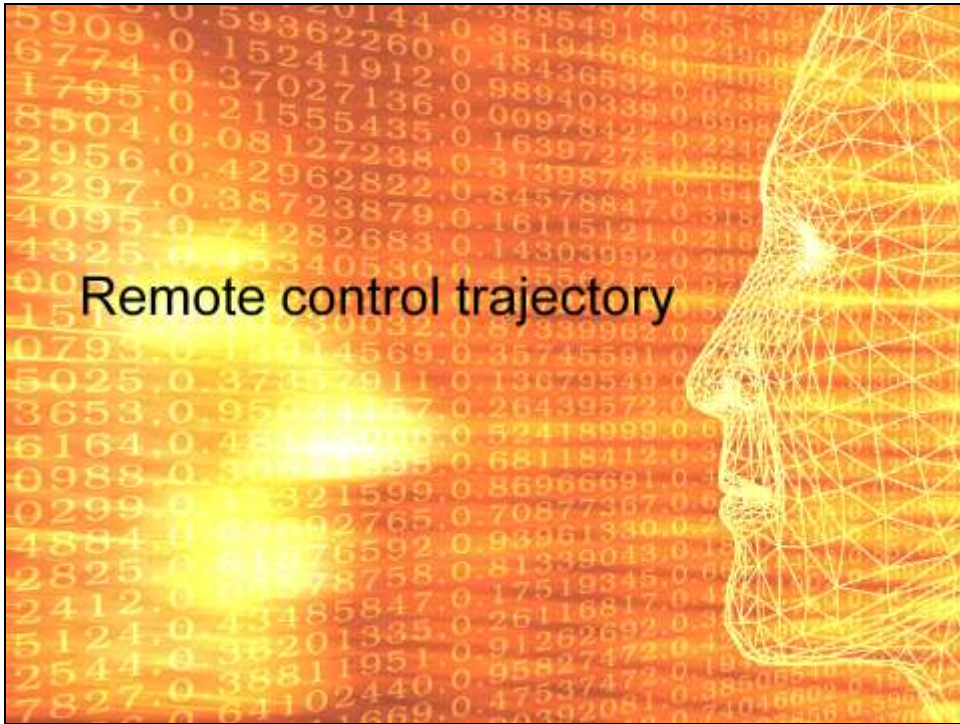


In the 1960s/70s, we had the remote control attached to the TV with a cord like an umbilical cord. From this cord driven technology we have now dropped headlong into a wireless whizzbang world of connectivity and virtual community. In this presentation, we will examine how early technologies enable people with disabilities and the dangers of touchscreen virtual communities that could potentially exclude people with disabilities. From this whirlwind tour, we will strongly advocate for access standards or at least design guidelines to be implemented so that future technological developments are accessible to all and can benefit those who are most often excluded from social and virtual interactions.



For the purpose of this paper, we will use a definition of technology that is broad and diverse, including the traditional ideas of technology such as computers, mobile phones etc, and moving right along into anything which is assistive to people or the activities of daily living. At this end of the spectrum we also include assistance dogs, levers for opening jars, key-holding handles, augmentative communication systems, sensory design spaces and voice-activated environmental controls.



Remote control trajectory

SO let's go on a tour and visit a visual spectacular of this trajectory.

"LOOK OUT, GRACIE!"

WITH ZENITH SPACE COMMAND TV I CAN CHANGE PROGRAMS FROM ACROSS THE ROOM"...

**Nothing Between You and the Set But Space!**

**Quality TV**

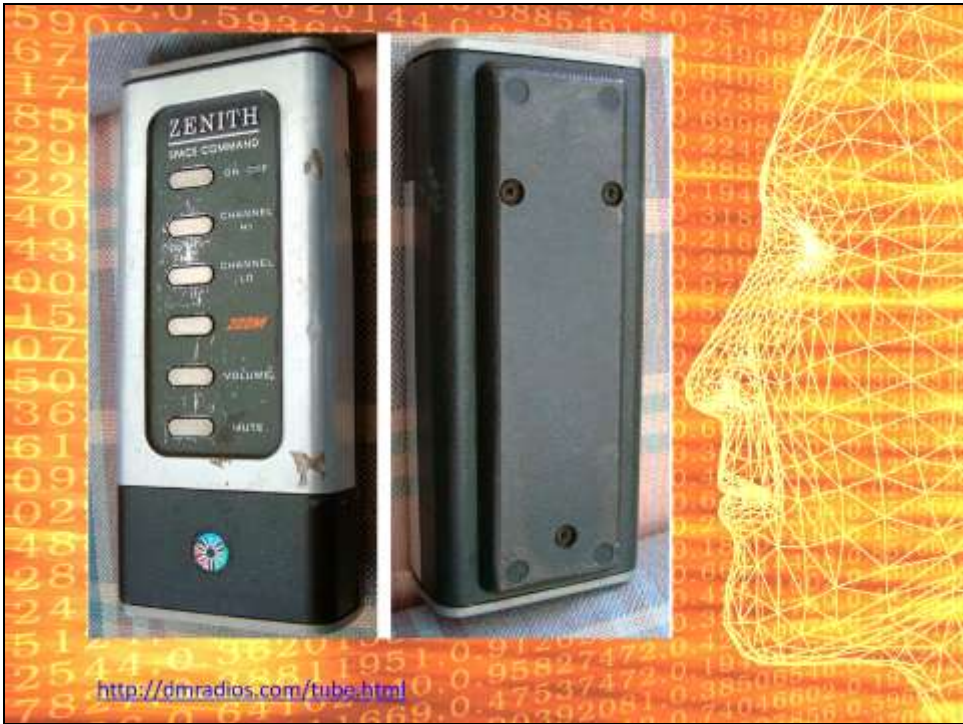
**Zenith**

SPACE COMMAND TV

<http://we-make-money-not-art.com/archives/2004/08/vintage-remote-controls.php>



<http://we-make-money-not-art.com/archives/2004/08/vintage-remote-controls.php>



<http://dmradios.com/tube.html>

## Presenting the Zenith Space Command Collection.

In fact, a full line of Zenith digital color TVs are  
available in a variety of sizes to meet your needs.  
All with a feature called Zenith ChromaCast™ 1000, which  
TVs don't come with. Turns the set into a 10" screen  
that can be used as a desk, and which can be held in a hand.  
Zenith ChromaCast is included with every one of these beautifully designed sets.  
In getting Zenith's ChromaCast, you'll find a whole lot more.  
And away we go for the new Zenith ChromaCast, your new highest  
and shiniest Zenith ChromaCast.  
At Zenith, we really give us before the name goes on.



**Zenith**  
SUPERCHROMACOLOR

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*"Wireless Wizard" remote control tuning, operated from anywhere in the room, turns RCA color receivers on and off, provides all-level volume control, adjusts tint and color, and changes channels. Models also are available for black-and-white receivers.*

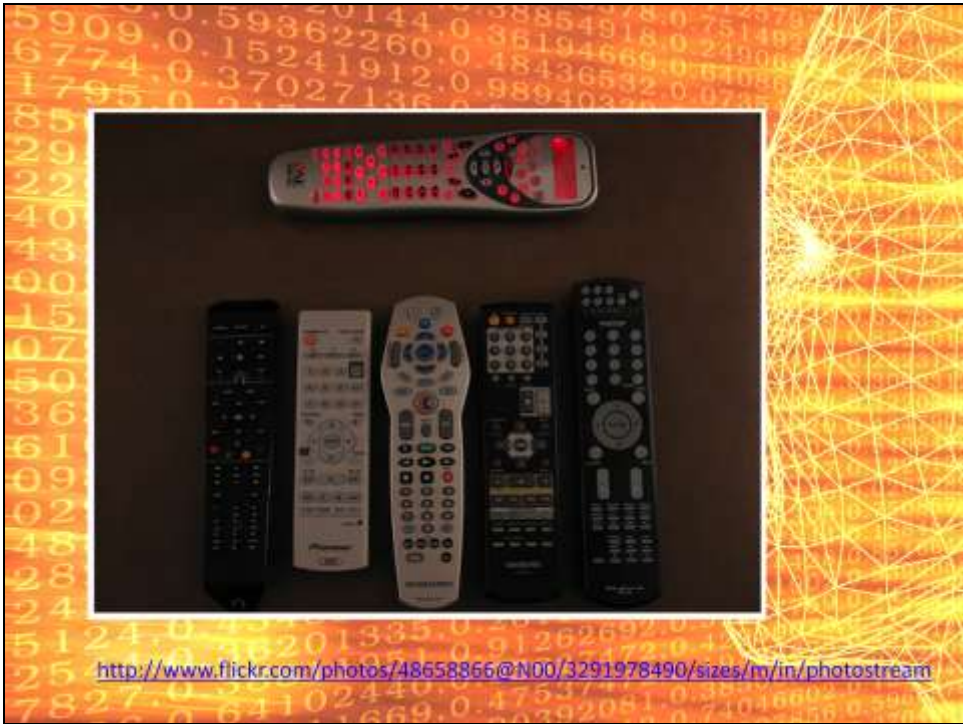
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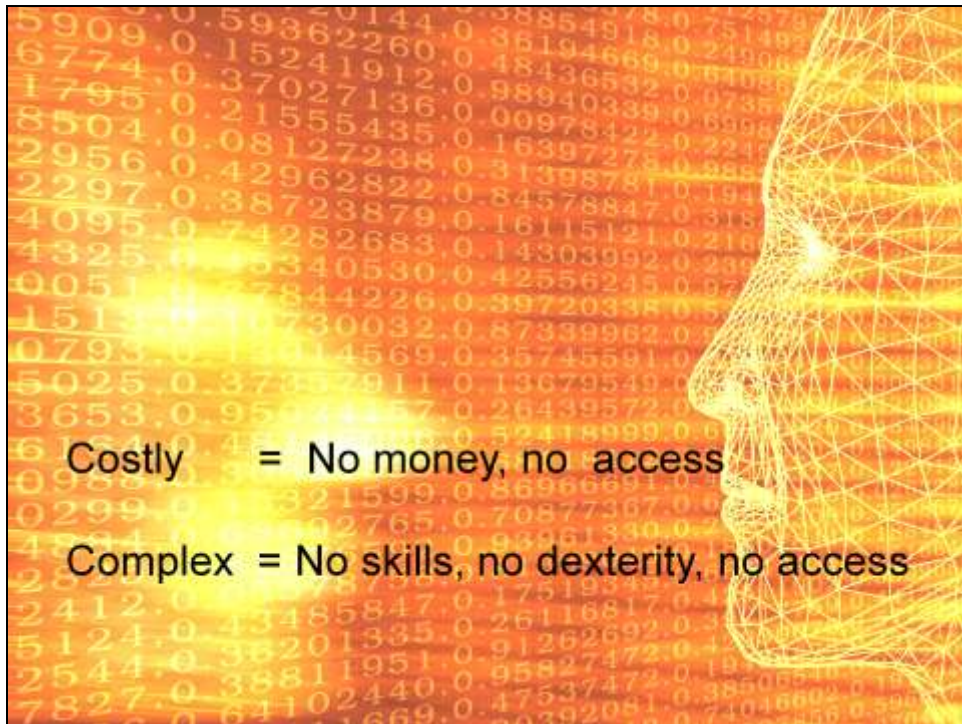
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**A remote reason for buying a Sony TV.**

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<http://www.flickr.com/photos/48658866@N00/3291978490/sizes/m/in/photostream>



**Costly = No money, no access**

**Complex = No skills, no dexterity, no access**

Technology is increasingly more complex and costly, and as such it becomes more exclusionary. So instead of actually assisting people and augmenting their interaction with society in the economic communities, modern technologies, as seen earlier in our tour, are moving away from being inclusively accessible to being only able to be used by those with the skills, dexterity and money to navigate the labyrinth of actions and reactions to bring about desired effects.



If you complain, it is generally a dead end even if you can get into the system!



It should be remembered that for tech geeks, the trajectory goes from the bottom of the scale to high end complexity and functionality with many plugins, apps, and adaptations all linking together in an interweaving web of circuitry and microchips that can communicate to wireless networks and virtual hugs. However, for people with disabilities, it can be argued that the trajectory goes in the other direction from simple push-buttons that you could access with your toe or heel, with your shoe on to touch screens with no stylus support (apple symbol) that you could drive your foot through before anything happened.



A recent example is the implementation of the GOCARD ticketing system for public transport in South-east Queensland. Despite the fact that Australia the Australian Human Rights' Act 1986 and Queensland has Access-to-premises standards and the Anti-Discrimination Act 1991, Guide and Assistance Act, the Queensland Government-owned Corporation Translink recently introduced an electronically ticketing system that excludes people with limited dexterity, cognition and the elderly. In response to lobbying by disability advocates and others, Translink were forced to design and implement an alternate system for people who could not use Gocards. This is known as the Travel Access Pass and is a perfect example of how engineers and technological designers do not meet the needs of 25% or more of the population who cannot interact with complex technologies. It also proves that when designing technology people with disabilities are invisible, not considered and not consulted. Nor are they thought of in terms of the economic power they have as purchasers and users. This further marginalizes the already marginalized.



On a global level, Apple is one of the worst offenders. Anyone who does not have a hot-finger or cannot use more than one hot-finger at a time cannot use any form of technology with the exclusionary logo of Apple embedded in its surface. This is almost like prison bars to people with disability as iPads do not have stylus support, they are not robust, they require a specific level of dexterity to grip and manipulate, and require a very dexterous and agile hot-finger.



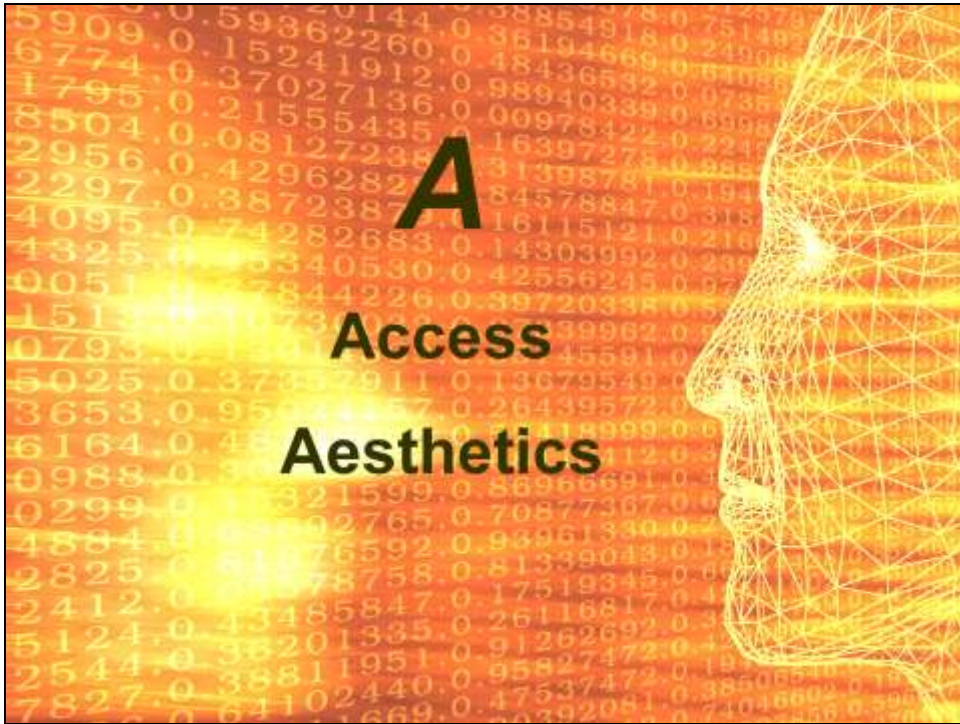
Monitors and visual representation devices classically have limited depth which excludes people with depth-perception difficulties including people with some cognitive impairments, people with Parkinson's and other neurological disorders. The text-based nature of both keyboard or mouse driven devices and touchscreens exclude people with limited literacy due to the impact of their impairment, e.g. people with ABI, people with intellectual disability and low levels of education. The intrusion of these technologies into things as basic as buying groceries and having to process your own purchases raises huge barriers and prove that the design guidelines for technology are failing a significant portion of the population.



At Centrelink, to report income from a part-time job, one must queue and take a number in the office, or report online or by telephone through following a complex stream of text-based or verbal instructions. These often confuse people without an impairment but present an invisible yet impenetrable barrier for those with cognitive divergence. This of course is a globally broad phenomena affecting payment of bills, registration of animals and cars, licensing, and general service enquiries and complaints processes where a person is not the first, second or third with whom you interact but have been replaced by exclusionary technology. This is further exacerbated by wait-times and telephone queues that see many people hang up and abandon the process before they actually achieve an outcome. The fact that wait-times are charged has a negative economic impact which eats up the limited credits and resources of already impoverished people.



Because of the limited scope and availability of funding, consumers do not have access to the AT they require when they require it. Many consumers are forced to purchase much of their own equipment. Limited financial resources mean that consumers have to prioritize their needs and make substantial sacrifices to determine what they absolutely require and what they will have to do without. In addition, funding “silos” and restricted guidelines make it difficult for AT users to access resources that enable them to be involved in all areas of life. Because many of these guidelines are productivity based or focused on reducing care costs, AT users have no access to funding for leisure, recreational and other community activities. There are also great inequities between AT users with some having access to insurance or personal wealth, which allows them to meet all their needs effectively, and others who are reliant on a misaligned patchwork of funding schemes where only their essential needs (as defined by someone else) may be partially addressed. Funding constraints The constraints of the funding system frequently position ATPs as gate-keepers (Anita?? Advocates or gatekeepers) who are the conduit between funders and AT users. This presents a clinical dilemma for ATPs and limits collaboration with AT users by blocking genuine dialogue across the system. Funding models further constrain service delivery by defining the personnel and the time and resources available to assess, provide advice and support to AT users in identifying and using technologies which address their requirements. In addition, the fragmentation of service and funding systems makes it difficult for practitioners to access the funding and resources they require to address needs holistically in a reasonable timeframe. ATPs are generally responsible for assessing the consumers’ technology needs, finding an appropriate funding source and articulating the consumer need in terms that are understood by and acceptable to each funding scheme. This requires them to have a broad knowledge of funding schemes and an ability to work across a number of services and funding schemes to develop the best solution to meet consumer requirements. The juggling of these demands can distract ATPs from AT users’ actual goals and requirements, resulting in needs being redefined or left unmet. Further, with limited training and capacity building factored into service development and implementation budgets, ATPs work in constrained service environments where there is little recognition of the need to professional development, research and evidence, and the monitoring of AT outcomes. The lack of funding for service infrastructure further limits service delivery by creating pressured and stressful work environments for ATPs which results in high turnover and loss of expertise. In managing the competing demands ATPs might adopt practice models driven by a need to survive and manage stress. This is achieved by prioritizing and rationing their input, limiting options explored and focusing on the most readily achievable outcomes. This is done because many ATPs operate within an environment where there is constant pressure to achieve more outcomes with fewer resources. ATPs have reported thinking “straight away about second hand options, or whatever I know is in the store room, you know sometimes that funding is so tight it is not even worth applying for what you really think is needed” (Barbera & Whiteford, 2008, p343). This ‘poverty mentality’ where ATPs seek the cheapest possible option to address the needs of as many consumers as possible is a minimalist practice is further reinforced by funders, services and practice guidelines that actively encourage therapists to address needs using the cheapest possible option without regard for its longevity, level of integration and effectiveness.



When thinking about access and aesthetics it is almost like that the only thing they have in common is that they start with the letter A. We argue that these two should be synergized so that they interlock and complement each other, never existing in isolation as they do at present. We call for an end to accessible ugliness and a new age where aesthetics and access collide and result in a beautiful explosion of new technologies that meet the needs of all of the population.



**Thank you and any  
questions?**

[manager@qdn.org.au](mailto:manager@qdn.org.au)

[m.taylor3@uq.edu.au](mailto:m.taylor3@uq.edu.au)