

OVERVIEW OF SERIOUS GAMING TECHNOLOGIES

Presented by: WTI
www.wti-solutions.com
703.286.2416



LEGAL DISCLAIMER

The entire contents of this informational publication is protected by the copyright laws of the United States and other jurisdictions. You may print a copy of any part of this publication for your own personal, noncommercial use, but you may not copy any part of the publication for any other purposes, nor may you modify any part of the publication. Inclusion of any part of the content of this publication in another work, whether in printed or electronic, or other form, or inclusion of any part hereof in another publication or web site by linking, framing, or otherwise without the express written permission of WTI is hereby prohibited.

WTI's informational publications are made available for educational purposes only as well as to give you general information and a general understanding of technology, not to provide technical advice. By reading our informational publications you understand that there is no contractual relationship created between you and WTI. Although the information in our informational publications is intended to be current and accurate, the information presented herein may not reflect the most current technical developments. These materials may be changed, improved, or updated without notice. WTI is not responsible for any errors or omissions in the content of this publication or for damages arising from the use or performance of this publication under any circumstances. We encourage you to contact us or other technology companies for specific technical advice as to your particular matter.

WHAT IS SERIOUS GAMING AND WHY IS IT IMPORTANT?

- Definition – A serious game is one that primary intention is to educate its player.¹
- Importance – They are used by industries like defense, education, scientific exploration, health care, emergency management, city planning, engineering, and politics to train and test personnel.

¹ Djaouti, Damien; Alvarez, Julian; Jessel, Jean-Pierre. ["Classifying Serious Games: the G/P/S model"](#) (PDF). Retrieved 26 June 2015.

SERIOUS GAMING ORIGINS

Serious gaming is a sub-genre of serious storytelling where the story is applied, not simply for entertainment, but to explain a concept with progressive complexity so the user intuitively comes to grasp it.²

First popularized for students in the 1970s with pen and paper games, the advent of computers in the 80s and 90s saw the creation of video game based education titles first for the personal computer and in the 2000s in handheld gaming systems. By 2010 games began to expand the serious functionality with games like Second Life developing virtual economies that employed real life businesses, or scientific work being done by gamification such as Project Discovery which used a mini-game within the multiplayer game EVE Online to catalog real genetic and astronomical data.

² Lugmayr, Artur; Suhonen, Jarkko; Hlavacs, Helmut; Montero, Calkin; Suutinen, Erkki; Sedano, Carolina (2016). "Serious storytelling - a first definition and review". Multimedia Tools and Applications.

SERIOUS GAMING IN THE NEWS – BIG C

- **Serious games help beating the Big C**⁶

A research group dealt with increasing data loads by gamifying its processing in conjunction with several game manufactures to speed it's processing.

“Cancer Research UK’s researchers generate huge volumes of data, much of which still needs to be analyzed by the human eye. This is incredibly time-consuming and takes up valuable resources in labs.”

“A few years back, we knew the concept of crowdsourcing was growing rapidly, so we wanted to see if we could apply it to our data blockages. After three successful projects, we’ve just launched our fourth, which is a collaboration and a new model for us.”

⁶ Dungun, Ronnie. (2015, August). Serious games help beating the Big C. Retrieved from: <https://seriousgamesindustry.com/en/serious-games-help-beating-the-big-c/>

SERIOUS GAMING IN THE NEWS – AMERICA’S ARMY

- **America’s Army Game – Success Story⁷**

A recruiting tool created by the US Army to allow prospective enlistees to experience a virtual boot camp and army scenarios.

“Since its first release in 2002, there have been over 41 versions and updates to the original game.”

“America’s Army provided technology used in other government training and simulation projects, as well as outreach projects, such as running the game at fairs, air shows, and other public events. Other government agencies, such as the Secret Service, have used the success of America’s Army as justification for building their own training simulations.”

⁷ Grant, Tom. (2014, February 11). US ARMY, AMERICA’S ARMY VIDEO GAME. Retrieved from: <http://www.seriousgamesatwork.org/us-army-american-army>

SERIOUS GAMING IN THE NEWS – SECURITY TRAINING

- **Only paranoid ... can win the government's cybersecurity training game** ⁸

A training tool created by the DOD for annual security training in the form of interactive game.

"The online game, which walks you through a list of security protocols as though it were your first day on the job, is the "unclassified" version released for DOD and general federal employees by the Defense Information Systems Agency."

Used for annual security training by more than 1.3 million DOD employees.

⁸ Romano, Aja. (2013, August 17). Only paranoid jerks can win the government's cybersecurity training game. Retrieved from: <https://www.dailydot.com/layer8/dod-cybersecurity-training-game/>

WHY DOES SERIOUS GAMING MATTER TO GOVERNMENT

Besides the training system already mentioned, virtual and augmented reality is getting boosts from federal support for a variety of purposes⁹:

- Opioid Drug Misuse Prevention – VR helps with managing pain
- Enhanced Dynamic Geo-Social Environment (EDGE) – Virtual Training platform to allow first responders to engage in complex scenarios.
- Helping the VA treat PTSD and improve training – Using virtual spaces to train staff and help veterans control symptoms.

⁹ Brantley, Bill. (2017, August 9). The Data Briefing: Federal Government Pioneers in Virtual Reality/Augmented Reality Training. Retrieved from: <https://www.digitalgov.gov/2017/08/09/the-data-briefing-federal-government-pioneers-in-virtual-realityaugmented-reality-training/>

WHY DOES SERIOUS GAMING MATTER TO GOVERNMENT - CONT.

Additionally, the government is interested as to how the mental power of game users could be adapted to aid governing¹⁰:

- Gamifying handicap accessibility detection to locate problem areas using an augmented reality app.
- Allowing players to handle chunks of data to speed government administrative processing in developing better civic service networks.
- Using minigames to process research data such astronomical data in the game EVE Online.

¹⁰ Kanowitz, Stephanie. (2015, March 20). Serious games scoring big in government. Retrieved from: <https://gcn.com/articles/2015/03/20/gaming-sxsw.aspx>

WTI SERIOUS GAMING WORK

WTI Continues to work with Government agencies to implement Serious Gaming and has past performance examples

CONTACT INFORMATION

WTI is a CMMI® Level 3 appraised and SBA 8(a) Certified, Economically Disadvantaged Woman-Owned Small Business based in the National Capital Region, committed to helping the government and industry harness the power of actionable information through intelligence and IT solutions.

WTI's work in Serious Gaming spans multiple Federal Government executive departments and a number of independent Federal agencies. To find out more, contact: info@wti-solutions.com.