Exploiting Gaming Technology for Training

'Harnessing the Xbox Generation'

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Bohemia Interactive Simulations

Scope

- Who I am and why am I speaking about Exploiting Gaming Technology for Training – Bohemia Interactive Simulations

- Working with the Xbox Generation - What is the Xbox Age?

- Gaming and Gamers today

- Exploiting Gaming Technology for Training – The Military Trailblazers

- The Power of Virtual Simulation and its Alternatives

- Harnessing the Xbox Generation

- Lessons for the Serious Business of Training / Questions

Bohemia Interactive Simulations

- BISim is a leading software developer in virtual simulation
  - 250+ staff in seven offices internationally
  - 18-year heritage in game-based simulation development
  - Own our Game Engine and have total control of it

- Flagship training product called VBS3 (Virtual Battlespace 3)
  - Trains hundreds of thousands of soldiers every year in 59 countries
  - Tens of millions of dollars of investment from militaries
  - Integrated into many Military Simulators across the globe with numerous leading OEM customers

- BISim is focused on the military/paramilitary marketplace. Enterprise sales with tens of thousands of licences and support services to
  - U.S. Army Game For Training program of record
  - USMC DVTE training software program of record
  - French MinArm SOCLE Virtual Simulation platform
  - UK MOD Defence Virtual Simulation platform

- What marks out the 5th Generation?
  - 32/64-bit. Proper 3D polygon games
  - CD-ROM technology = vast storage
  - Some internet connectivity

- 1994 – Sony launches PlayStation
  - First console to sell 100 million units

- Industry realignment – rapid decline of well-known names

Jumping into History: 6th Generation Consoles

- 1997 – 40-60% of homes had a console

- Sony PS2 (2000), Microsoft Xbox (2001)
  - Real internet-based business models

- PS2 becomes best seller. Rapid succession of Xbox models

THE TIMES

PlayStation generation could be alone for life By Alexandra Blair, Education Correspondent October 29 2004, 1:00am, The Times

CHILDREN are increasingly at risk of becoming the PlayStation generation as they spend more time playing alone and watching television.

More than two thirds of children now prefer to sit in front of the television or the computer on their own than play with others, according to a survey by Mintel.

The lonely nature of child play will add to concerns about the rising levels of obesity, which are now five times higher than they were 25 years ago. One in ten six-year-olds is now considered obese along with 15 per cent of 15-year-olds.

What the Media says

PlayStation generation that will never climb a tree By Steve Myall
Last updated at 21:54 31 March 2007

Climbing trees - and falling out of them - was once as much a part of growing up as reading the Beano and building dens. But not any more.

A new report suggests today's children are more likely to suffer injuries brought on by playing computer games than from tumbling out of the apple tree at the bottom of the garden.

Hours children play video games in UK
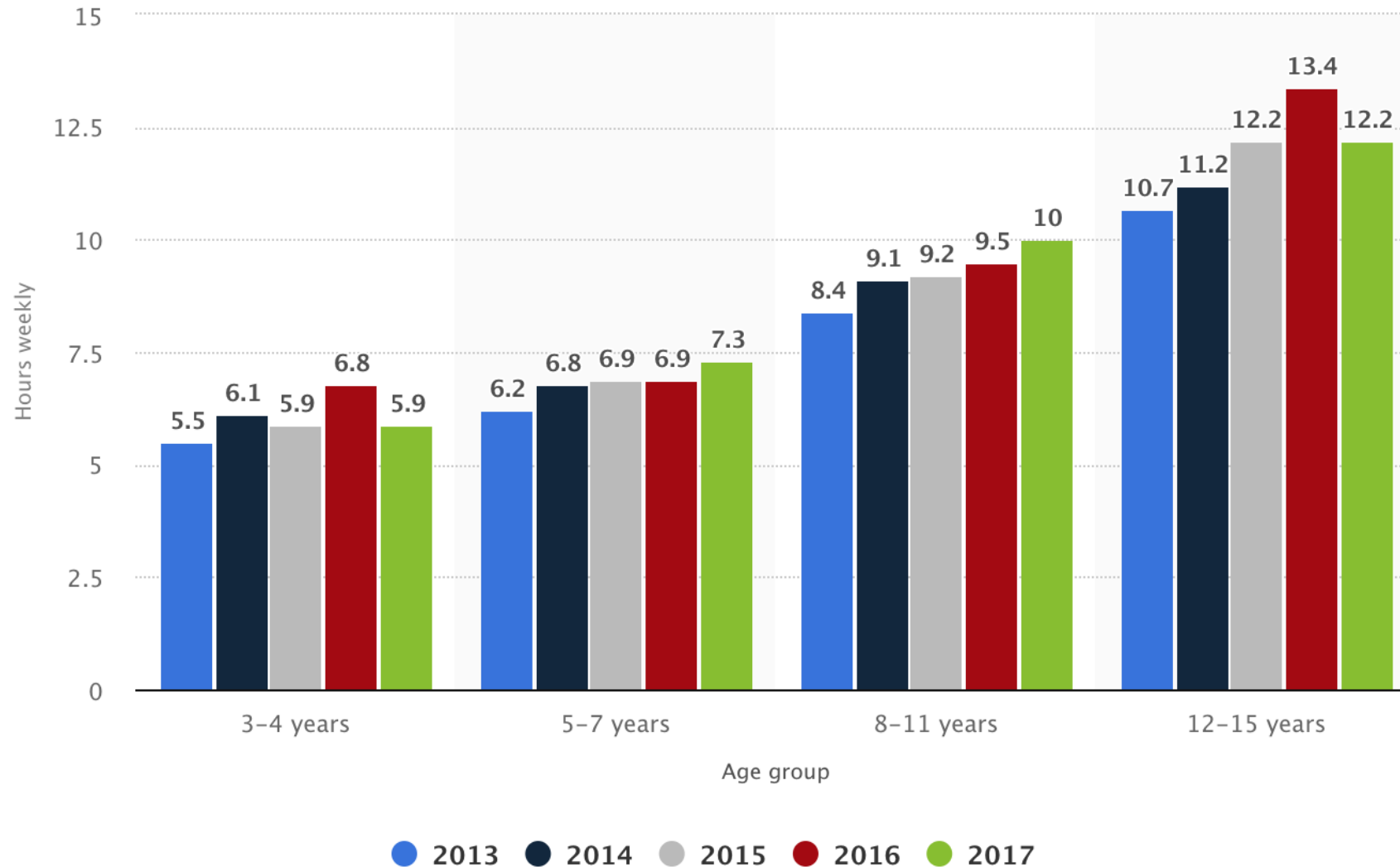
8 Reasons Video Games Can Improve Your Child - Parents Magazine
https://www.parents.com › HOME › Big Kids › Child Development ▾
Parent-approved **video games** that **are played** in moderation **can** help young **kids** ... What's more, these games **often** allow **children** to design and exchange ...

Are video games bad for your kids? Not so much, experts now believe ...
www.latimes.com/business/.../la-fi-lazarus-video-games-parenting-20171110-story.ht... ▾
10 Nov 2017 - But, no, there isn't any meaningful evidence that **video games** lead to ... "**Many kids are** spending more time on average **playing** games than ...

The truth about child video game addiction - TechAddiction
www.techaddiction.ca/child-video-game-addiction.html ▾
What **are** the most addictive types of **video games** for **children** and teenagers? **How many** hours per day **should** parents allow **children** to **play computer games**?

Setting Limits on Video Games - Positive Parenting
https://positiveparenting.com › Communication ▾
The problem setting limits on **video games is** that **kids** ignore parents when they **are** gaming. They forget to eat, ... We also **play many** board games. Three years ...

Child Addiction to Video Games | Empowering Parents
https://www.empoweringparents.com/.../does-my-child-have-a-video-game-addiction-... ▾
Are you afraid your **child** might be addicted to **video games**? Here's how to tell if your **kid** spends too **much** time **playing** games and what to **do** about it.

How to Play Video Games With Your Kids - Consumer Reports
https://www.consumerreports.org/gaming/how-to-play-video-games-with-your-kids/ ▾
17 Jun 2017 - Parents may worry that their **kids play** too **many video games**. One solution ... Experts suggest that gaming with your **children can** help improve ...

Why You Should Let Your Kids Play More Video Games | Net Nanny
https://www.netnanny.com/.../why-you-should-let-your-kids-play-more-video-games/ ▾
22 Dec 2017 - **Much** like television, the topic of whether **video games are** good for your **child** or not has been discussed and debated for **many** years. **Kids** will ...

Mixed Messages!

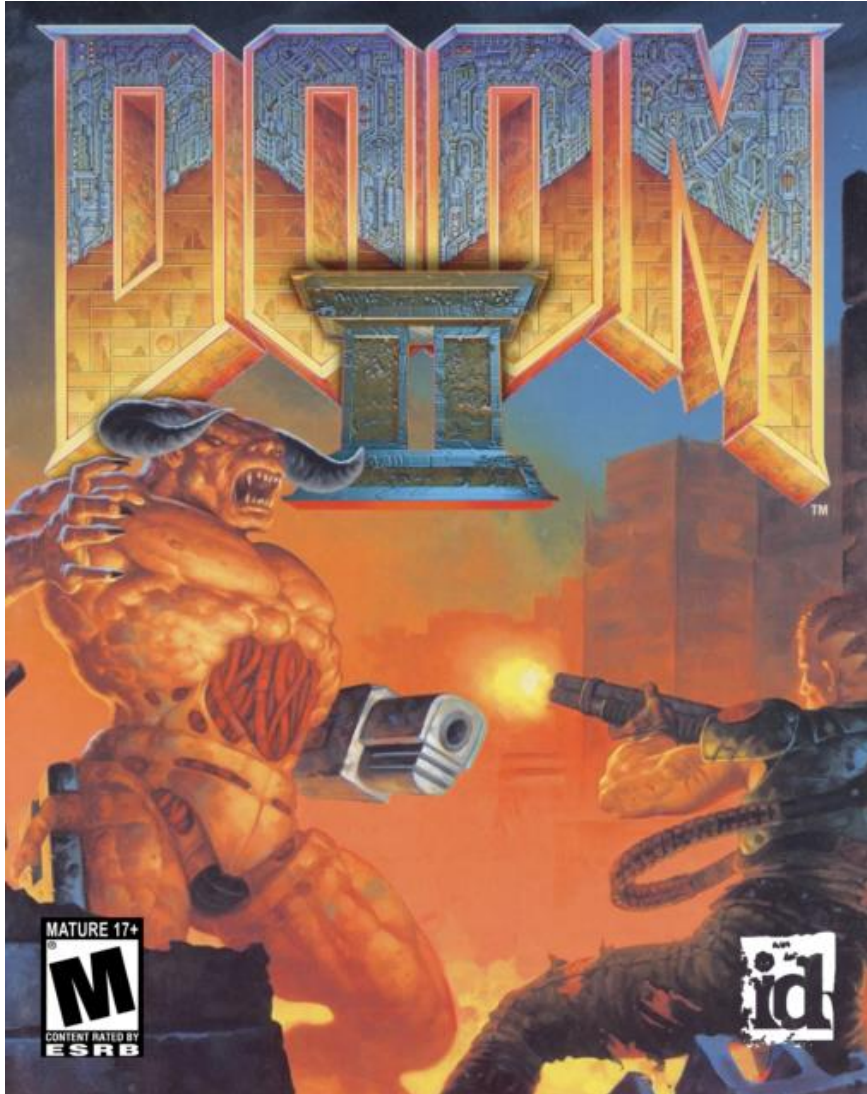But games clearly here to stay and a significant cultural feature

Not only Youth!

Gaming and Gamers today

VBS - Operation Flashpoint and beyond

- VBS1
  - USMC 2001
  - ADF 2003
  - Wikipedia lists 9 military customers

- VBS2 from 2007
  - UK MOD
  - U.S. Army

- VBS3 from 2013
  - Now in 59 countries: used by militaries and OEMs
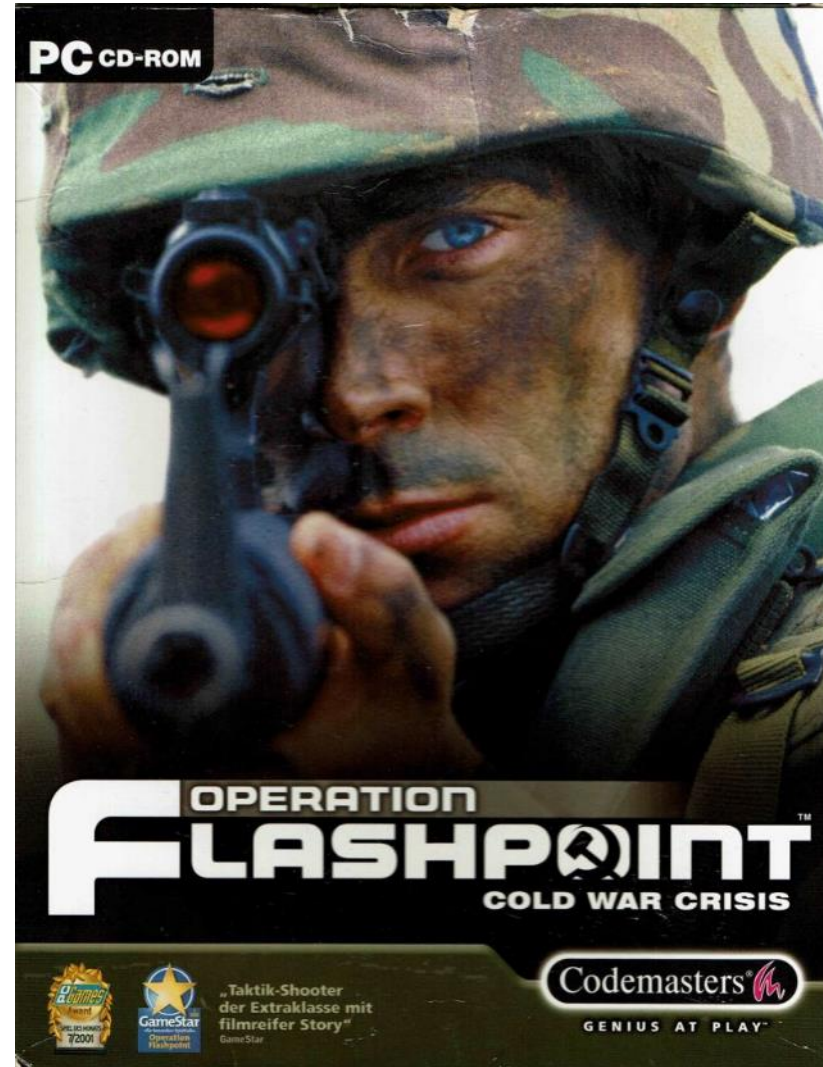
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"Serious Games"

became a the name for this type of training

	No VBS training	1 day VBS training + 5.5 weeks live training	2.5 weeks VBS training + 3 weeks live training
% pass on 1st trace	0	30%	67%
% pass by ½ of traces	61%	72%	100%
% pass by end of course	72%	83%	100%

33% cost saving

Pass rates on Troop Warrant Officers course at Canadian Armoured School (2007), quoted in Hill (2008).

Evidence for Virtual Simulation Training

- **"Games – Just How Serious are They?", Roman and Brown, I/ITSEC Conference Paper 2008**

- Looks at three questions
  1. What tactical training requirements are serious games best suited to meeting?
  2. How effective and efficient are they at meeting those requirements?
  3. What are the technological limits associated with their use?

- The Canadian 'Road to Readiness', for preparing operational deployments
  - A standard progression from individual skills to small team skills, combined arms teams and eventually full battle group tasks in the context of a brigade level operation
  - Based on Experiential Learning
    - Engage the learner mentally
    - Emulate real-world environments. Real-world refers to the physical environment and cognitive task
    - Allow the learner to experience effects of decisions
    - Require the learner to reflect on outcomes of their actions
    - Build on established military practices of debriefs, lessons learned and After Action Reviews
    - Revisit experiences with increasing levels of complexity to expand the learners' knowledge and skills by increasing the number of events, pace and emotional intensity

Evidence for Virtual Simulation Training

- Roman and Brown reported:
    - Serious Games (SGs) are providing a **cost-effective means to provide experience-based learning** with **emphasis on cognitive and increasingly affective (emotional state) training** domains.
    - War fighters will not develop the expert psycho-motor skills they need to effectively employ their weapon systems using game-based training. However, once the team of experts in various weapon systems is created, SG **technology affords trainers the opportunity to turn them into an expert team capable of communicating well with the cognitive skills they need to effectively operate as teams**.
    - The examples demonstrate that this **is true for infantry, armoured or combined arms training in open or urban terrain and holds for the very technologically demanding case of aviation training**.
    - To take full advantage of this capability, **SGs need to be included as part of blended training solutions that take advantage of the strengths of the various types of training available** with the SGs providing an experience-based learning alternative that has not been practically affordable since the end of the Cold War.

- Clearly the role of the instructing staff is critical; they too need new skills and understanding!
    - Doesn't take the human out of the loop – the opposite in fact, new demands on instructors.
    - Part of a holistic "blended learning" solution.

ADF experience

- Roman and Brown report on **Carpenter (2008) ADF experience paper** of improved performance with a substantially improved pass rate, higher standards and increased throughput as primary benefits for which the system was created.

- Additional benefits include the opportunity to practice in more realistic scenarios and in all types of weather.

- Students who require remedial training have the opportunity to do so and, as seems to be the case when cognitive skills are improved through game-based techniques, the live training was reported to have become both safer and more effective.

The Power of Virtual Simulation

Complex operations, teamwork, decision-making

https://bit.ly/2Y86PCM

Photo: David Monniaux, Creative Commons Attribution Share-Alike 2.0 Generic

https://bit.ly/2Y86PCM

Photo: Sergeant Rupert Frere RLC/MOD [OGL
(http://www.nationalarchives.gov.uk/doc/open-government-licence/version/1/)]

Harnessing the Xbox Generation

- **Younger operational staff actively want to use simulation**
  - Take advantage of enthusiastic 'gamers' - you will find plenty of them
  - (In militaries, experience is that young soldiers actively volunteer to get involved and lead)
  - Utilise those staff who 'get it' as instructors and SMEs
  - Offer career development opportunities to learn and grow for instructors and ensure consistency in trainers and participants alike

Soldier at a highly complex individual and team training task

Harnessing the Xbox Generation

- **Keep it familiar**
  - Use Xbox or PlayStation controllers
  - Create an environment students find familiar from commercial gaming by creating teams, objectives and enabling open communication
  - Use of their own equipment, vehicles, tactics, and scenarios is highly motivating

- **Simulation is more engaging than traditional training methods**
  - Students prove to be more responsive when 'doing it' rather than just 'reading about it'. (Including PowerPoint and other static media)

'Generation Z'

- Digital natives with huge dependency on communications

- Greater reliance upon technology and with a different approach to problem solving

- Individualistic, impatient and with differing levels of attention span

- See greater value in work experience than education

- Approach risks differently

Sparks and Honey Report, June 2017:

Meet Generation Z, Forget Everything You Learned about Millennials

What does your training system replicate?

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Photo: Olivier Ortelpa, Creative Commons Attribution 2.0 Générique

Complex operations, teamwork, decision-making

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Photo: Francis Tyers, Creative Commons Attribution Share-Alike 3.0 Unported

Thank you for listening!