Technology & Ageing

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The proportion of older persons relative to the rest of the population has increased considerably .

The World Health Organisation reported that the number of people aged 60 and over as a part of the global population will double from 11 per cent in 2006 to 22 per cent by 2050. The oldest of the old – those 85 years and older – represent the fastest growing group

The consequences for the increase in care services required for the predicted number of older people spacially those with dementia is alarming.

One approach to this emerging crisis is the development of assistive technologies that may compensate for the physical and cognitive deficits of older adults.

- The United Nations (UN) International Day of Older Persons 2021 theme "Digital Equity for All Ages" predicates the need for access and meaningful participation in the digital world by older persons.

- Digital technologies refer to a wide range of new technologies ranging from the internet, mobile phones, and all the other tools to collect, store, analyze, and share information digitally, also including Artificial Intelligence (AI), robotics, and so on.
- Women and older persons experience digital inequity to a greater extent than other groups in society

- Meanwhile, risks have become apparent such as cybercrimes and misinformation threaten the human rights, privacy, and security of older people.
- Therefore, universal access to this technology is one important step, but the more important goal is making this technology useable and beneficial for elderly adults.
- As emphasized by UN using proper technology by seniors is one important aspect of human rights which reduce ageism.
- To achive this goal some specific points should be considered including development of new digital and assistive technologies to overcome dificites of ageing; and overcoming access and literacy barriers.

One example:

The Be He@lthy, Be Mobile supports the scale up of mobile health technology (mHealth) within national health systems to help combat noncommunicable diseases (NCDs) and support healthy ageing.

Mobile health, or mHealth, is defined as "medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants, and other wireless devices" .

mHealth for Ageing, or mAgeing is a new programme under the initiative, the central objective of which is to assist older persons in maintaining functional ability and living as independently and healthily as possible through evidence-based self-management and self-care interventions.

The mAgeing programme is based on WHO's Integrated Care for Older People (ICOPE): Guidelines on community-level interventions to manage declines in intrinsic capacity which include interventions to prevent declines in intrinsic capacity and functional abilities in older people, namely: **mobility loss, malnutrition, visual impairment and hearing loss; as well as cognitive impairments and depressive symptoms.**

Gerontechnology is defined as an interdisciplinary field linking existing and developing technologies to the aspirations and needs of aging and aged adults.

Gerontechnology supports “successful aging”, and is a response to the combination of the aging of society and rapidly emerging new technologies.

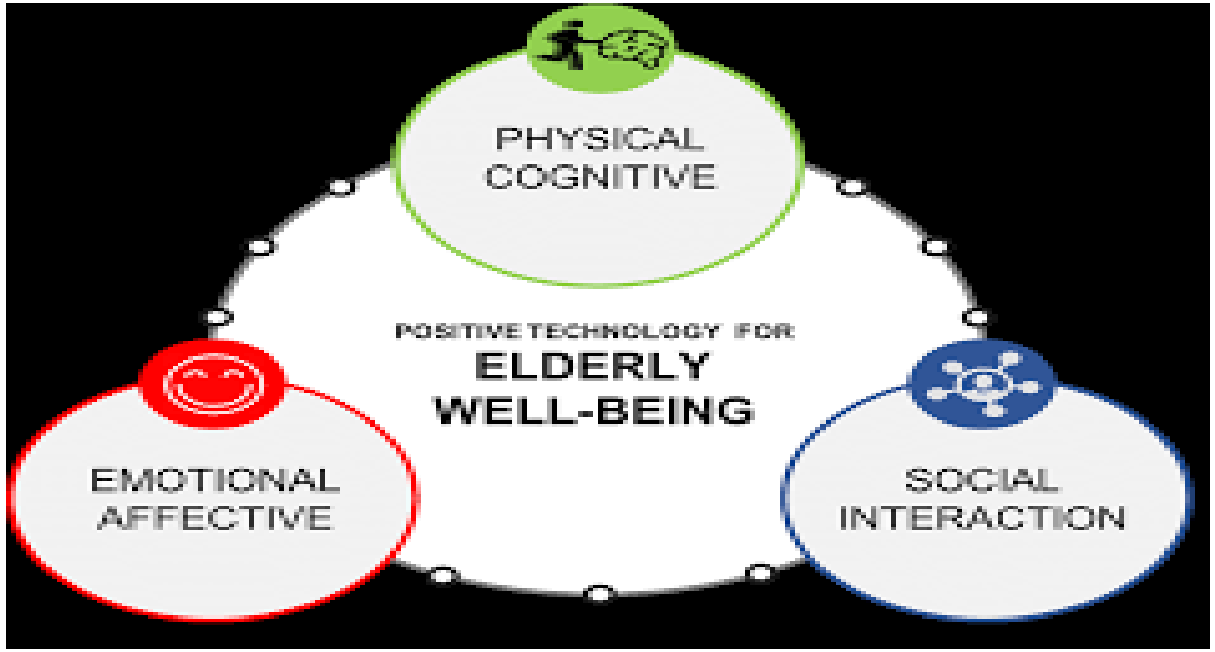
In particular, the rapid development and success of artificial intelligence (AI) may reshape care services for older adults, like many other professions and enterprises.

In recent years, health care has become one of the major fields being extensively investigated to explore the roles of AI applications in changing the future.

Despite of all technological advancement, the “human touch” of medicine and healthcare remained to be strong concerns because care is highly person-centered and people-focused instead of simply manufacturing.

Digital technologies may be used to:

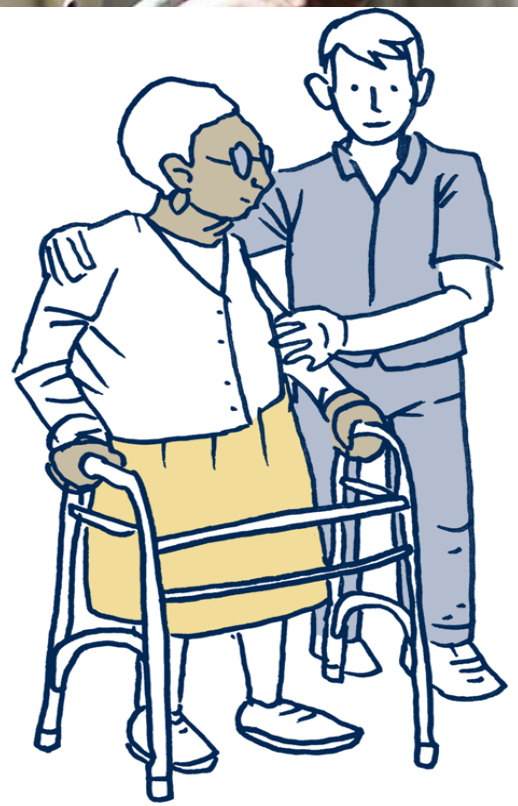
improve the quality of life for older adults, allowing them to age in place and remain connected to their loved ones. More broadly, it can help create an inclusive labor and living environment for older adults to lead healthy and productive lives.



What is the point:

The biggest benefit of technology to ageing is:

- the freedom of choice
- empowering older adults to maintain autonomy
- choose the lifestyle they want
- continue managing their activities of daily living
- fully exercise their human rights on an equal basis with others
- reduce generation gap and ageism
- provide meaningful activities for those aged
- reduce social isolation & loneliness
- promote resilience & mental health
- reduce abuse and maltreatment of older persons in care settings
- provide better insights into older persons' health
- improve healthy ageing
- and promote dignity



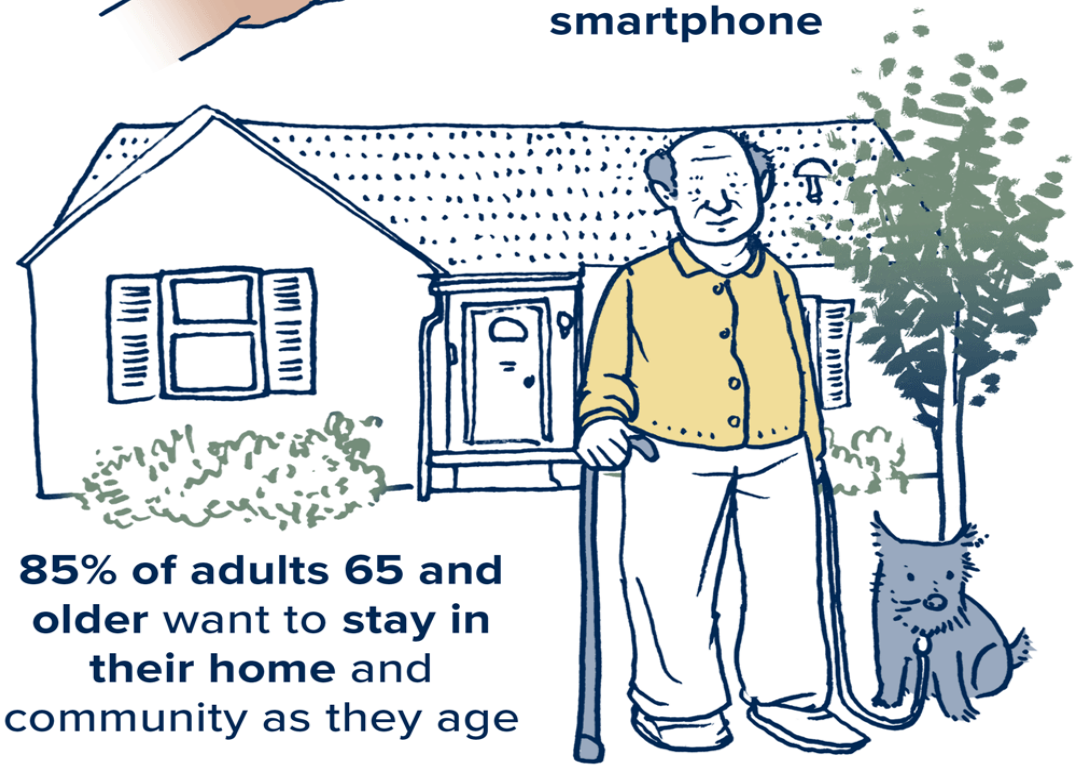
One in five households provides care to an elderly or disabled individual who requires assistance. The number is expected to grow to **one in two by 2030**

2015

2030

Health care spending is on the rise, with **75% of spending** due to **chronic disease**

Of adults 65 and older: **67%** go **online**, **80%** own a **cellular phone**, **40%** own a **smartphone**



85% of adults 65 and older want to **stay in their home** and community as they age

- **'Multichannel health delivery...built around the individual'**

The greatest leap for health and longevity will be humanizing technology to facilitate the ease of ageing with happiness and good health.

Advanced sensors, health data and AI algorithms will empower healthcare professionals to develop precision diagnoses, personalized treatment, tailored health management and effective monitoring, all without a hospital visit.

The hospital will come to you; care will be everywhere.

Multichannel health delivery will be built around the individual, providing them with greater self-agency and self-awareness to control activities, choices, and lifestyles that lead to a state of holistic health.

- **'Creating opportunities for people to connect'**

The biggest benefit technology can have on ageing and longevity is creating opportunities for people to connect.

Technology adoption and use have increased tremendously, with 44% of those 50 and older more comfortable with technology now than before the pandemic.

This desire to communicate digitally isn’t going away after COVID.

We need to harness that potential, design experiences that allow for social connectivity and make universal, high-speed, low-cost internet a reality.

- **'Enhanced precision care service' & Facilitating Care**

Elder care service is highly dependent upon the experience and intuition of these skilled caretakers, so nursing homes struggle to collect and transfer that knowledge to new cohorts. Many nursing homes are not yet equipped to use data to enhance the quality of the elder care because they lack the proper incentive mechanisms and regulatory framework to make the investment.

The technology exists for nursing homes to gather the elder-care data (e.g., treatment data, rehabilitation program results) through smart devices.

Privacy-preserving data analytics support is also available to process the elder-care data to improve treatments, cognitive capacity and ultimately, quality of life.

An approach that combines the skill of caretakers and the power of data will lead to enhanced “precision care service” for the well-being of all elderly citizens who need care.

'Supporting working for longer' and better preventative care

With the global population ageing, much hope and hype focuses on Age Tech – technology aimed at providing services to an ever-growing number of older people, helping people keep connected, active and cared for.

Tech also has great potential in supporting working for longer, with robots doing the heavy lifting and AI providing cognitive support.

Longer lives make healthy ageing ever more important.

That’s about preventative health, better monitoring and early interventions. Big data and tech together can play an enormous role in what will be one of the most valuable sectors of the economy.

- **'Continued professional fulfilment with age'**

The pandemic has forced adoption of technology by older persons, who were historically on the fringes of the “digital divide.”

With persistent lockdowns and distancing measures, older persons have engaged significantly with teleconferencing, telemedicine and telework.

This creates opportunities for economic contribution through continued workforce engagement and consumption of technological products.

The expanded technological literacy in older persons will likely persist after lockdowns lift and is expected to unlock a wave of economic growth and allow continued professional fulfilment with age.

- **The chance to 'age in place'**

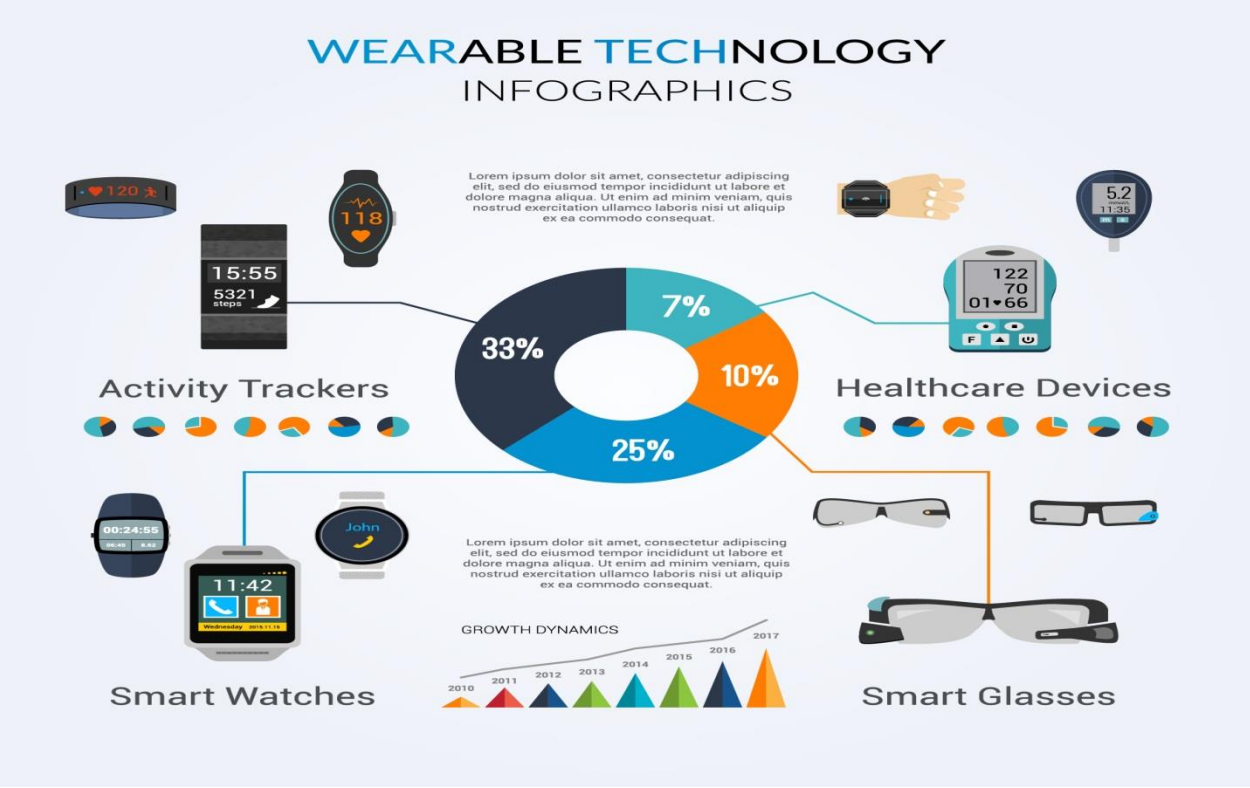
Digital technologies may be used to improve the quality of life for older adults, allowing them to age in place and remain connected to their loved ones.

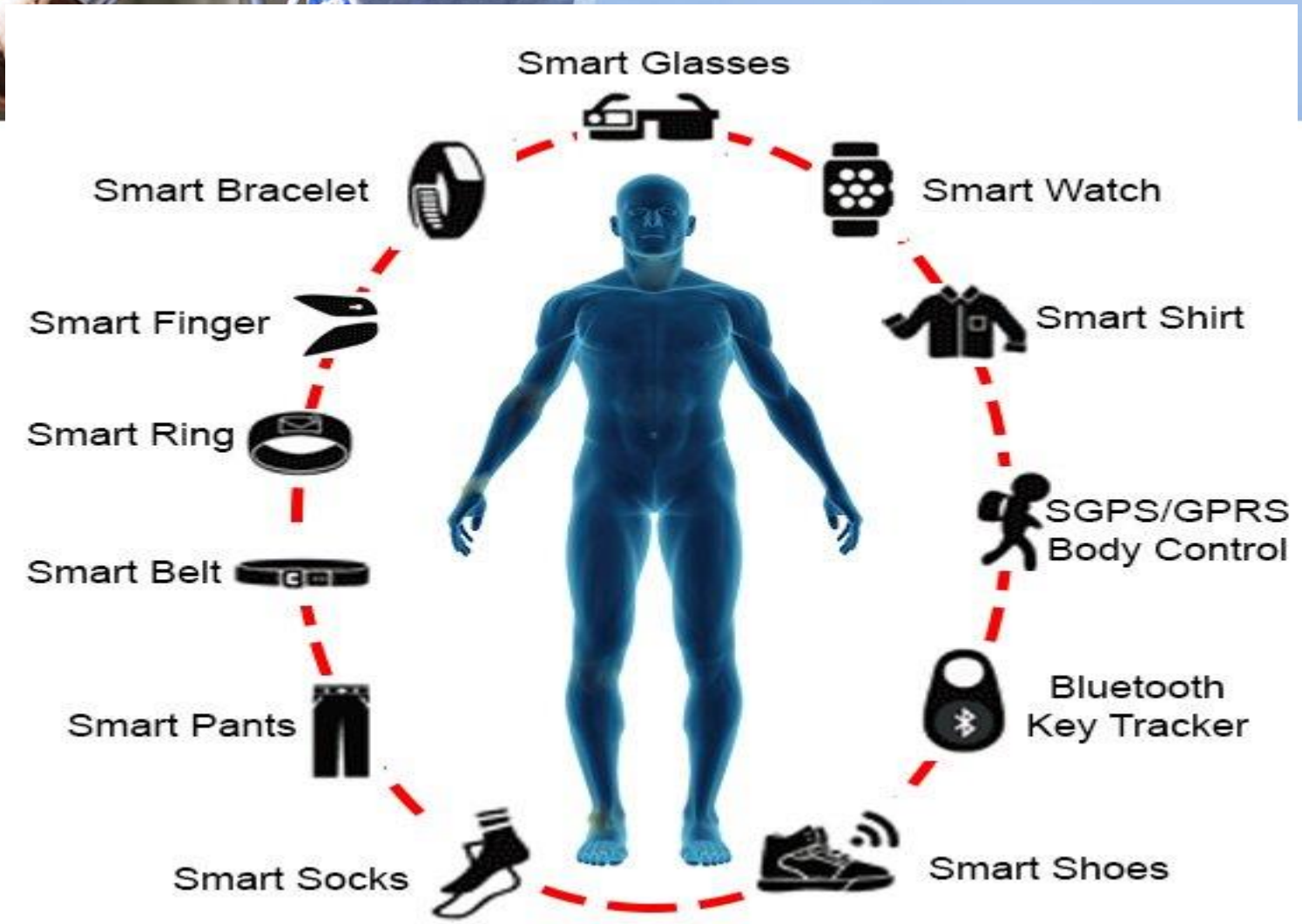
More broadly, it can help create an inclusive labor and living environment for older adults to lead healthy and productive lives.

However, aging-in-place solutions look to support graceful and comfortable aging in familiar surroundings with near term opportunities. These solutions accept aging for what it is, and instead look to offer solutions to enhance quality of life for healthy senior citizens and to help support healthier living for those whose health state has started to deteriorate.

There are at least five different digital technologies today that are already finding use cases to support aging-in-place:

- **Wearable devices** - Wearable devices are arguably the most mainstream of digital health tools today: Activity trackers, the belt, the alarm, smartwatch




Smart Glasses
Smart Bracelet
Smart Watch
Smart Finger
Smart Shirt
Smart Ring
SGPS/GPRS
Body Control
Smart Belt
Bluetooth
Key Tracker
Smart Pants
Smart Socks
Smart Shoes

Smart textiles - Smart textiles can track various parameters in an everyday form factor. A challenge with wearable devices is that if they are not used or worn, then the intended benefits will not be realized. This is particularly so for the elderly who may find it inconvenient to put on a bulky or inconvenient form factor. For those facing mental decline or early stages of dementia, the chances of forgetting to put on the device increases.

While smart textile developers are typically agnostic to the age segment of their end consumer, the technology helps to detect signs that suggests if there is deviation from normal activity.

Virtual reality (VR) – VR today is mostly used for games. In seniors however, VR is seeing use cases in support emotional well-being and even helping manage dementia.

Robotics – Consumer robotics is still early stage today. However, we're starting to see medical exoskeletons gaining approval for home use to rehabilitate those recovering from accidents or stroke. Medical exoskeletons and prosthetics could enhance mobility and independence, allowing seniors to enjoy a quality of life they couldn't experience previously.

But robotics can go beyond physical activity, with companies like Softbank Robotics working on developing social robots for companionship.

Assistive technology

“an umbrella term for any device or system that allows an individual to perform a task they would otherwise be unable to do or increases the ease and safety with which the task can be performed”.

- This is a very generic description of assistive technology and clearly includes such items as handrails, electronic memory aid (EMA), community alarm systems, computers, telephones, light and motion sensitive night-lighting, Multisensory environmrnt, telecare, anti-fall devices, fall detectors, alarm and pagers, tracking devices, robotic pets and bed alarms.

- the use of assistive technology as an aid to communication, carer support and as a therapeutic tool: independence, prompts and reminders; safety and security; telecare and telehealth; and therapeutic interventions.

An automatic calendar clock


Reset
Fall Monitor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Ma Ma's
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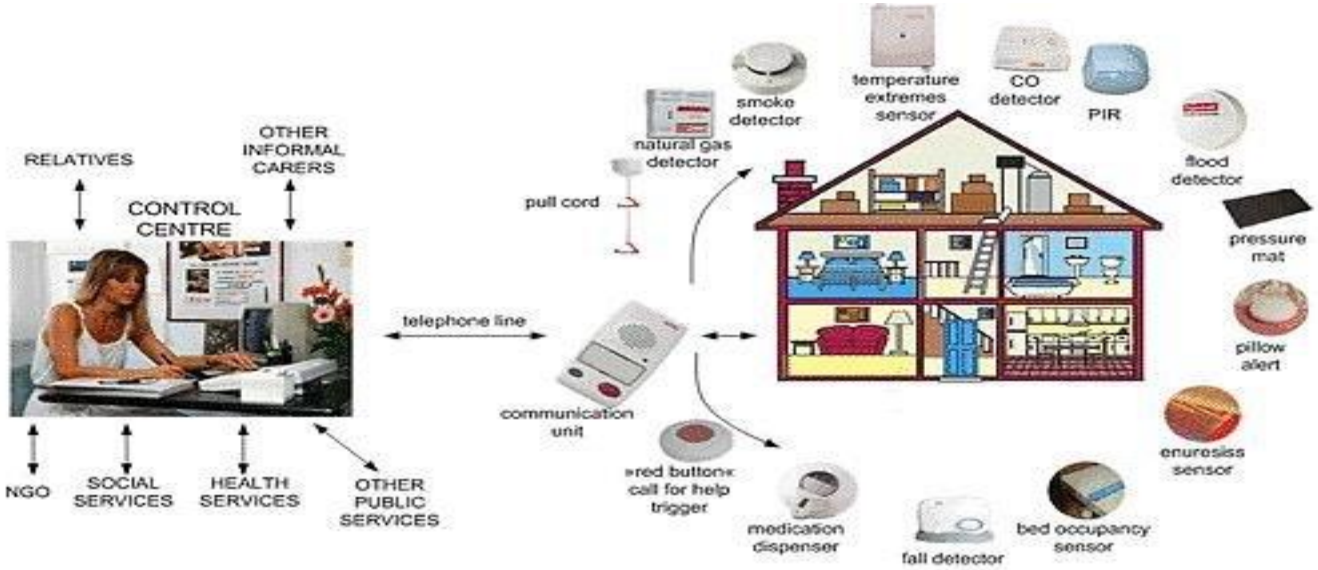
TED
Mozart Documentary
The Man Behind the Great
Symphony
Ask ElliQ to
CLOSE
SHOW ALL
© Intuition Robotics

Smart Home


Wearable Sensors
ECG
Motion
SpO2
Remote Service Platform
E-Health
maintenance
Emergency
Activity Detection
Smart mobility
Sleep Monitoring
Environment Monitoring
Home Security System
Energy Management
Home Automation


RELATIVES
OTHER INFORMAL CARERS
CONTROL CENTRE
NGO
SOCIAL SERVICES
HEALTH SERVICES
OTHER PUBLIC SERVICES
telephone line
communication unit
pull cord
natural gas detector
smoke detector
temperature extremes sensor
CO detector
PIR
flood detector
pressure mat
pillow alert
enuresiss sensor
»red button« call for help trigger
medication dispenser
fall detector
bed occupancy sensor

Montessory environment


Men's toilets
Ladies toilets


Please arrange
the flowers


Contents:
1 Storage Bag
1 Wooden Game Board
24 Wooden Colored Pegs
1 Wooden Die
SmallTown Merch

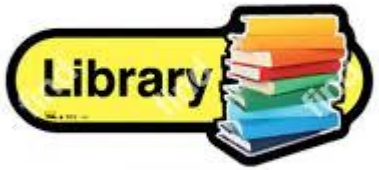

Way Out
Gents Toilet
Lift
Kitchen
Ladies Toilet
Lift to Halls
Office
Stairs to Halls
Main Office
Baby Changing Facilities
Cleaning Materials
A.B. Large Hall


Pay Here


Stairs


ON
OFF


Bathroom
Toilet
Kitchen
Bedroom


Library


Bedroom


Meeting
Room


MyRainbowColors


Thank
You