

IEEE Dignity, Inclusion, Identity, Trust and Agency Industry Connections Activity (DIITA): Transparent Design for Well-being and Accessibility in Technology Workstream

STATEMENT OF PURPOSE

“Transparent Design for Well-being and Accessibility in Technology”

Who We Are and What We Do

Promoting Dignity, Inclusion, Identity, Trust and Agency (DIITA), ***our workstream will initially address issues at the intersection of technology and human factors.***

We have identified a rapidly evolving condition: the urgent universal need for resilience and well-being wherein technology plays a significant role. Not only are many people currently excluded, but the COVID-19 pandemic has compounded both the urgency and importance of finding real world solutions. Without the use of *Transparent Design for Well-being and Accessibility in Technology* in generating solutions, the status quo will not change. Challenges include system and technology complexities, processes, costs, bias, variation and lack of inclusion. All of these factors can place a significant burden on the individual. Another critical issue is the frequent lack of navigation support, which is effectively a tax on some users. These factors compound, leading to poor outcomes with a cascade of effects that last for generations.

This can impact individuals with disabilities of any kind, physical or mental, and other underserved groups. While persons with disabilities may rely more than others on technology solutions for navigating or managing daily life, accessibility, interoperability and inclusion remain elusive. Furthermore, these problems affect all people where different linguistic and cultural backgrounds and technology experiences may limit their ability to use technology. This is especially evident in areas such as quality of life, participation in the workplace, healthcare delivery and social interactions. All of these areas increasingly demand a constellation of technologies and solutions that must be configured and managed effectively. These solutions must also be adaptable to meet the needs of the individuals at any given moment in any particular setting. This is an increasingly sizable burden for much of the world’s population.

Without *Transparent Design for Well-being and Accessibility in Technology*, people, their families and communities can suffer the most extreme consequences, literally interfering with life, health and well-being.

We help to facilitate IEEE’s vision of the advancement of technology for humanity by considering diversity and inclusion for all human beings. Our approach is synergistic with the IEEE Humanitarian Activities Committee’s Special Interest Groups for Humanitarian Technologies (SIGHT). Our approach also aligns with the United Nations Sustainable Development Goals (SDGs), as well as many global, regional and national efforts and frameworks that aim to enhance and leverage technologies with a

focus on the needs of persons with disabilities, to be more linguistically appropriate and to be more inclusive.

The key question that we address:

Impact:

We are a multi-disciplinary team of experts:

Transparent Design for Well-being and Accessibility in a Technical Context

We have identified the following three key drivers for the *Transparent Design for Well-being and Accessibility* workstream:

- 1) Health and medical device literacy supported by culturally and linguistically appropriate system design for dignity and identity
- 2) Intelligent Power, Security and Connectivity for Well-being (IPSC)
- 3) Increased diversity and representation in research and publication

These have set initial directions for the workstream. For example, digital and identity-related bias and variability identified by the team includes: technology accessibility, connectivity and access to power and energy. Others include identity and inclusion based on economic resources, language, culture, communication abilities, learning styles, subject matter expertise, location and biological variability. The latter include skin color, preexisting conditions and life stage, mobility, cognitive abilities and individual, family, and community resources.

We suggest that *Transparent Design for Well-being and Accessibility* addressing technology and associated processes and systems can become an integral part of creating interoperable solutions, design principles, policies and standards that reach individuals, communities and groups, locally and globally. This will elevate dignity, recognize humanity, promote technology inclusion, enhance and promote respect for identity, inspire and promote trust, facilitate accessibility and accommodation and benefit life and well-being to advance technology for all diverse humanity.

In order to promote Dignity, Inclusion, Identity, Trust and Agency (DIITA), we are ***initially addressing issues within contexts that may be modeled by Topic and/or in Use Cases***. These include but are not limited to: 1) **Health and Medical Device Literacy**, 2) **Intelligent Power, Security and Connectivity for Well-being (IPSC)**, and 3) **Research and Publications**.

1) Health and Medical Device Literacy

A parent, caregiver, patient, student, teacher, researcher or healthcare professional may be bilingual, or may have a level of literacy or subject matter expertise that does not match the literacy needed, or is not thorough and sufficient to use a product effectively. This situation will become more complex over time, in particular, as Software as a Medical Device (SaMD) evolves. If an interpreter or translation is not available or convenient, there may be delays or difficulty, or inadequate ability for

the patient, caregiver, student, etc. to participate in the communication, plan, treatment and follow up. Technology may improve communication, improve the ability to interpret cultural needs, and provide simultaneous translation of languages, media, level of literacy, subject matter literacy, lived experience, etc. to improve performance for all persons involved. When people can address their health and medical device literacy with the best matched cultural, language, communication and learning styles, Dignity, Inclusion, Identity, Trust and Agency can be promoted through ***Transparent Design for Well-being and Accessibility in Technology – Health and Medical Device Literacy***.

2) Intelligent Power, Security and Connectivity for Well-being (IPSC)

People turn to technology for resilience solutions to many problems, participation in society, quality of life and wellbeing. Therefore, advancing technology for humanity requires universal design, diversity, equity, accessibility, inclusion, access to reliable power and energy and connectivity for all persons to promote resilience and well-being. ***Transparent Design for Well-being and Accessibility in Technology – Intelligent Power, Security and Connectivity for Well-being*** looks to ensure that the technologies supporting healthcare and well-being-related devices and processes are maintained in a way that supports the user, who may depend on those devices for their health, well-being or even life.

3) Research and Publications

To promote Dignity, Inclusion, Identity, Trust, and Agency (DIITA) through the thread ***Transparent Design for Well-being and Accessibility in Technology – Research and Publications***, we will address issues within scientific, health and engineering research, conferences, research and publications with multidimensional improved curation to reduce bias, address variability, and promote inclusion, equity and diversity. Through multidimensional efforts, we aim to reduce bias and improve inclusion and diversity in data, algorithms, systems, applications, and research. Representation of people with different lived experiences and tracking and transparently labeling relevant data about study authors, reviewers, as well as subjects is critical to achieve this vision.

Collaboration across IEEE

This workstream is a joint collaboration with the [IEEE Special Interest Group on Humanitarian Technology \(SIGHT\)](#).

Join Us

We welcome interested participants from around the world.

To join our team, please contact the Workstream Chair Kit August at: kit.august@gmail.com