
“Nana” Technology[©]

Is There A Robot In Your Future?

OLLI - Reston

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I. Why Technology is Important:

“Global Aging”

Every 8 Seconds a U.S.
Baby
Boomer Turns 65*

**78 million born
between 1946-1964**

*U. S. Census Bureau



An Aging Society...

- **Pop. age 85+** expected to more than **triple** from 5.7 million (2010) to 19 million (2050). (U.S. Census Bureau 2008)
- **Age 100+:**
 - 1900 U.S. Census: 3,536 people age 100+.
 - 2050 U.S. Census (Est.): **834,000 age 100+.**
- **NOT** an American phenomenon:
 - U.S. only **43rd** of countries in % of pop. 60+. (U.N. 2007)
 - World Population (HSBC 2004):
 - **World Pop. 1900 = 1.65 Billion.**
 - **World Pop. 60+ 2050 = 2 Billion.**

***“Global Aging” will effect
us long before
“Global Warming”.***

Outcome:

- Individuals who in **1968** thought they would change the world, by **2028** Actually will:
 - Travel
 - Entertainment
 - Retail
 - Food
 - Technology
 - **HOUSING**
 - **HEALTHCARE**



II. “Nana” Technology® - Defined

“Microchip based technology designed, intended, or that can otherwise be used to improve quality of life for older adults.”

- A. Carle

http://en.wikipedia.org/wiki/Nana_technology



- **\$5 Billion** market for the microchips needed to operate these technologies.



“Nana technology” tools help seniors be independent

Categories of “Nana” Technology:

■ Health & Wellness

□ Medications:

- Individuals 65+ are 12% of population, but consume 50% of OTC and 1/3 of Rx medications. (JAAPA, 2006)
- Estimated 22,500 deaths/year due to medication error. (AMA, 2004)

■ Safety

□ Falls:

- #1 cause of death due to injury in individuals 65+ (CDC).
- Projected to cost U.S. **\$55 Billion** in medical and related costs/year by 2020.(CDC).

□ Alzheimer’s (wandering):

- Up to 60% will be involved in a “critical wandering” incident (become “lost”). (Alzheimer’s Association)
- Nearly half (47%) **DIE** if not found within 24 hours.

■ Cognition

□ Alzheimer’s Disease:

- Affects nearly **half** of those 85+.
- From 26 million to **106 million cases** worldwide by 2050. (Johns Hopkins,2007)

□ Mild Cognitive Impairment:

- Affects 12-20% of those 70+.
(Mayo Clinic, 2006)

■ Sensory

- Vision/Hearing

■ Communication

- Audio, Video, Text

■ Mobility/Transportation

- **DRIVING**
- Ambulation (walker/wheelchair)

■ “Lifestyle”

- Cook, Clean, Garden, etc.

■ Robotics/Whole Home Systems

- Technologies that self complete tasks, and/or address two or more categories in one “System”.

III. Technologies for TODAY:

Health & Wellness:

- MD.2® (Epill)



www.epill.com

Safety:

- Wellcore™ (Wellcore Corp.)
- Replaces “pendant” with “pedometer”, while expanding protection to include outside of/away from home.



www.wellcore.com

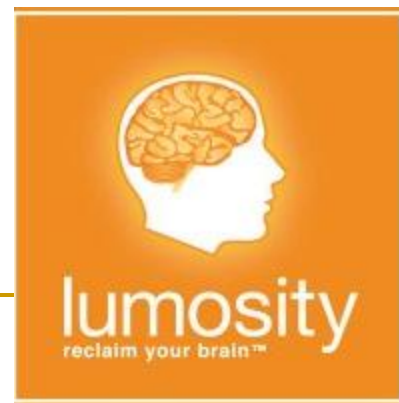
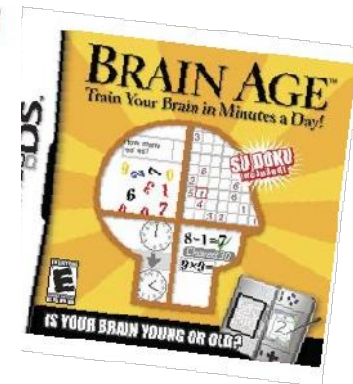
Technologies Today: Cognition

■ “Brain Games”

- Science has shown that you can exercise your brain, just as you can your muscles.
 - Muscles have “elasticity”
 - Brain has “(neuro) plasticity”
- Brain may respond to exercise **EVEN BETTER** than body.

■ Brain Products:

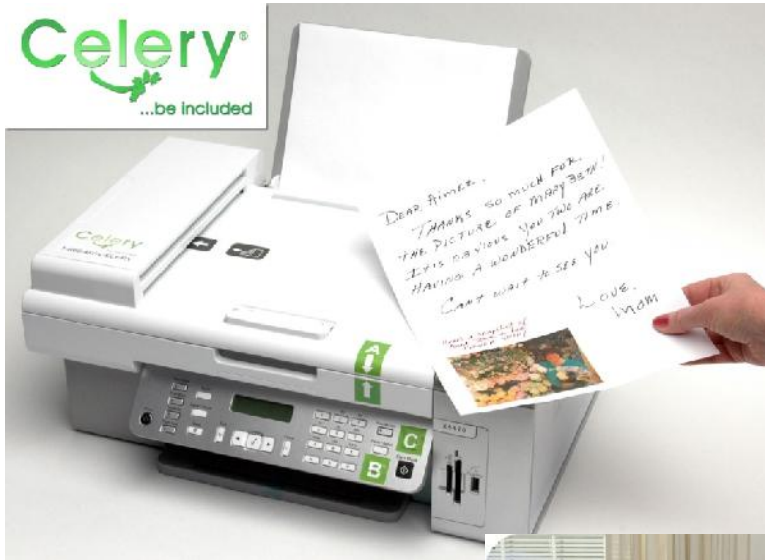
- Online (free):
 - www.gamesforthebrain.com
- Retail:
 - Nintendo DS - “Brain Age” (\$150+)
- Subscription websites:
 - www.lumosity.com (\$12-15/mth.)
- Software targeted to seniors:
 - PositScience™, Dakim™, CogniFit™ (\$200-400)



Technologies Today: Communication

“Computerless email”

Celery®
...be included



www.mycelery.com



“Senior” Cell Phone:



Jitterbug®

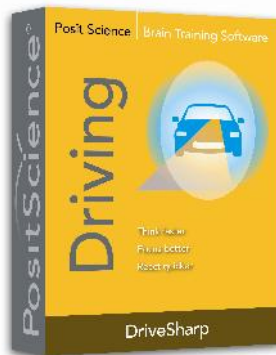
(GreatCall)

www.jitterbug.com

Technologies Today...

Mobility:

- **DriveSharp™** (PositScience)
 - A “Targeted” Brain Trainer.
 - 50% reduction in crash risk.
 - 200% increase in field of vision.
 - 22 feet reduction in stopping distance.
 - AAA Recommended



www.positscience.com

“Lifestyle”:

- “Mail Chime™”

(Hanna Products)



www.hannaproductsinc.com

Technologies Today...

Whole Home Systems:



- Uses sensors to **Monitor** health & wellness:
 - Motion (Bedroom, Bath, Med Cabinet, Kitchen)
 - “Tele-health” (Temperature, BP, Weight).
- **Establishes baseline** of normal activities:
 - “Reports” emergencies or requested information to caregiver or health professional, via password protected website.
- “**Communicates**” with senior via dedicated **GrandCare TV** channel or **HOME BASE** (pictured):
 - Reminders (meds/appointments)
 - Video/Photo’s (even grandkids from cell phones)
 - Greetings



www.grandcare.com

IV. Technologies for TOMORROW...

Health & Wellness:

- “Magic Medicine Cabinet”
(Accenture Corp.)
- Face recognition.
- Voice communication.
www.accenture.com



Safety:

- **Falls: “Smart Shoes”**
(Afferent Corp.)
Pilot Study:
 - 73 year olds had same balance as year olds.
www.afferentcorp.com



- **Alz. Monitoring:**
- **“GPS Shoe™”** (GTX Corp/Aetrex)
 - Tracks within 30’ anywhere on planet.
www.aetrex.com



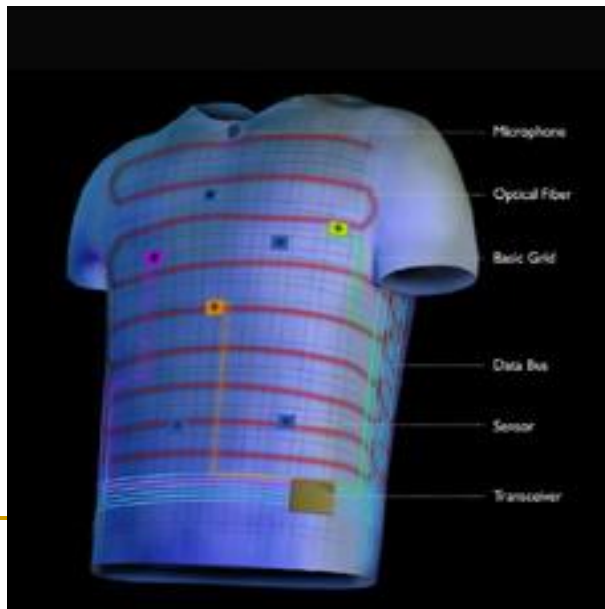
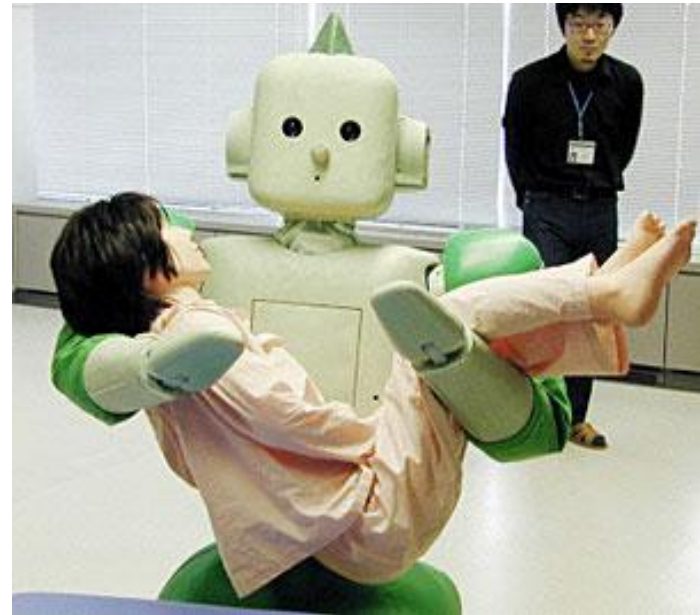
Examples TOMORROW - con't...

Robotics:

- “**RiMan™**”
(Riken Labs)
- Can “*See*”, “*Hear*”, “*Smell*”.
- Currently lifts up to 90 pounds.
- Next phase to be designed for assistance to Japanese

elderly.

<http://www.youtube.com/watch?v=17A3wD6Vx7g>



Integrated Systems:

- “**Smart Shirt**” (Sensatex, Inc.)
- “**iTextiles**”.
- **Vital Signs & Safety Monitoring.**

V. Final Thoughts

ISSUE:

“People over 65 won’t use technology.”

- Tell that to the people using the Roomba® :
 - Major purchasers are **individuals 65+.**



OK...But people over 75 won't use technology.

■ Nintendo Wii®

- Low impact
- Range of motion
- Same “hobbies” they already enjoyed.



- Erickson Retirement Communities (CCRC's)
 - Average age 78-80.
- Erickson Sports:

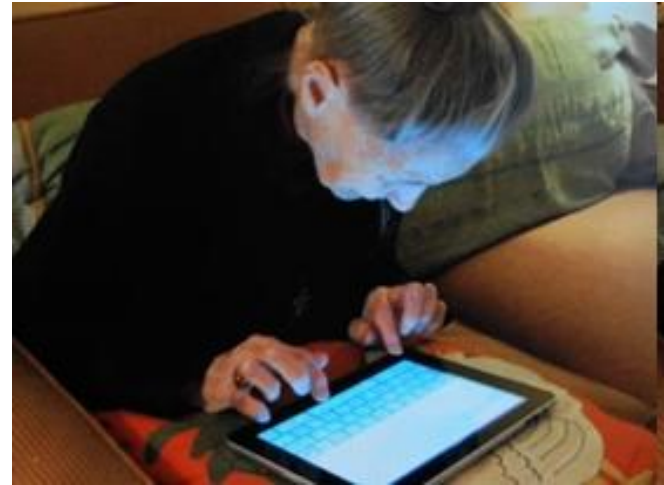


<http://www.youtube.com/watch?v=1rKlcSMsE0I>

OK...but people over 85 won't...

iPad®:

- ❑ Replaces “paper”, not a computer.
 - Already using “Kindle” – adds more features.
- ❑ Doesn't require prior computer knowledge.
 - Intuitive interface
- ❑ Apps they can “see”.



*“To this technology-ninny it’s clear
In my compromised 100th year,
That to read and to write
Are again within sight
Of this Apple iPad pioneer.”*

- Virginia Campbell, Age 99
Mary Woods Retirement Community
Lake Oswego, OR

<http://www.youtube.com/watch?v=ndkIP7ec3O8>

The Truth about Technology...

1284 Salvo D'Amato credited with inventing first wearable eye glasses.

People will use ANY technology that can improve the quality of their life -- and is "user friendly".



- AARP/Microsoft Study (“Boomers and Technology” 2009)
- **“Ease of use”** is the primary expectation:
 - *“If you can’t explain it in one page (of instructions), you need to make it simpler.”*
- An expectation of **ALL** technology, for **ALL** age groups, moving forward.
 - No more “Blinking 12:00”.



Is there a “Robot” in your future?

YES!!

- **Google** is a “robotic researcher”.
- A (robotic) car that drives itself is a BETTER car.
- A (robotic) house you can “talk” to is a BETTER house.
- A “personal assistance robot” is a valuable asset...
- **FOR PEOPLE OF ALL AGES.**



