultural landscapes – ranging from continental

scale implications of agricultural practices to neighbourhood scale implications of green storm water infrastructure. The efficacy of polycentric and tacit knowledge systems of communities that organically give rise to resilient land use systems fascinate her.

## **August 2020 Vol-15 No-8**

**Maria Luisa Rossi, Chair and Professor, MFA Integrated Design** Maria Luisa's work at the College for Creative Studies Graduate Studies brings her entrepreneurial, globally-focused, and empathetic cultural approaches to the next generation of designers. She focuses on the seamless capacity to deal with the tangible and intangible aspects of people's experiences. At CCS she is preparing & quot; facilitators & quot; capable of addressing global-local grand challenges, focusing on social innovation. Her projects are concentrated on research, co-creation and people-centered processes.



Maria Luisa's professional career has been independent and international. She attended the premiere master's program in industrial design at the Domus Academy in Milano, thanks to a European Scholarship she won from designing the first wearable computer. The project was featured in the prestigious Domus magazine and gave her a lot of visibility around Europe and the design world. The wearable computer project "The Walking Office" can be found in the Henry Ford Museum Permanent Design Collection.

**Following her studies, she founded the design consultancy Iavicoli & Rossi, working on various models varying from interior architecture to tableware.**

**Maria Luisa's interdisciplinary attitude, design strategy knowledge, and business acumen brought her to be hired in the team that launched the new Graduate Program at CCS in Detroit, where she set standards of excellence for MFA Integrated Design.**

**Her effort to provide meaningful teaching experiences is validated by a successful alumni job placement in corporations and design consultancies. Throughout her career, Maria Luisa has conducted workshops and lectures in Singapore, Los Angeles, Mexico City,**

**Istanbul, Ankara, São Paulo, Shanghai, Gratz, Brasilia, and Taiwan. Her specialties are Design Strategy, Experience Design, Scenario Design, Service Design, Interdisciplinary approach, with an in-depth knowledge of American, Asian and European culture and markets.**

## **September 2020 Vol-15 No-9**

**Surabhi 'Sur' Naik is an artist and designer who currently lives and works in New York City. Her artistic and design practice is rooted in storytelling traditions, processes and mechanisms and their evolving relationships to technology. Her works are largely informed by her lived experience in continuous flux with their contexts through female/gnc, brown and Indian identities. They take forms of digital design, illustration, documentary, augmented reality, built environments, research and data/documentation.**



**Surabhi has formal degrees in Architecture from Gogte Institute of Technology, Belagavi and in Media Studies (Digital Storytelling) from The New School, New York, and has presented her work at esteemed forums such as National Awards for Excellence in Architecture and Correa Gold Medal.**

## **October 2020 Vol-15 No-10**

**Hua Dong is Professor in Design at Loughborough University, UK. Her research interests relate to inclusive design and she has published more than 200 papers in design and engineering journals, conferences and books. She was the guest editor for the 'All design' special issue on inclusive design in China (2011) and the Design for All Newsletter in India (2010), and has edited six books, including "Design for Inclusivity" (2007) and "Inclusive Design: Chinese Archive" (2019). Hua has been an organiser and editor of the Cambridge Workshop on Universal Access and Assistive Technology (CWUAAT) since 2014. She is the convenor of the Inclusive design research special interest group (InclusiveSIG) of the Design Research Society (DRS), and was elected DRS Fellow in 2019. Hua has collaborated with researchers and industries in the UK, China, Japan, Italy, Finland, Belgium, the Netherlands and Turkey. She has helped Ant Financial, part of the Chinese Alibaba Group to launch the China's first inclusive design guidance.**



## **Co Editor**

***Abdusselam Selami Cifter, Ph.D., Associate Professor in the Department of Industrial Design in Mimar Sinan Fine Arts University, Istanbul, Turkey***

**Abdusselam Selami Cifter received his bachelor's degree in Industrial Design from Mimar Sinan Fine Arts University, Istanbul/Turkiye in 2005. In 2008, he received a Postgraduate Study Abroad Grant from the Turkish Board of Higher Education, and joined Brunel University's (London/UK) Human-Centered Design Institute as a Ph.D. researcher. His Ph.D. research investigated both lay users' characteristics and designers' perspectives regarding home-use medical devices, and aimed to assist designers in developing home use medical devices by providing information and suggestions regarding lay users and how to address their needs and expectations.**



**After his Ph.D., Abdusselam returned to the Department of Industrial Design of the Faculty of Architecture of Mimar Sinan FineArts University and currently working as an Associate Professor in the same department. He was also positioned as a Deputy Dean of the Faculty of Architecture between 2015-2020. Abdusselam has been involved in several research/design projects in the areas of medical devices, inclusive design, the collaboration of university and civil society organisations, and design education. His research interests are focused on home-use medical devices, the design process of medical devices, inclusive design, and human centred design.**

## **December 2020 Vol-15 No-12**

**Isabella Tiziana Steffan** is an Italian architect and Certified Professional Ergonomist by CREE-Centre for Registration European Ergonomists, with experience in environmental quality, accessibility and Design for All.



She is active in the fields of: planning, research, on the subject of mobility of weak users and environmental usability, audit on usability of products, places, services, urban pathways and furniture, both for public and private customers.

She has been Vice President of the Italian Society of Ergonomics and Human factors, and of the Organising Committee of the XX International Congress IEA2018 "Creativity in practice". She is President of National board for the Certification of the European Ergonomists, and member of the Scientific Committee of the IEA2021 Congress.

She has been teaching for different Institutions (Università degli Studi di Firenze, Università degli Studi di Milano Bicocca (Department of Psychology, Sociology, ICT), and regularly teaches at Politecnico di Milano (Department of Architecture).

She has been member of juries for idea competitions, among which the UIA Award "Friendly Spaces Accessible to All" editions, and the jury student design contest "U Design for real people".

**She is active in standardisation at the national, European and international levels. She is a selected expert (2016) within the European Community Mandate 420, currently developing a new standard “PrEN 17210- Accessibility and usability of the built environment – Functional requirements”. She is also working on the revision of ISO 21542:2011 “Building construction – Accessibility and usability of the built environment”.**

**[info@studiosteffan.it](mailto:info@studiosteffan.it)**



# New Books



ISBN 978-613-9-83306-1



Sunil Bhatia

## Design for All

Drivers of Design

Expression of gratitude to unknown, unsung, & acknowledged, assimilated and selfless millions of heroes who have contributed immensely in making our society worth living, their design of comb, kite, fireworks, glass, mirror even thread concept have revolutionized the thought process of human minds and prepared blueprint of future. Modern people may take for granted but its beyond imagination the hardships and how these innovative ideas could strike their minds. Discovery of fire was possible because of its presence in nature but management of fire through manmade designs was a significant attempt of thinking beyond survival and no

doubt this contributed in establishing our supremacy over other living beings. Somewhere in journey of progress we lost the legacy of ancestors in shaping minds of future generations and completely ignored their philosophy and established a society that was beyond their imagination. I picked up such drivers that have contributed in our progress and continue guiding but we failed to recognize its role and functions. Even tears, confusion in designing products was marvelous attempt and design of ladder and many more helped in sustainable, inclusive growth.

[www.lap-publishing.com](http://www.lap-publishing.com)

it is available on [www.morebooks.de](http://www.morebooks.de) one of the largest online bookstores. Here's the link to it:

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## The Ultimate Resource for Aging in Place With Dignity and Grace!

Are you looking for housing options that are safer and more accommodating for independently aging in place? Do you want to enjoy comfort, accessibility, safety and peace of mind – despite your disabilities, limitations and health challenges? The help you need is available in the Universal Design Toolkit: Time-saving ideas, resources, solutions, and guidance for making homes accessible.



This is the ultimate resource for individuals and professionals who want to save time, money and energy when designing, building, remodeling or downsizing a home. The Universal Design Toolkit will help you take the steps to design homes for your clients or yourself while eliminating the costly trial and error challenges you'd inevitably encounter if faced with this learning curve on your own.

Rosemarie Rossetti, Ph.D., teamed with her husband Mark Leder in creating this unique Toolkit. They bring ten years of research, design and building expertise by serving as the general contractors for their home, the Universal Design Living Laboratory– which is the highest

rated universal design home in North America.

Within the Toolkit's 200 richly illustrated pages, you'll find: Insights that distinguish *essential* products, services and resources from the *unnecessary*.

Proven, realistic tips for finding the right home.

Home features you need to look for. Nothing is assumed or left out.

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**"Fresh, comprehensive, and engaging, *Universal Design in Higher Education* is expertly written, thoughtfully crafted, and a 'must-add' to your resource collection."**

—STEPHAN J. SMITH, EXECUTIVE DIRECTOR, ASSOCIATION ON HIGHER EDUCATION AND DISABILITY

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## UNIVERSAL DESIGN IN HIGHER EDUCATION

From Principles to Practice  
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## UNIVERSAL DESIGN IN HIGHER EDUCATION

From Principles to Practice, Second Edition

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This second edition of the classic *Universal Design in Higher Education* is a comprehensive, up-to-the-minute guide for creating fully accessible college and university programs. The second edition has been thoroughly revised and expanded, and it addresses major recent changes in universities and colleges, the law, and technology.

As larger numbers of people with disabilities attend postsecondary educational institutions, there have been increased efforts to make the full array of classes, services, and programs accessible to all students. This revised edition provides both a full survey of those measures and practical guidance for schools as they work to turn the goal of universal accessibility into a reality. As such, it makes an indispensable contribution to the growing body of literature on special education and universal design. This book will be of particular value to university and college administrators, and to special education researchers, teachers, and activists.

**SHERYL E. BURGSTAHLER** is an affiliate professor in the College of Education at the University of Washington in Seattle, and founder and director of the university's Disabilities, Opportunities, Internetworking, and Technology (DO-IT) and Access Technology Centers.

**"Sheryl Burgstahler has assembled a great set of chapters and authors on universal design in higher education. It's a must-have book for all universities, as it covers universal design of instruction, physical spaces, student services, technology, and provides examples of best practices."**

—JONATHAN LAZAR, PROFESSOR OF COMPUTER AND INFORMATION SCIENCES, TOWSON UNIVERSITY, AND CO-AUTHOR OF *ENSURING DIGITAL ACCESSIBILITY THROUGH POLICIES AND PRACTICE*

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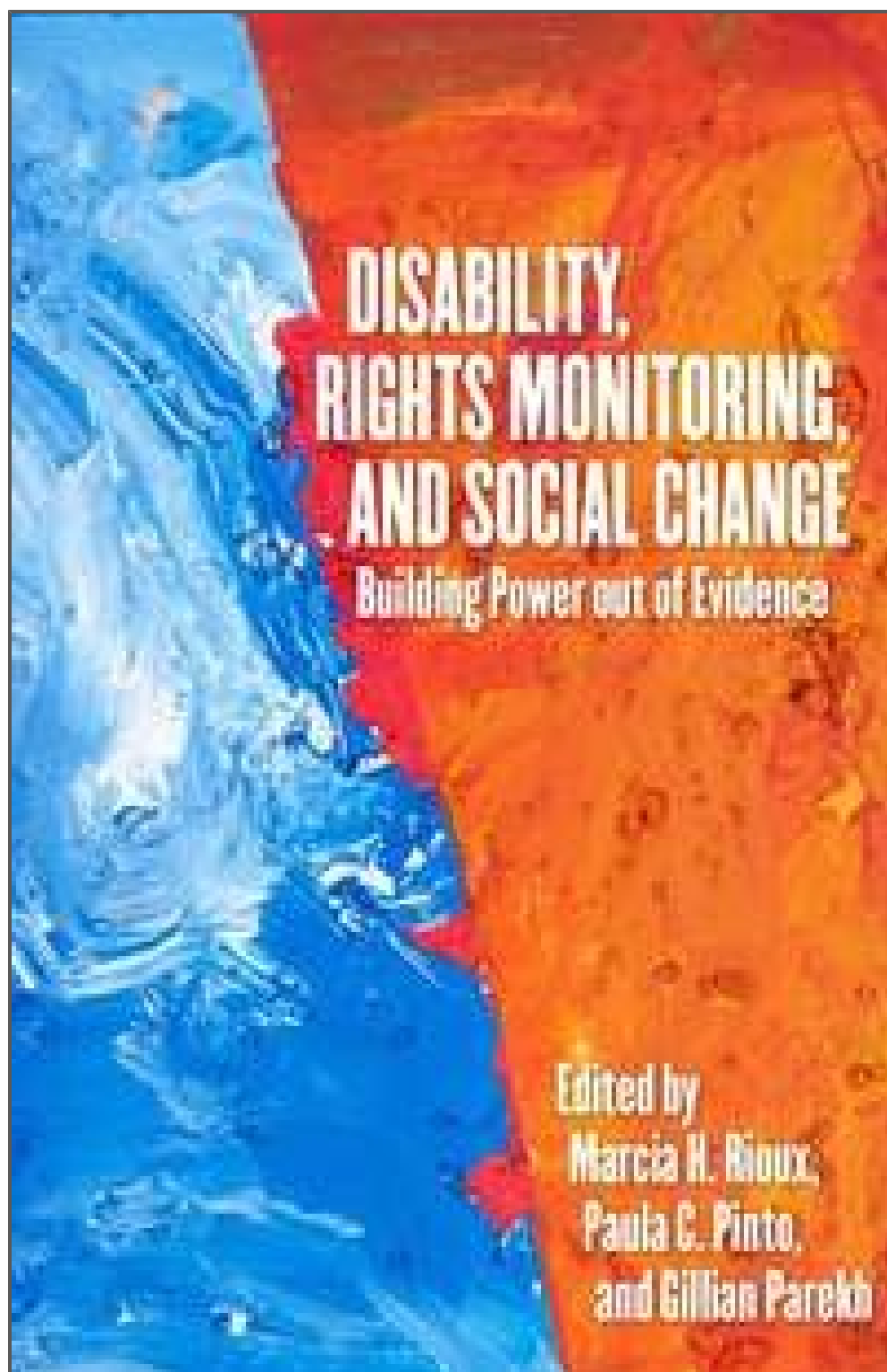
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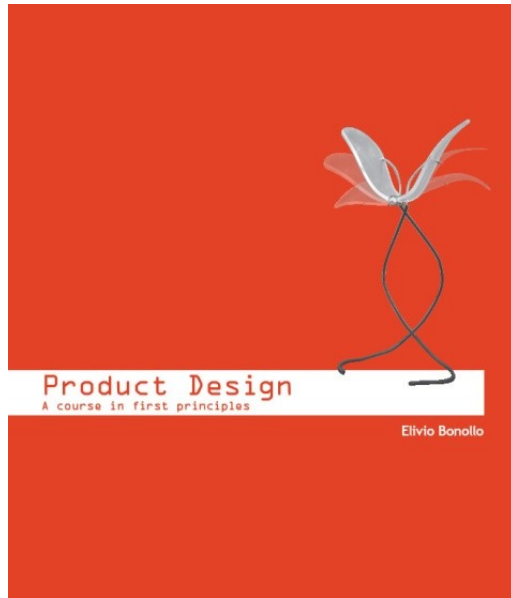
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**Disability, Rights Monitoring and Social Change:**



**New Update: ELIVIO BONOLLO (2015/16) PRODUCT DESIGN: A COURSE IN FIRST PRINCIPLES**



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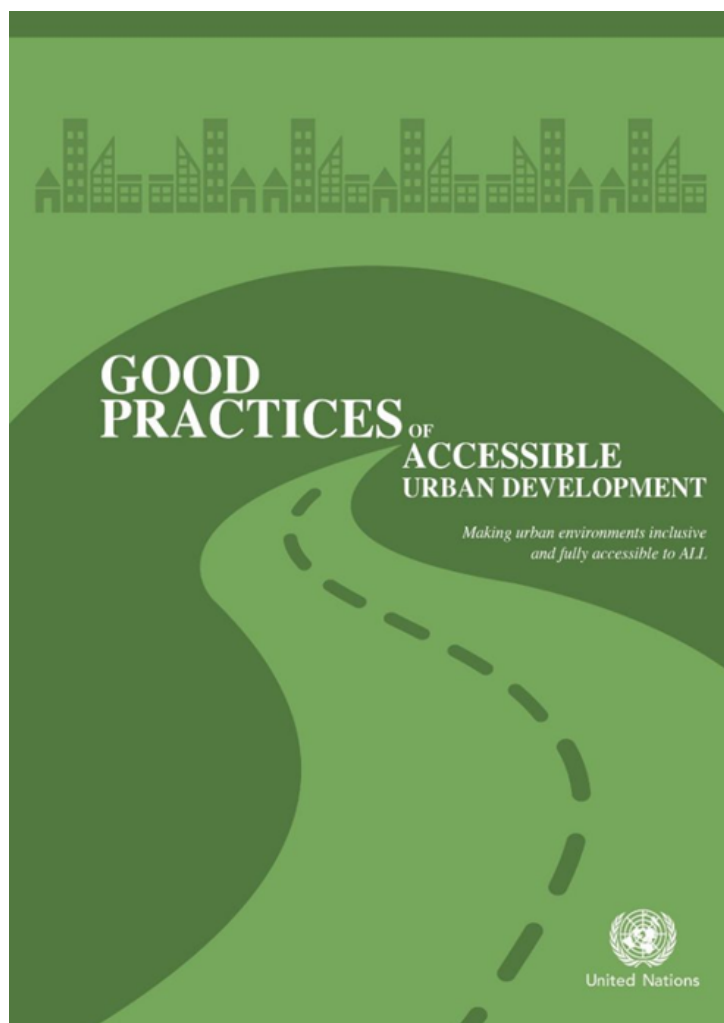
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# INCLUSION



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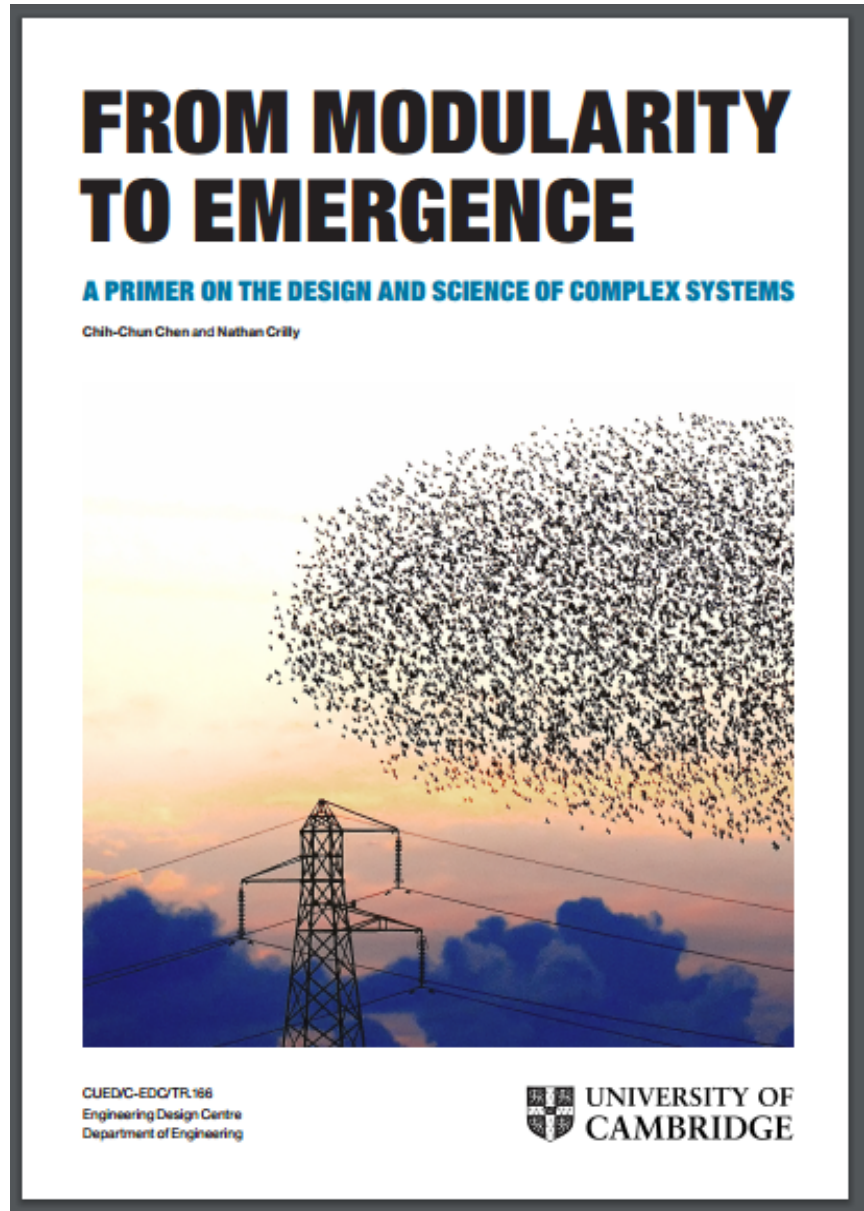


**In light of the forthcoming United Nations Conference on Housing and Sustainable Urban Development (HABITAT III) and the imminent launch of the New Urban Agenda, DESA in collaboration with the Essl Foundation (Zero Project) and others have prepared a new publication entitled: “Good practices of accessible urban development”.**

**The publication provides case studies of innovative practices and policies in housing and built environments, as well as transportation, public spaces and public services, including information and communication technology (ICT) based services.**

**The publication concludes with strategies and innovations for promoting accessible urban development.**

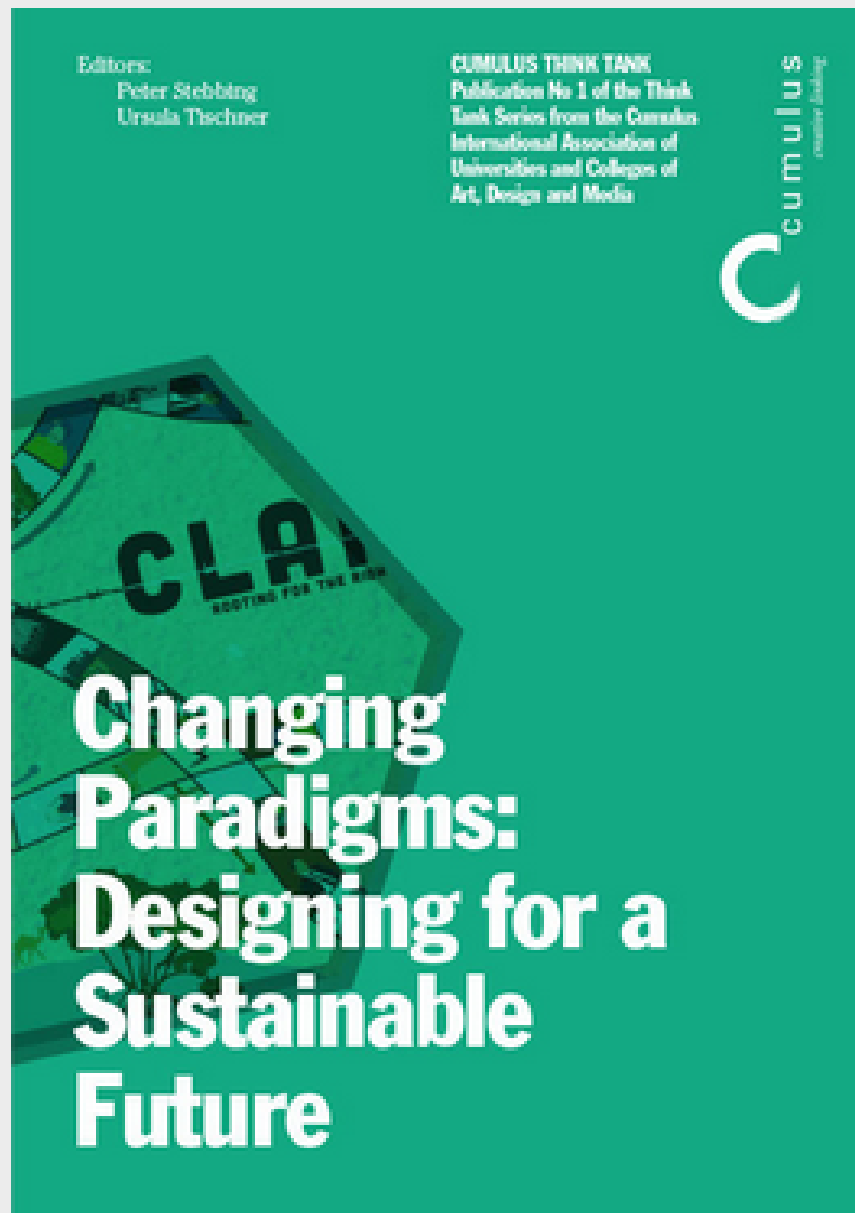
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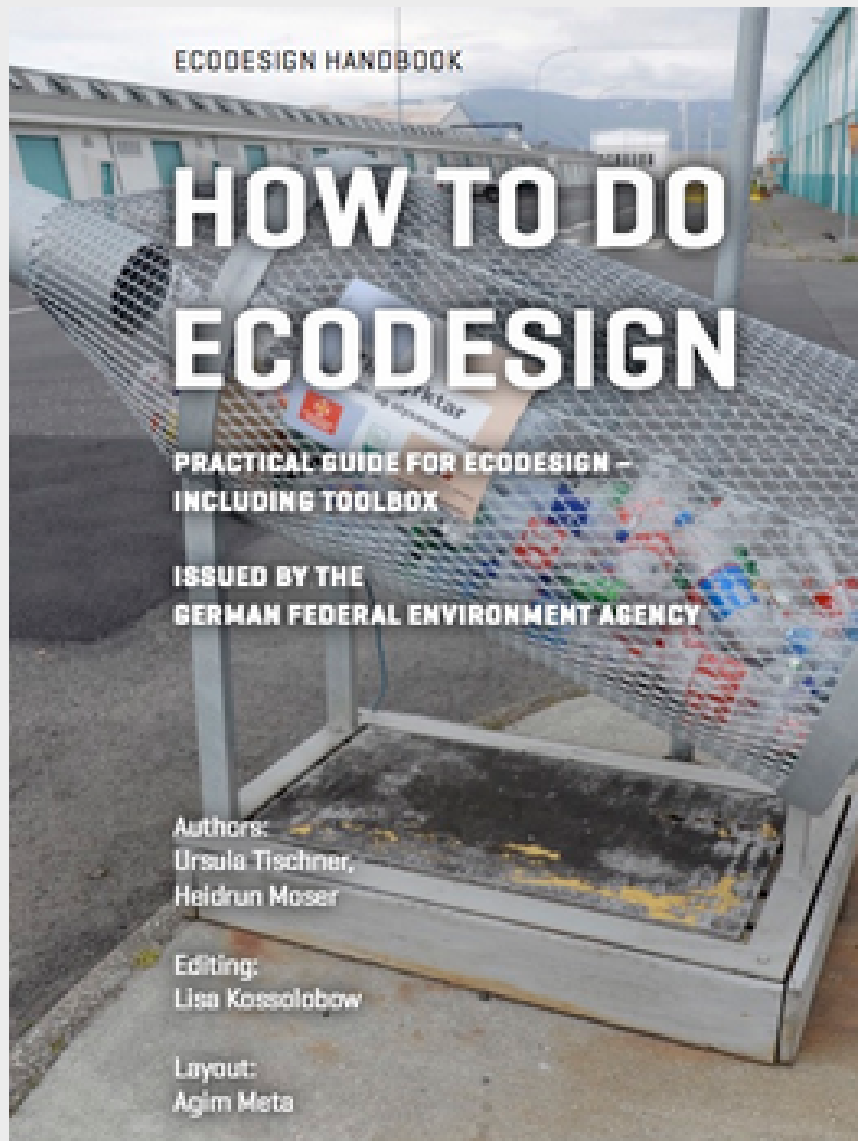
Dr Chih-Chun Chen and Dr Nathan Crilly of the Cambridge University Engineering Design Centre Design Practice Group have released a free, downloadable book, *'A Primer on the Design and Science of Complex Systems'*. This project is funded by the UK Engineering and Physical Sciences Research Council (EP/K008196/1). The book is available at URL: <http://complexityprimer.eng.cam.ac.uk>



# Changing Paradigms: Designing for a Sustainable Future

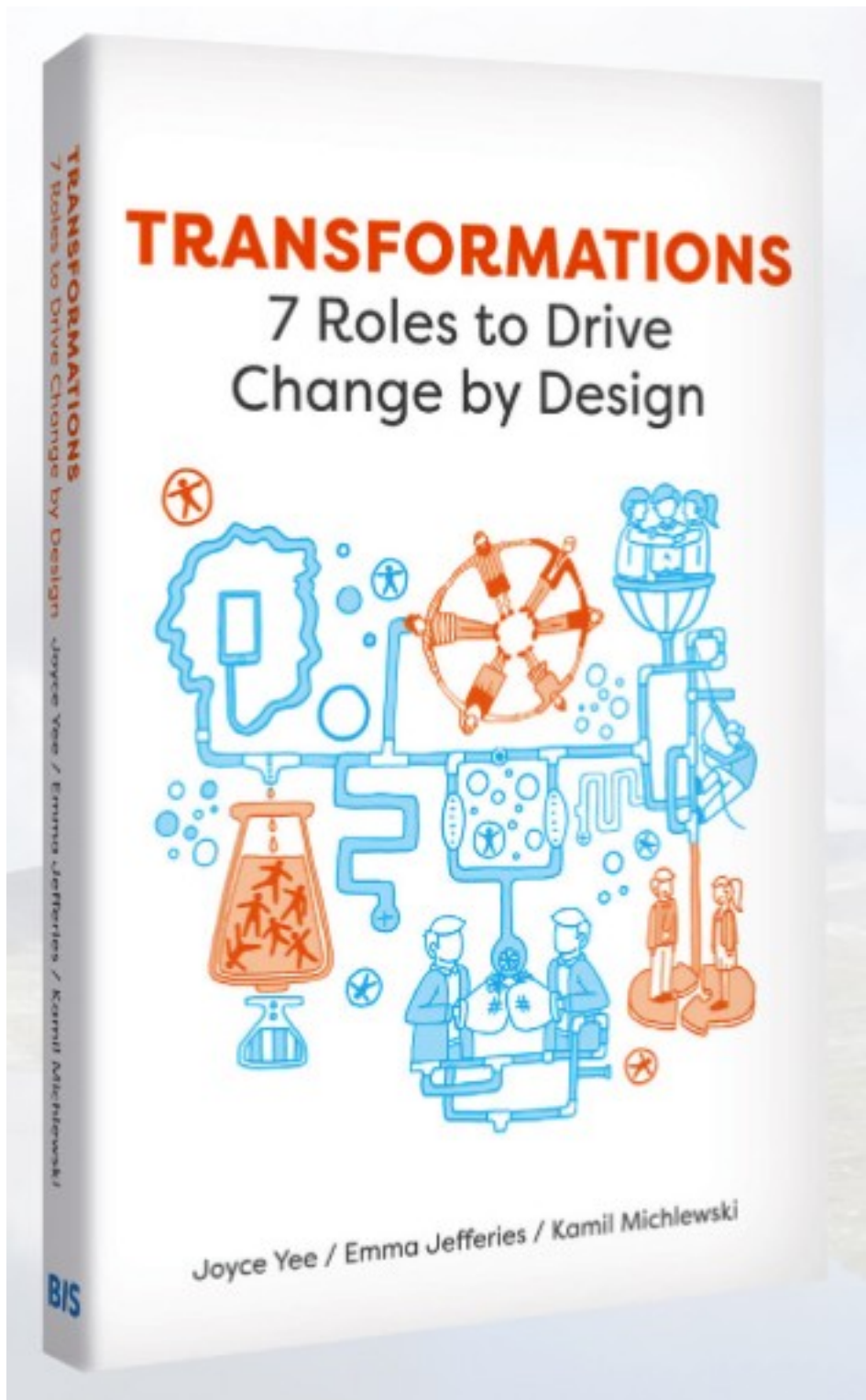


## **New iBook / ebook: HOW TO DO ECODESIGN**



Practical Guide for Ecodesign – Including a  
Toolbox

Author: Ursula Tischner



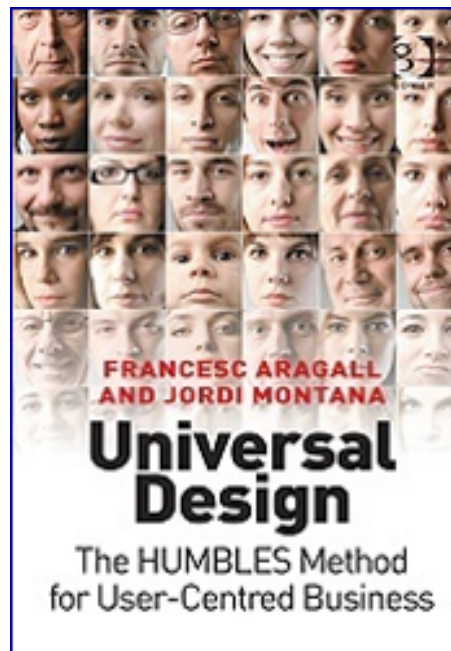
Amar Arnason and Sigurjón Baldur Hafsteinsson

# DEATH AND GOVERNMENTALITY

Neo-liberalism, grief and the nation form



## Universal Design: The HUMBLES Method for User-Centred Business



“Universal Design: The HUMBLES Method for User-Centred Business”, written by Francesc Aragall and Jordi Montaña and published by Gower, provides an innovative method to support businesses wishing to increase the number of satisfied users and clients and enhance their reputation by adapting their products and services to the diversity of their actual and potential customers, taking into account their needs, wishes and expectations.

The HUMBLES method (© Aragall) consists of a progressive, seven-phase approach for implementing Design for All within a business. By incorporating the user's point of view, it enables companies to evaluate their business strategies in order to improve provide an improved, more customer-oriented experience, and thereby gain a competitive advantage in the marketplace. As well as a comprehensive guide to the method, the book provides case studies of multinational business which have successfully incorporated Design for All into their working practices.

According to Sandro Rossell, President of FC Barcelona, who in company with other leading business professionals endorsed the publication, it is “required reading for those who wish to understand how universal design is the only way to connect a brand to the widest possible public, increasing client loyalty and enhancing company prestige”. To purchase the book, visit either the [Design for All Foundation website](#)

# Appeal

## IAUD Proposal-How to make a mask in 10 seconds

Our partner IAUD (international Association for Universal Design) would like to introduce this easy way to make a mask with your handkerchief or hand towel as one of our contribution to prevent from the spread of the infectious disease with COVID-19 new coronavirus.

Prime Minister Shinzo Abe recommends wearing cloth masks, as it is reusable. They can be washed and use them many times, in other words, it is sustainable.

It has also been recognized that it has an effect on slowing the spread of COVID-19, although it does not have COVID-19-preventing effects, according to CDC (Centers for Disease Control and Prevention). It helps people who may have the virus and do not know it from transmitting it to others.

Link to tutorial: <https://www.iaud.net/global/activity/10032/>

Hoping that all together we can stop the spread of COVID-19 as soon as possible, warmest regards.

**IMMA BONET**  
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# News

**1.**

## **Kāinga Ora unaware of how many state houses meet accessibility standards**



**Kāinga Ora says it doesn't have information about which of its current properties met universal design or other accessible standards.**

**The public housing agency, Kāinga Ora, doesn't know how many of its properties meet design standards that ensure anyone with a disability can live in them.**

**Nearly 900 people on the state house waiting list need a property that better suits their needs, and disability advocates say the Government needs to do better.**

**In response to an Official Information Act request from RNZ, Kāinga Ora said it didn't have information about which of its current properties met universal design or other accessible standards, because its systems do not allow it to record that information.**

**It could, however, provide figures for the number of state houses that have been modified for an individual tenant's needs.**

**It said about 3900 properties had had modifications made, which can cover anything from installing handrails and widening entranceways, to fitting ramps and providing wet area showers.**

**But across the country, only about 60 properties are vacant.**

**The Ministry of Social Development, which manages the state house waiting list, said there were almost 900 people waiting for a modified property - almost 300 of them were already in a state house and waiting to be shifted to a new one.**

**Mother-of-two Sarah Mason has been on the waiting list since late last year.**

**Her 10-year-old son Conan is severely autistic and has ADHD, and Mason said the private rental they were living in at the moment was not suitable for him.**

**"There's a retaining wall that he can climb and then he can climb onto a roof from the retaining wall. There's also a deck on the front of the house which has a railing which he climbs along the outside of and there's a three-metre drop on to the concrete. It is fully fenced, but the fencing isn't adequate for Conan's needs, so he gets out."**

**Mason said it was a stressful situation for her family.**

**"I can't relax, I have to be in this heightened state of alertness all the time, going: 'where's Conan? What's Conan doing?', and it means I don't have any time to spend with his sister Grace and it's just made things very, very stressful."**

**While Kāinga Ora has set a target to build at least 15 per cent of its new houses to universal design standards, Disability Rights Commissioner Paula Tesoriero said the agency needed to do better.**

**"Any person could have an illness or an accident that changes how they live and we also know that New Zealand's population is ageing, so it's vital that we move quickly to provide adequate housing for the diverse needs of all people," she said.**

**Lifemark is a company providing advice on universal design and accessibility.**



**General manager Geoff Penrose said building right in the first place was far more cost-effective than making retrospective changes.**



**Geoff Penrose. Photo / Supplied**

**"Modifications are 10 times the cost of doing something at the beginning, so if we can get it planned well at the start, it makes a huge difference."**

**Penrose said Kāinga Ora needed to set its sights higher than a 15 per cent target.**

**"They have a responsibility to look after possibly the more vulnerable people in society, they have a responsibility to show leadership to the housing market in general, and there are now the techniques available to deliver universal design into housing at a low cost."**

**Housing Minister Megan Woods said Kāinga Ora's 15 per cent target was a start, and she expected the actual number of houses built to universal design standards would exceed this.**

**She said that given the population was ageing, more work would need to be done to make houses more accessible for tenants.**

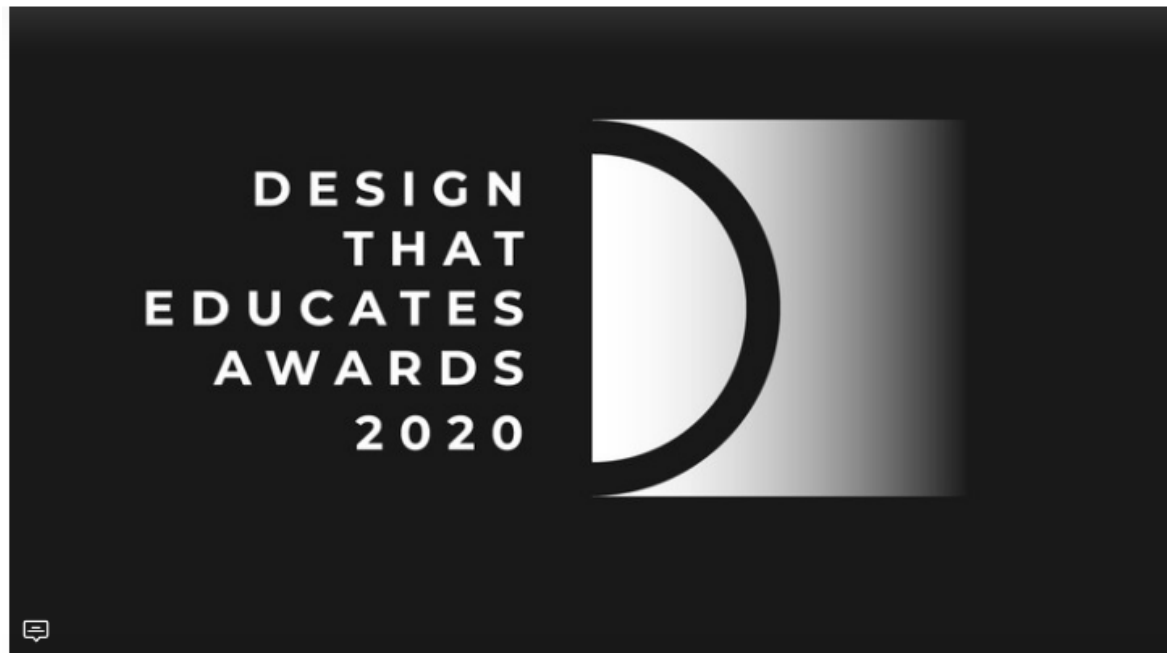
**Kāinga Ora said it was looking at making changes so it could report with greater clarity the numbers of its houses that met accessibility standards.**

***(Source: NZHEARLD)***

## Programme and Events



International conference on 'Designing for children' with focus on 'Play and Learn'





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The Royal Agricultural Society of Victoria (RASV)



#### CALL FOR PAPERS

The ASSETS conference is the premier forum for presenting research on the design, evaluation, use, and education related to computing for people with disabilities and older adults. We invite high-quality original submissions on topics relevant to computing and accessibility.

Submissions should present significant contributions to design, systems, tools, scientific understanding, methodology, or social issues. Relevant topics include (but are not limited to) new enabling technologies, studies of how technologies are used by people with disabilities, explorations of barriers to access, and evaluations of accessibility education methods. It is expected that, in most cases, a paper's research contributions will be validated through research activities conducted within the target user groups. Papers that include a technical contribution without being validated through research activities with representative users are unlikely to be accepted.



## XXVII Compasso d'Oro: the visual project

The selection for the

ADI graphic project invites to present a graphic project proposal for the cycle of publications related to the XXIII Compasso d'Oro ADI: ADI Design Index 2020, ADI Design Index 2021, XXVII Compasso d'Oro.





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Oct. 25-28, 2020, Bangkok, Thailand

## 2020 GOOD DESIGN AWARDS OPEN FOR ENTRY

Good Design Australia is calling for Australian and international entries to the 2020 Good Design Awards. Through the annual Good Design Awards program, we recognise and celebrate excellence in cutting edge design and breakthrough innovation.

**Design for  
Sustainable City**

**towards  
a harmonious  
relationship  
between  
human and  
the environment**





2019  
HUMAN CITY  
DESIGN AWARD  
2019-2020

The design of the Human City Design Award symbolizes and expresses the values required for future cities. To design a city as a venue of communication is to build an urban ecosystem in which humans and the environment coexist. To establish a platform that can create mutual prosperity, the design should incorporate the keywords, "Coexist", "Connector", "Sustainable", and "Harmony". The shape of design of the Human City Design Award is the Mobius Strip, a line which is continuously connected and encloses empty spaces that could be filled with diversity. The shape of the strip, moving from left to right and from bottom to top symbolizes the link between people and people, people and the society, people and the environment, people and nature. Furthermore, the Mobius Strip that creates one space while connecting separate fields symbolizes the city itself emphasizing the value of coexistence between humans. The square fields on the left and right sides are presented in the proportion of the Golden Ratio, symbolizing the role of design in establishing the sustainability of a city.



2019  
HUMAN CITY  
DESIGN AWARD  
2019-2020

Call for entry for 2020 Human city award.



**Let's reconcile with the future!**

**Book Object / Book Object  
International Biennial of the book of Artist and Design**

The call to participate in the new edition of [Object Book, the International Biennial of the Artist and Design Book](#) is online .

The competition is open to artists, designers, professionals and students.



## TWO WEEK COUNTDOWN TO FINAL DEADLINE

There are just two weeks left to get your entries in for the 2020 Good Design Awards. Give your team something to celebrate this year and get recognised for your best work!

[START ENTRY](#)

Future  
Architecture

European  
Architecture  
Programme  
01 Jun - 31 Oct 2020  
• 24 unique events  
in 17 European cities

Looking Forward to Future Architecture  
Programme throughout Europe





# Job Openings

## 1.Job Opening



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