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[GAMING ON A COLLISION COURSE]

Averting significant revenue loss by making games accessible to older Americans



Time flies!

It's been more than 45 years since I came up with the idea of playing games on an ordinary TV set.

Electronic technology was relatively primitive then compared to what we take for granted in this age of cell phones, flat-screen TVs, PCs and all the other gadgetry that is so ubiquitous now.

But everything has to start somewhere.

Games as I conceived them in 1966 were a family affair... playing ping-pong or handball takes two...and maybe the rest of the family to cheer the players on.

Anyone from 5 to 100 could play those games...there was that "difficulty" knob at the back that allowed anyone to adjust the speed of the game so he or she wouldn't look like a dork.

While we didn't deliberately design those game boxes with handicapped persons in mind, you didn't need much visual acuity or manual dexterity to play them.

Then things got more and more sophisticated and the games became much more difficult to master. That's fine because it satisfies that majority of the people who want a major challenge.

As "Games on a Collision Course" points out, there is a need for creating games that can be played by a more physically challenged, aging segment of the population.

I have no doubt that creative game designers will respond in time.

Cheers!

Ralph H. Baer

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Introduction

The face of the “typical” video gamer is changing. Though traditionally presented as a pastime for the younger set, this isn’t an accurate portrayal of today’s broad and growing video gaming population. The reality is that ***the most significant trend in gaming is the graying of the American gamer.***

The gamers who started playing Atari’s Pong and Pitfall in the ‘70s and ‘80s still enjoy the thrill of gaming. They played games with their children and kept their love of gaming. This group is now in their 50s, 60s and older. They may still want to be gamers, but, as they age, they may not be able to because of disability or health conditions.

At the same time, today’s young gamers are becoming increasingly loyal consumers and players. They have had access to computers and gaming consoles since childhood, are active participants in gaming forums across the Internet, and many will continue playing games into adulthood and elderhood.

Video game developers and publishers must consider the needs of older gamers in order to remain relevant and competitive in the gaming market. That means creating games that are more accommodating and accessible to an older population who may be dealing with a disability.

The good news is that by making video games accessible to gamers with disabilities, which includes older gamers, game manufacturers will unlock a lucrative, paying market of disabled consumers for whom gaming has traditionally been off-limits.

25

the percentage of the population over 50 who play video games

Profile of today’s gamer

A gamer is anyone who plays a video game in any electronic medium, including games played on a computer, a console, a handheld device or over the Internet.

In 2008, the average game player age was 35 years old, according to the Entertainment Software Association (ESA). This is up from

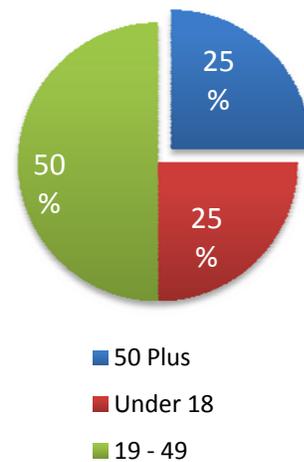
33 years old in 2007 and 30 years old in 1995. In short, **the gaming population is getting older.**

By the start of 2009, nearly 50% of gamers were age 18-49, according to ESA. The rest of the gaming population is split neatly into younger and older gamers. ESA says 25% of gamers are under age 18 and another 25% of gamers are 50 and older.

While the younger set is likely healthy and able bodied today, a popular motto in the gaming world is, “once a gamer, always a gamer.¹” With more than 56 million children gaming, according to Tech Crunchies, a large percentage of these children will continue gaming into their adulthood.

After all, ESA’s stats showed that in 2009, adult gamers have, on average, been playing for 13 years, up from less than 10 years in 1995.

Breakdown of Gamers by Age.



Trends in gaming

Looking at the historical and new trends that have increased the use of video games into mainstream society, gamers aren’t going away.

The main points of growth in gaming are better access to computers; the development of, and access to, video game consoles; the advent of mobile devices; and the expansion of the Internet.

Computers

While computer game development began as early as the ‘50s, it was not until the ‘80s -- when home computers and consoles began to sell in significant numbers -- that computer gaming took off.

In 1985, 14% of U.S. homes owned personal computers.² Compare that number two decades later: The U.S. Census indicated that in 2007, 61% of American households had a personal computer.

The availability of home computers, and access to the Internet, influences the number of PC gamers as well as those who are

¹ Entertainment Software Association

² National Telecommunications and Information Administration



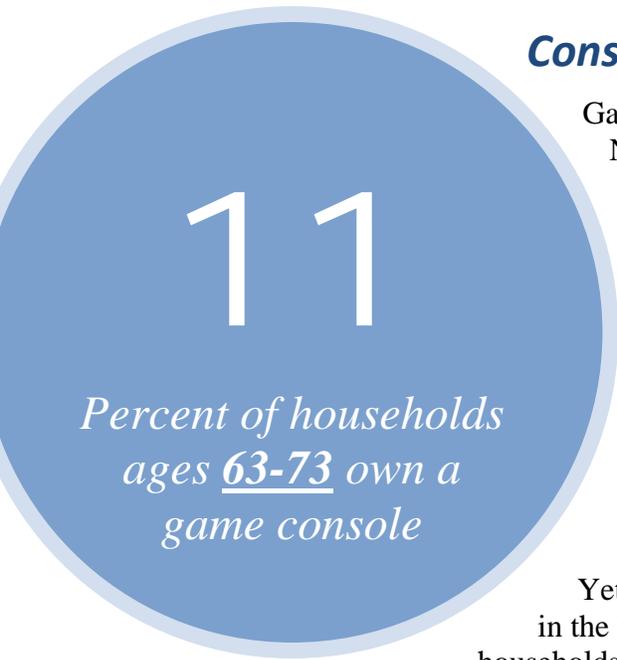
primarily on-line gamers. In 2008 65% of American households play computer or video games.³

Consoles

Game consoles, which include hardware such as Nintendo’s Wii and Sony’s PlayStation, are a much newer phenomenon. These devices allow gamers to play video games on their TVs for maximum visual and sound effects.

In December 2009, the consulting firm Deloitte released its fourth edition of the State of the Media Democracy Survey. The survey found that overall videogame console ownership in American households increased from 44% in 2006 to 58% in 2009, a 14% increase in ownership in just three years.

Yet, within that 14% up tick, the largest increase was seen in the boomers category (ages 44-62); 44% of boomer households now own and use videogame consoles. Perhaps more surprising, 11% of households ages 63-75 now own consoles.⁴



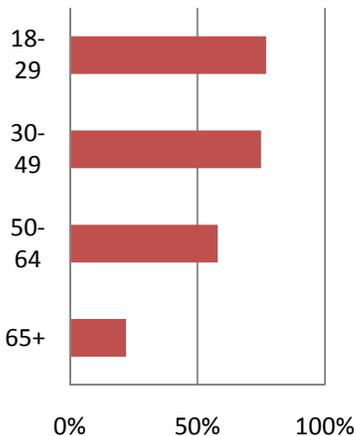
Mobile and Internet

The mobile phone gaming market is increasing rapidly. In North America, 54% of mobile owners played games on their mobiles, and 45% of them had paid for game software.⁵

Meanwhile, Internet access is almost universal among home computer owners. Almost 75% of the U.S. population used the Internet in 2009, up from 44% in 2000. Growth in online gaming will only increase as more Internet-accessible devices, like smart phones, grow as a major portion of the lucrative cell phone business.

Among older Americans, 22% of those 65 and older used the Internet in 2009, up from the 2000 figure of 15%.⁶ Additionally, 58% of 50–64 year olds; 75% of 30–49 year olds; and 77% of 18–29 year olds used the Internet. As these Internet users age, they are likely (based on historical data) to continue using the Internet

Internet usage by age



³ Essential Facts paper, ESA

⁴ [Deloitte Internet Research](#)

⁵ Tech Crunchies

⁶ [Pew Internet and American Life Project 2004](#)

for activities including gaming.⁷

Unsurprisingly, ESA historical sales data shows a steady increase in dollar and unit sales growth for computer and video games from 1996 through 2008. Sales rose from US\$2.6 billion in 1996 to \$11.7 billion in 2009, an almost four fold increase in only 12 years.

Given the introduction of new platforms, the rise of the Internet and loyal behavior from gamers at all ages, there's no anticipation of a decline in gamers, gaming devices or software.

Video game sales in 2008 amounted to

\$11.7

billion U.S. dollars

Baby boomer demographics

The population bulge from the post WWII period continues to get older. It is estimated that there are now 77 million Baby Boomers, who are defined as Americans being born between the years of 1946 and 1964. This group is now between 50 and 64 years of age.

Baby Boomers collectively control more than 50% of disposable income in the U.S. This year, they have \$2.3 trillion dollars in disposable spending income, according to the U.S. Consumer Expenditure Survey. Disposable income is defined as gross income minus expenses for taxes and necessities for living.

Households headed by someone in the 55-64 age group had a median net worth of \$112,048 in the latest census figures - 15 times the \$7,240 reported for the under 35 age group.⁸

Baby Boomers will outspend young adults in the U.S. by \$1 trillion dollars in 2010, according to collaborative research done by the AARP and Microsoft.⁹

Baby Boomers will outspend young adults in the U.S. **by \$1 trillion dollars** in 2010

Spending on video games falls into the disposable income category. In the 4th Edition of the State of the Media Democracy Survey done by Deloitte, the survey states that 31% of baby boomers played a newly released video game in the last 6 months, up from 12% in the previous year.

With more money to spend, and an increasingly tech-savvy audience, older Americans will continue embracing video games

⁷ [Miniwatt Marketing](#)

⁸ U.S. Census and Federal Reserve.

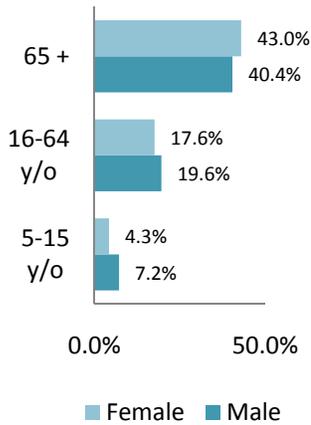
⁹ [Boomers and Technology: An Extended Conversation](#)



while they age. As such the ramifications for the gaming industry – from growing its customer base to increasing profits -- are huge.

Disability and gaming

As Americans get older, the potential for disability is also likely to grow. In the most recent U.S. Census information available, 19.3% of Americans reported a disability, which was defined as problems with vision, hearing, and motion impairments as well as emotional and cognitive impairments.¹⁰



When you look at the percentage of disability by age in the latest available U.S. Census Disability Report, you see that while the overall figure is 19.3%, it is not spread equally in all age brackets. The percentage of disability by age shows that the onset of disability significantly increases, as one gets older:¹¹

- 5 to 15 year olds - 7.2% males and 4.3% females report at least one disability
- 16 to 64 year olds – 19.6% males and 17.6% females report at least one disability
- 65 and older – 40.4% males and 43.0% females report at least one disability

Blind and Vision Impaired:

The American Federation for the Blind indicates that 1.3 million Americans are legally blind, while another 25 million have significant vision loss.¹² **And 1.8 million Americans are affected by age-related macular degeneration, a condition that significantly affects one’s eyesight.**

Deaf and Hearing Impaired:

Gallaudet, the best-known university for students with hearing impairments, reports that as of 1990, 20 million persons, or 8.6% of the total population, had hearing problems.¹³

Approximately 28 million Americans have a hearing impairment. Another factor that is important is that hearing loss increases

¹⁰ US Census Bureau

¹¹ [US Census Bureau – Disabilities Stats 2000](#)

¹² [American Federation for the Blind – Statistical Snapshots](#)

¹³ [Gallaudet University](#)

significantly in people over age 65. Approximately 40% to 50% of people 75 and older have a hearing loss.¹⁴

Motion Impaired:

Overall, 8.2% -- or nearly one in 10 -- of the American population has a physical disability.¹⁵

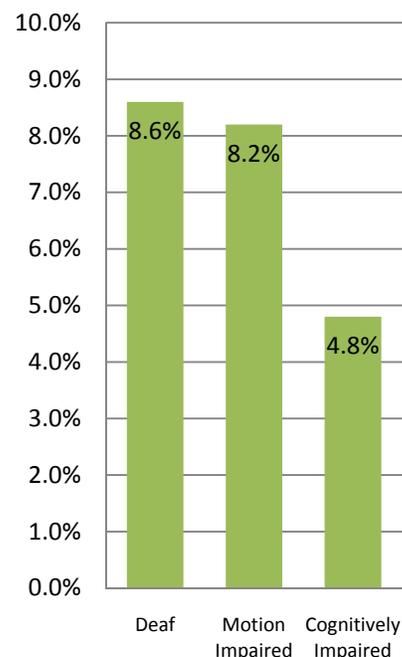
Reuters, in April of 2009, reported that 5.5 million Americans are paralyzed, which equals nearly 2% of the population. For example, paralysis, which causes loss of limb movement, is primarily the result of stroke and spinal cord injuries.

Other diseases including cerebral palsy, Parkinson's, muscular dystrophy, multiple sclerosis, and arthritis affect muscle and joint movement. Arthritis is the leading cause of physical disability in the U.S.¹⁶

Also, limb impairment and even limb loss can occur from birth defects, war injuries, or accidents. Sometimes a limb may need to be amputated because of a chronic or long-term disease, such as diabetes or bacterial infections, which is a serious problem for wheelchair users.

Nearly three-quarters of all strokes occur in the over 65 segment of the population.¹⁷ About 60 % of the U.S. population aged 65 or older now suffers from arthritis and chronic joint symptoms: that number is expected to nearly double to 41.1 million by 2030.¹⁸

Disabled Population



Cognitively Impaired:

Roughly 4.8% of the American population has a mental disability.¹⁹

Cognitive impairment includes developmental disability, learning disorders such as dyslexia and the autism spectrum ranging from

¹⁴ [National Institute on Deafness and other Communication Disorders \(NIDCD\)](#)

¹⁵ [US Census Bureau – Disabilities Stats 2000](#)

¹⁶ [Centers for Disease Control and Prevention \(CDC.\)](#)

¹⁷ [The Internet Stroke Center](#)

¹⁸ [Centers for Disease Control and Prevention \(CDC.\)](#)

¹⁹ [US Census Bureau – Disabilities Stats 2000](#)



severe to moderate impairment, psychiatric disorders and dementias such as Alzheimer's. Dementia and Alzheimer's, which causes memory loss and delusion, are seen primarily in the older population.

The AbleGamers Foundation estimates that 32.5 million gamers have some disability that weighs into their game purchasing decisions. This is a healthy market. In the last five years, there are a number of websites for gamers who are blind, deaf and/or motion impaired, such as AbleGamers.com (the community outreach portal of The AbleGamers Foundation, co-author of this paper). These sites help gamers with disabilities understand the playability of mainstream games that they're considering to purchase. Also, video game development studios like 7-128 Software (co-author of this paper) and VTree LLC have emerged to design games specifically for this large, yet underserved market. The AbleGamers Foundation believes that because people with disabilities may not be able to access many mainstream games, there's a lost opportunity for both gamers and video game makers.

Accessibility accommodations in games

There has been steady growth in the number of gamers, the variety of platforms used, and the length of time that gamers have been playing. This has and will further result in an increase in older gamers. Most mainstream games are less accessible to gamers who have disabilities. Why? Most games lack the types of accommodations necessary for gamers with specific disabilities to access them.

These accommodations include but are not limited to:

- Variable size fonts/typefaces
- Specific colors changes for color blind gamers
- Access to screen readers or built-in voice to assist in screen navigation and play
- Variable speed settings to allow motion impaired gamers to use less rapid response access methods to play. This also allows gamers who have cognitive disabilities such as dyslexia, dementia and the like to play at a speed that is comfortable for them

- Captions for all spoken dialogue and for important sounds that give direction or other information in a game
- Extra descriptive material accessible to screen readers or a built-in game voice to give blind or visually impaired gamers a picture of what is on the screen
- Game consoles that can be reprogrammed to allow operation in a pattern different than a non-disabled player uses, such as one-handed play
- User interfaces that do not require multiple keys to be pressed at the same time

Gaming and accessibility on a collision course

As Americans age and many become disabled, and as more people – both young and old -- continue or start to play video games, we the authors believe that gaming and accessibility are on a collision course. If the gaming industry does not realign their priorities to include accessible gaming, **then a collision will happen in the next five years**. The effects would be destructive to the game makers both in terms of lost sales and lost customers. The time to start making more games accessible is now.

As much as \$3 billion of potential revenue is not being realized because gamers are being removed from the market space as they age.

Video game developers who have already made these accommodations early in a title's development report that the inclusion of such needs adds as much as 15% more time to a development timetable.

Most developers at present do not include disability accommodations in their games because they do not believe it's cost effective to do so for the disabled gaming population.

Their perception, however, may be miscalculated. With nearly 50 million people in the U.S. alone reporting a disability and 65% of households playing video or computer games, the gaming industry loses 32.5 million potential customers in the U.S. alone because of a lack of accessibility accommodations in most mainstream games. As much as \$3 billion of potential revenue is not being realized because gamers are being removed from the market space as they age.²⁰

²⁰ Estimate from ESA data and U.S. Census figures



This paper shows that the following shifts and trends are occurring:

- The average American gamer is getting older because more older people are developing an interest in gaming
- People continue to be gamers throughout life
- Internet use is increasing due to the availability of connected PCs and handheld/mobile devices
 - Addition of new platforms such as consoles and mobile devices is increasing the gaming population

Conclusion

There is a huge potential for growth for the gaming industry if it chooses to cater and market to an older demographic. Baby Boomers have the monetary power (outspending young adults by \$1 trillion in 2010) to boost the bottom line of any company that provides them with the goods and services they want. It appears that, increasingly, gaming is something they desire.

The fact is **that as the gaming population ages, older gamers are more likely to have a minor or major disability or health condition.** In the very near future, game companies and gamers will be on a collision course, where, in order to maintain profitability, game producers will need to build in the accommodations that will make their games accessible to people with disabilities.

Doing so would also help the makers of video games to counter negative publicity and disappointment with their brand by older gamers who are used to playing certain types of games during a lifetime, and who are not going to be happy if they have to stop playing those games because they develop one or more disabilities as they grow older.

Will game companies see this collision coming and respond? The 2010 U.S. Census, currently underway, will likely show even stronger evidence of an increasing aging population with disabilities. The future is bright for video game industry and, by including accommodations for accessibility, game developers would be well positioned to capitalize on these trends and secure loyal gamers now and for years to come.

32.5

million

*potential customers lost
because of a lack of
accessibility*

Who are the authors

About The AbleGamers Foundation (AbleGamers.org)

A 501(c)(3) nonprofit public charity that's mission is to advocate for greater accessibility in the digital entertainment space.

Stephanie M. Walker

Founding member and Treasurer of the AbleGamers Foundation, in 1999 she was diagnosed with Multiple Sclerosis. As a lifelong gamer, she endeavors to continue gaming with her disability. She has made it her mission to help others become or remain a gamer, regardless of ability.

7-128 Software (7128.com)

A game development company that makes games for everyone, no matter the gamer.

Eleanor Robinson

Eleanor currently serves as the Chief Operating Officer of 7-128 and has long and celebrated history as a former Marine Officer, college professor, government regulator, consultant and avid gamer well into her 70's. When she is not using the computer for gaming or game design and production, she skis black diamond slopes.

Editor, Suzanne Robitaille

Suzanne is the founder of abledbody.com, a website that covers disability issues and assistive technology. Through her company, ablebody, she provides communications and marketing services for companies and organizations seeking to further their hiring and marketing efforts to people with disabilities. A former reporter for Businessweek.com, Suzanne is the author of The Illustrated Guide to Assistive Technology, and she freelances on disability topics for publications including BusinessWeek, The Wall Street Journal, Ability magazine and Disaboom.com.