MIXED REALITY

A GAMING FUTURE AND OUR PREOCCUPATION WITH THE ONLINE /OFFLINE EXPERIENCE

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“Ready Player One”, the 2011 novel by self proclaimed geek Ernest Cline is the next wave of science fiction. It is the next wave due to the fact that so much of what cyberpunk predicted has come true and it's time for a reboot.

Today, authors must think of viable ways of telling stories that take into account our ever changing and fast moving technological landscape. In Ready Player One, Cline offers us a vision of a future in 2044 where the Great Recession and global warming has left the planet in a terrible state. Although this plot line is nothing new, where it does venture into new territory is his premise that the technological component of virtual reality and the “online experience” is a euphoric one. As opposed to the days of the “Matrix”, where technology, computers and virtual simulations were feared, this book represents the psychological sea change of people coming to terms with technology being integrated into their every day lives. Things like the Google Glass, the first augmented reality wearable tech with real potential, raise a few eyebrows, but are no longer rejected by the general public. People are more reticent to embrace them simply because of aesthetics and price, aspects that can be gradually rectified. We are entering an era where our online lives are equally as important as our offline ones. Although some of the older generations are still coming to terms with this, Millennials and especially the Digital Natives born after the advent of the Internet barely make a distinction between the two.
A lot of this has been heavily shaped by video games. Even those of us who grew up playing the more rudimentary Nintendo and Atari are used to the gaming process: the system of problem, solution and reward that is so satisfactory on many levels. Our acceptance of technology, our willingness to interact with computers and our general understanding of all these things, stem from these first encounters with digital consoles. What was once considered a mere pastime for children has become a multibillion dollar industry that continues to grow and to innovate. It has become so prevalent and that the processes of gaming itself are being applied to other uses so diverse as marketing, solving world issues or charitable causes.

In this report that accompanies our Visionary story, Ready Player One SS15, we will explore how the world is becoming one giant game and how we are trying to reconcile the offline and the online in positive, empowering ways.
In the past, our present was longer, and our future was in a far-off distance. Sounds strange? It's true. Whereas we used to live in “cycles of reality” that spanned several years, today the status quo can be renegotiated with a tweet or a viral video. Technology moves so fast that the idea of “futuristic” has changed. Goals we set for ourselves are realized in a matter of moments and inventions in heretofore science fiction novels are now being mass-produced. Sometimes the velocity of these changes makes our current reality almost magical.

One could make an exhaustive list of all the examples in science fiction that have come to fruition, but perhaps it's best to cite one man that not only pertains directly to this trend, but who also has been eerily accurate when it comes to the technological and societal fluctuations that surround us: William Gibson. The inventor of cyberpunk, he is also noted for coining the expression cyberspace which is still used today. Gibson began writing about cyberspace before the Internet actually ever truly existed; especially in it's World Wide Web, Google form. He also wrote about things such as computer generated hologram idols and remotely accessible data akin to the cloud (both noted in the novel “Idoru”) long before they were invented. The ultimate futurist, he has given us insight and food for thought in our now digital society.
Interestingly enough, it was gaming that was at the very root of his career and why he felt compelled to write his genre of fiction: “It came from watching kids play the very first generation of arcade video games. Huge tank-like painted plywood constructions. When I walked past the arcade I would see the posture and the incredible tension of the kids when they played the game. And seeing the physicality of their relationship to what was really just 0s and 1s in a computer really impressed me, and it also gave me the sense of what they were yearning for was to be on the other side of that cathode screen.”

"They are the Nisei of cyberspace- the first generation born into a world that has never not known digital life and so never had to adjust to it as the rest of us settlers have." – Jerry Adler, Wired.com

Gen Z or Digital Natives, is the generation that succeeds Gen Y or the Millennials. Born after 1993, and is a group that has never known a world without the Internet. They didn't listen to analog devices as teenagers but to MP3s, they knew nothing of VHS tapes only DVDs and streaming, and they had a cell phone in their hand almost since birth. As a result, many studies have been made as to how all of this technology will affect the psychology and behavioral patterns of this generation. While there are several aspects that are a bit alarming there are some positive traits to Gen Z'ers as well. “They won't distinguish between online and offline, since their mobile devices will keep them connected most of the time.” – Gen Z, Digital in their DNA, JWT

The order of use of communication methods that teenagers engage in, according to a Pew survey:
1. Text messaging
2. Cell phone calls
3. Landline calls
4. Face to face
5. Social networks
6. Instant messaging
7. Email

“Face to face” is ranked at number 4 in terms of the primary method of communication! In fact, it has been proven that Gen Z’ers place more importance on online communication than offline in general. In the 13 -17 age bracket, a shocking majority said they feel that real life takes place on social networks, and that it's “more convenient to talk with friends online rather than in real life.” - Gen Z, Digital in their DNA, JWT
Others argue that all of this technology and access to information is actually making kids today more savvy and intelligent. Nonetheless there is a general consensus they are spending too much time online and not enough in the real world. In a JWT qualitative survey of 13 to 17 year olds, 90% said the thing they would be most reluctant to give up in their life is their Internet connection. Things like giving up their cell phone or texting, closely followed and took precedent over going outside, hanging out with friends, clothes shopping: what teenagers of years past engaged in the most. Brands will either have to find solutions for parents looking to give their children non-digital experiences or solutions that combine the two worlds.

“This perhaps is the most profound of the digital Nisei’s new rules: Make no distinction between the real and the virtual. Actions that begin in one realm play out in the other. They are interwoven.” - Jerry Adler, Wired.com
This explains why the virtual experience of gaming or Gamification which will be explained in more detail later, thus holds so much importance in a Digital Native's life. Growing up playing games, they are transferring skills they honed in titles such as Counter-strike, to everyday opportunities; acquiring online and offline rewards in apps such as Foursquare.

Another good example is they prefer to play the game Gran Turismo rather than actually drive. A survey shows only 1/3 of the amount of 16 year olds are passing their license now compared to the amount in the 50s! And if they do drive, many of them credit playing video games as to how they honed their driving skills.

“What happens when technology gets so good is that spending time in a MMO (massively multiplayer online game) is better than actually being with somebody in real life. And we are going to hit this point very soon.” - Palmer Luckey (founder of Oculus Rift VR, SXSW 2013 panel).

The idea of identity is also a big factor in this online / offline living. Younger Millennials and Gen Z have a much broader idea of public identities in general. Whereas in the past it might be limited to a few personae in terms of how you dress and what car you have, today people can have 1000s of facets of their being online. At the same time, it has lead to a lot of transparency when Facebook started enforcing having people put real names on their accounts. Despite the older generations qualms about the images that will end up on the internet and stay there, the younger generation feel that when they enter the workforce it won’t matter anymore as everyone will be accustomed to having their public life on display.

This also lends itself to the positive trait of being more global and multicultural as a lot of their online friends live on the other side of the planet (26% of the average Gen Z friends live a plane ride away as found in the JWT report). They will take interest in cultural icons that are not native to their own country. K-pop, which we spoke about in the previous Hallyu Report is a perfect example of this. It should be expected that in the coming years there will be far more linguistic and cultural borrowing amongst the youth as Digital Natives identify more with websites than with states or religions.
At the Crossroads of Gaming and Real Life

a. The Gamification of everyday life.

Coined by Nick Pelling, “Gamification” is “the use of game thinking and game mechanics in a non-game context in order to engage users and solve problems. Gamification is used in applications and processes to improve user engagement, Return on Investment, data quality, timeliness, and learning.” – Wikipedia

Bringing out feelings of competition, achievement, status and expression, Gamification is evolving into one of the marketing industry’s biggest tools. Everything from the little red number that appears on your Facebook page, the badges earned on Foursquare, or the fuel points you earn with the Nike Fuel band are all techniques borrowed from the gaming world that give the user a sense of reward and provoke him to continue on. It also shows that virtual currency which can came in the form of a Bitcoin or an item in a game can hold as much weight psychologically to a human being as real money can.

“By 2015, more than 50% of organizations that manage innovation processes will gamify those processes.” - Gartner

Plus it's not industry specific, whether it's food, cosmetics, a car or charity:

“Even though the target markets might be different, the objectives might be different, and the design patterns [might be different], at the core, they’re all just trying to create engagement with people and change their behavior.” – Gabe Zicherman, the CEO of Gamification Co., gartner.com

The key to all of this is authenticity, and being able to utilize stories to engage people. Give people a compelling narrative they will want to follow and then reward them for doing so, and they will be hooked.
Computer games are replacing traditional ways of learning in classrooms. Opposed to the classic pen and paper, touch screens and interactive chalkboards are being ushered in. Books are being “read” through multimedia, and curriculum has become structured like an adventure quest. Classroom gaming can also be very efficient for dealing with students in a foreign language or connecting more impoverished communities with high-level teachers. The goal is for the games to be “immersive, relevant, authentic, collaborative and fulfilling.” – NYT, Reading, Writing and Video Games.

Although this technology can be more efficient and be very engaging, teachers are claiming it is impacting student's attention spans. They say it also impedes students in being able to deeply explore their own ideas opposed to constantly interacting with a device. Teachers are beginning to encounter difficulty when it comes to students taking their eyes off the screens and dealing with hands on real world situations. Some adults merely feel that children also need to know the meaning of hard work and that not everything will always be entertaining and fun. Stipulating that this creates more patience and allows them to value moments of reward at a much higher level.
In general, if things can be gamified in a positive way it can stimulate higher levels of engagement, change people’s behaviors and encourage innovation. Quantifiable elements of this are clear goals (opposed to the “murky” goals of real life with much gray area), which give people more satisfaction, and a “compelling narrative” with tasks that are achievable. Take the MMORPG (massively multiplayer online roleplaying game) World of Warcraft. At last count, the amount of hours we have played this game collectively as human beings is 5.93 million years. In other words, we are investing the same amount of time in solving the problem of a game as human evolution. This obviously makes us wonder if we are changing what we are capable of as human beings by playing games. “The average young person today will have spend 10000 hours playing games by 21.” This is the same amount of hours spent in school from elementary to High School.
There is also scientific evidence that shows that if you spend 10000 hours on any one thing before the age of 21, you will become a virtuoso at it. So basically kids are getting a second education. So what are the 500 million global gamers getting good at?

Jane McGonigal, an expert on the subject, outlined these skills in her TED talk “Gaming Can Make a Better World”:

- Urgent optimist: act immediately to tackle an obstacle combined with the belief that we have a reasonable hope of success

- Social Fabric – we like people better after we play a game with them even if they beat us. We end up trusting them.

- Blissful productivity – when we are playing a game we are happier to do “hard work” opposed to just relaxing

- Epic Meaning – love to be attached to awe-inspiring mission. The Warcraft Wiki is the second biggest one in the world and they are building an epic story on the Internet, and epic knowledge research.

They all add up to one thing: Super Empowered Hopeful Individuals who think they are capable of changing virtual words (but not the real world).

The goal is to harness this willingness and optimism that accompanies gaming and integrate it with real world situations where we are more likely to feel that things are “impossible” or fall into a grey area.

One more thing to consider is that we are only at the beginning of this movement as the game industry is developing low energy consoles that work with the phone system that will allow more massive gaming in India, Brazil and China. Harness the power of a global player network and one could say it becomes a game changer.
The other aspect of gaming that Jane Mcgonigal outlined in her TED talk was how all the hours we dedicate to solving problems in video games should be put towards solving real ones. As a result she created the game Evoke in conjunction with the World Bank that uses crowdsourcing and global player engagement to solve real world challenges.

For the past few years, companies like Zynga and Games for Change have followed suit by experimenting with game play as a means to acquire money for charity in engaging, immersive ways. In 2012 zynga.org created 46 campaigns through games that contributed money to 25 different non-profits. Another example in 2011, MTV developed the game “Darfur is Dying” that was played 4 million times and prompted 50,000 people to donate money to stop the crisis in Darfur.

The most notable effort to combine social changing and gaming is the company SEEDS founded by Rachel Cook, a former equities trader that decided to do a Kickstarter crowd-funded documentary on microlending* in Africa.

*“Microcredit is the extension of very small loans (microloans) to impoverished borrowers who typically lack collateral, steady employment and a verifiable credit history. It is designed not only to support entrepreneurship and alleviate poverty, but also in many cases to empower women and uplift entire communities by extension.” - Wikipedia
When Rachel visited Kenya, she found that it had one of the most developed mobile money exchanging systems in the world. People can literally text other people sums of money through special apps on their phone. She realized it would be the perfect place to launch her company called Seeds. Seeds aims to embed in the API (application programming interface) of games like Farmville or Knights and Dragons, an in-game virtual monetary system, where people are able to give real dollars for microloans that are then converted into game currency. Seeds then distributes the money to women in Kenya and builds partnerships for different types of businesses. Basically it combines the gaming for good principle of Zynga with the microlending non-profit group Kiva. In a nutshell, you are doing things like creating a virtual civilization while actually lending money to real entrepreneurs. The system is a huge success as it “catches players at a moment of enjoyment to appeal to their generosity.” - Gamesbeat

While many of these games are fun ways to strategize, their game play is often more geared to adults, so versions that appeal to kids will require a different approach. Here one must stress the sustainability aspect, but focus on the game experience to indirectly encourage positive behavior. For example Minecraft, which is a MASSIVE video game hit, integrates sustainable story lines into its game dynamic in a subtle way. The power of weaving in socially good story lines into big game titles can be the ultimate teaching tool for kids.
3D printing... a term and process that was invented in the mid 90s, recently reached a viable manufacturing potential and is finally coming to the commercial forefront. Using an additive process, a printer recreates a 3D object from one that was developed virtually on a computer. Substances are heated up and flow through a tube and then are laid down in successive layers. It is a useful tool one can imagine in the home of every consumer and a process used by every manufacturer in the coming years. In fact Staples, just announced that it would be the first American retailer to carry the device both online and off starting this May 2013. For the moment it is being heavily tested in more laboratory-like settings to develop everything from printed food to printed bones. An entire jawbone was printed out and successfully implanted in a human being! They are finding other medical uses such as printing organs, parts of a human skull, and even medication. For the pharmaceutical world it could be a huge advantage as it could decrease the time it takes to develop through trial and error (an average of 7 to 10 years) to a fraction of that time. They will be able to target specific cell receptors and DNA and print out the exact combo necessary to treat it!

On the other hand this doesn't come without controversy. Some fear that tampering with drugs through printing could lead to biological warfare, or create a drug that messes with our DNA causing a widespread plague. Lethal weapons are also a fear. Of course the first 3D printed object to take the media world by storm was a full rifle with moving and functioning parts. This opens an entire debate about gun control and possession of firearms. And although the government has cracked down on the person who created the blueprint for the gun, the digital file is now all over the Internet. Industry experts just hope that it won’t harm this nascent industry that for the most part could bring us beneficial innovations.
Meanwhile, companies are also creating programs that help us more easily interact with these new printing devices. As some of the first versions relied heavily on illustrator and similar programs, it alienated a lot of users. Systems such as Sculpteo and Let's Create! Pottery offer users new simple methods of expression.

France’s Sculpteo recently teamed with Polish publishing company, Infinate Dreams (iOS and Android) to create a mobile app that lets you design and paint pottery on your smartphone or tablet, send it directly from your device to be 3D printed and then mailed to anyone you want, anywhere in the world.

“By integrating our 3D printing platform into Let’s Create! Pottery app shows how easy it is to integrate 3D printing into online shops,” said Clément Moreau, CEO and Co-Founder of Sculpteo. “This partnership demonstrates how ineluctably the division between the digital world and real world is disappearing thanks to 3D printing technology.” – forbes.com

Leonardo expands the potential of 3D printing even more by letting people create complex 3D renderings in mid-air by using 3D visual technology and a “birdie” tool that lets them “sculpt” the object from all sides and with minute care. The virtual object can then either be imported into another program or be directly printed out with the selected materials.

“Leonar3do can save its files in 3D printer-optimized file formats, turning the sometimes clunky interface with a 3d printer into a walk in the virtual park”
Human beings have always dreamed of the potential of holograms ever since the technique was developed. Created in the 60s in the Soviet Union for scientific reasons (to visually analyze data) it became a symbol of the future and science fiction. Salvador Dali couldn’t wait to get his hands on it and much collaboration was made between artists and scientists to explore this new medium. A hologram is a specific technique but the illusion it creates has made the word a sort of catch-all for anything that looks like a 3D manifestation of reality. For example the performance of the animated Gorillaz or the resurrection of Tupac at Coachella are technically not holograms but have come to be accepted in society as such. No matter what you decide to call this artificial presence, this technology is only at its infancy according to experts. Digital multidimensional projections of living, dead, and fictional people may become more common. For the chief creative officer at Digital Domain, his goal is to one day create a hologram that people won’t realize is fake. “Nothing is real and everything is possible,” he says. -uproxx.com

The most startling evolution of this is literally out of a science fiction book. Hatsune Miku is the real world Idoru of William Gibson’s imagination. She is a computer Generated pop icon who’s songs are created by fans and then voted for. Using vocaloid technology that was specially developed by the Crypton Future Media department at Yamaha Corp in Japan, she is able to “sing” the songs that fans write for her. Crypton Future Media then puts on concerts with live musicians and her effigy, which is essentially a 3D hologram presence, and then makes her dance and perform in front of millions of fervent fans all over Asia. She is the first non-human pop star and is successful thanks to gaming, manga and otaku culture.
We are on the cusp of a big shift when it comes to gaming and entertainment hardware. Completely immersive simulated experiences are about to explode on to the consumer market. The idea isn’t new and we’ve been playing around with the idea of virtual reality since the 90s, but recently a few devices have been developed that are about to not only revolutionize the gaming industry but perhaps how we interact with media in general. Almost like the exact prototype of the VR experience that is the main element of the book “Ready Player One” (the author was even personally asked to test out the technology), the OCULUS RIFT is getting the entire tech industry into a frenzy. Founded by Palmer Luckey, a young man who is barely 20, he created the Oculus Rift Virtual Reality company which he funded on Kickstarter. Raising $2.4 million dollars, the kit is at $300 a pop and is very smartly intended for developers in order to give the Rift the best chance at success possible. By not controlling the accompanying hardware or the games that are used on it, he is allowing his device to be opened up to broader ideas that will best suit the device.
This freedom for developers will enable them to develop tools and experiences far beyond anything we have ever imagined: “It’s like I am a painter and a new color is invented. If that did happen, every painter would be like, ‘I’ve been spending so much time training myself to paint and there was this certain set of things that I understood; and now, all of a sudden, there’s this thing that just fundamentally changes the craft.’ That’s exactly how this feels.” Paul Bettner, the creator of Words with Friends (fastcolabs.com) Suddenly game developers are almost asked to reinvent the wheel. They cannot go by the old industry standards and the tricks of 2D gaming. It’s akin to when motion pictures were invented and an entire new visual language had to be written. Simple things like figuring out how to guide the gamer and bring the story to him are a concern. Palmer Luckey also believes that some of the best technology is one that is slowly improved upon over time. His involvement of developers will allow the best possible options for this device to be carried out. And what will emerge, as the favorites could be completely different than what is popular now in gaming. For example a simulation of paragliding might be more fun than the classic 1st person shooter scenario. “You are going to finally have a portal to a million other new worlds that you can breathe and experience like a dream.” – Palmer Luckey (sxsw 2013 panel) The Oculus team knows that it won’t be an immediate process for the gamers as well. They will also have to accept this new technology and be willing to interact with a digital platform in a completely new way. “We are trying to ease people into the experience. You give people a virtual body they can see, arms and hands that they can actually use in a natural way. By doing that, you give them a surrogate body to enter into this world. And you give them the same rules they use in everyday life, the same rules of how fast you can walk and how fast you can jump in real life. That’s a big difference between what you see in modern first-person games where players run around at 30 mph, whipping themselves around at these superhuman values that don’t work in VR because it will make people sick or they won’t connect to the experience they are having.” – Denny Unger, founder of Cloudhead Games, independent developer for the Oculus Rift, fastcolabs.com. The goal is also to expand the technology to a much broader audience than the clichéd gamer of today. They want it to be an all-in-one affordable household device. Rumored to be ready for the consumer market in the 3rd quarter of 2014, people like Unger expect it to work in conjunction with simpler things as well such as Skype or Wikipedia, enabling everyday apps to become more immersive. It could also bring back the very symbol of our gaming history: the arcade. The arcade became obsolete when the technology was good enough and cheap enough to be used at home. Now with the possibility of “mixed reality” (real spaces with physical props that match up with the virtual world) people will seek out experiences in environments that are more complex than what they can have at home. It also has a lot to do with shared experience, which is what drives people to currently play MMOs. When you have people experiencing the same thing in the same space, you’re getting a unified experience that is on a human level and not a gaming level.
Another contender in the immersive experience arena is the Microsoft Illumiroom. While everyone was discussing the Oculus, Microsoft took the tech world by surprise with a technology that is also nothing short of magic. Presented at CES, it utilizes the technology of the Xbox Kinect (which has sensors that incorporate the players movement into the game) and combines this with a wide field projector that extends the game play beyond the borders of the screen and over the entire room. The illusion is draw dropping as the device maps a player's living room so that it can create a seamless image that makes you feel as if you are in the game. In the presentation video, simple things like snow falling and then accumulating on your carpet, or your living room furniture being vectorized like in the movie Tron are examples of the potential of this device. It also plays with color and can make your entire room go black and white. There is still no set date on the release of the device but it is rumored that it will be part of the next generation of Xbox. Just like the Oculus, people feel that its use will extend beyond gaming and be interesting for viewing films or other media.
These are exciting times when it comes to technology as we feel we are continually on the verge of a breakthrough that will change our lives and society in general. And as the entire planet is slowly being put online whether it be through telephone, cloud computing or good old wifi, we will enter an era of digital globalization where there are no physical borders and hopefully just fair play. Ready Player One?
What's the Big Problem with Oculus Rift VR? – Kevin Ohannessian, fastcolabs.com
Games for Good: Zynga.org, Giving and Social Good Through Gaming – Amy Neumann, huffingtonpost.com
Startup Seeds makes a game out of Micro-lending – Dean Takahashi, Gamesbeat, venturebeat.com
Seeds: a Micro-lending Game where Farmville meets Kiva – fastcoexist.com
Gaming for Good: teaching sustainability through Video Games – Matthew Yeomans, theguardian.co.uk
Three Things you Need to Know about Gamification – Giancarlo Valdes, Gamesbeat, venturebeat.com
1993: Meet the first Digital Generation. Now get Ready to Play by Their Rules – Jerry Adler, wired.com
Gen Z: Digital in their DNA – JWT
Reading, Writing and Video Games – Pamela Paul, New York Times
How Futurist William Gibson is Still a Man of his Time – Wesley Fenlon, tested.com
Gartner Says by 2015, More Than 50 Percent of Organizations That Manage Innovation Processes will Gamify those processes – Brian Burke, Gartner.com
Hands-on with Leonar3do: virtual reality meets 3D Printing – Colin Druce McFadden, dvice.com
3D Printed Pottery from Your Mobile Phone – Jennifer Hicks, Forbes
Printing Food – Cornell Creative Machines Lab
How Virtual Pop Star Hatsune Miku Blew Up in Japan – James Verini, wired.com
William Gibson: the New Cyber Reality, mediafuturist.com

Hatsune Miku: Concert “World is Mine”

Tupac Hologram, Snoop Dog, and Dr. Dre perform Coachella live 2012

“Passing through the Glass” – Hologram presentation of Mavi / Hussein Chalayan collection, 2013

Microsoft IllumiRoom Demonstration

“My 90 year Old Grandma tires the Oculus Rift”

CES 2012 : Leornardo
Intro - Cover of the Novel Ready Player One by Ernest Cline
Digital Nostalgia a1 – Cover of the Novel Idoru by William Gibson
Digital Nostalgia a2 – Still from Tron Legacy
Digital Nostalgia b2 – Still from Promo video for Daft Punk's album “Random Access Memories”
Gamification a – Bitcoin, bristolpound.org
Gamification b - www.simcityedu.org
Gamification c – From left to right: 2 slides from Jane McGonigal’s TED talk, photo by Philip Toledano
Gamification d2 – Minecraft official logo
Bridging the divide a1 – From top: 3D expo, mashable.com; engadget.com
Bridging the divide a2 – Demonstration of Let's Create! Pottery App
Bridging the divide b – Hatsune Miku, fullinsight.com
Bridging the divide c1 – Rendering of the Oculus Rift, oculusvr.com
Bridging the divide c3 – Still from demo video of the Microsoft IllumiRoom
Conclusion: Google's April Fools Day 8 bit map