From Pong to PlayStation
Video Games
the evolution of a medium

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Video Games

the evolution of a medium

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introduction

Even though many failed to notice or acknowledge it, this century has seen the biggest physical development in mass media culture since the advent of the written word. The written word broke ground in that it was the first active medium with large-scale audience possibilities (especially since the advent of the printing press and modern mass publishing technology). It was a visual breakthrough that revolutionised the world.

Today, "except for the telephone, most of the invented and socially accepted media fall within the confines of literal culture" (Masuya p3 prg3), that is although they have the ability to reach large audiences, they are still only one way mediums.

The first real interactive media was born with what we now label 'video games', and although still a fairly recent phenomenon, very few people realise that this extremely powerful medium already has a history which spans over four decades, spawning countless incarnations which can be divided into four main categories:

arcade games

Arcade games were the first publicly available and playable video games. The games were non-interchangeable and the unit contained a monitor, circuit board and controls. These groundbreaking machines were responsible for spawning the culture that allowed video games to exist. Traditionally, these units contain the cutting edge of processing technology and are extremely expensive.

video games

The term 'video games' refers to interactive games played in the home on dedicated units, or consoles that usually attach to television set. Such games are normally purchased on cartridges or other media that will only function on one company's particular console. Never has there been a case of total compatibility between various platforms, nor is there ever likely to be in such a vicious market, and this market is most definitely not one to be sniffed at.

In 1982, when the video game market had reached it's first peak (just prior to it's almost complete disappearance in what is known as the great console crash of 1984), sales of video games world-wide were estimated at somewhere between 2.5 and 4 billion U.S. dollars. The arcade game market was thought to be between 7 and 8 billion. In comparison, Hollywood films grossed a mere 3 billion worldwide, while contemporary pop music enjoyed sales of 4 billion dollars.

hand-helds

Other types of games consoles are the less common portable video games consoles, also known as 'hand-helds'. These are usually downscaled less powerful versions of home video games consoles and house their own LCD display and speaker. Games come on proprietary cartridges, often cut-down versions of bigger games available on the manufacturer's main console system, so that the lucky gamer can fork out twice as much money just to play his favourite game 'on-the-go' too.

computer games

It is important at this stage to differentiate between 'video games' and 'computer games', as the latter are played on home or office computers (PCs) and usually solicit an older audience as machines rarely fall within the pocket-money reach of kids or the present-buying budgets of parents. Although some of the more popular video games titles are available for PCs, computer games differ greatly in subject matter and detail.

All of these incarnations of one idea- the interaction of a human with an electronic device, and so to fully understand the equipment involved it is important to first discuss the inner workings of the computer, the nature of the beast.

A computer's only task is to process numbers and deliver results, which it does by passing information through a central processing unit (CPU). Needless to say, the faster it can pass the information through, the more processing can be done. These speeds of data transfer are referred to as 'bits', and generally appear in increments of two. Results of data processing is usually shown to the human user in two forms, visual and audio, the visual being displayed on a cathode ray tube video screen, or monitor. More recent developments in digital interaction technology, virtual reality for 'serious' use and games have led to the implementation of third sense for data readouts, touch.

In this thesis, I intend to show the extremely volatile nature of the video game market over the years, a fast-paced ever-changing world where a giant can fall as quickly as a new player succeeds in a shower of electrons.

It is important to understand that this medium underwent an intense evolution, mainly due to the ever-increasing availability and improvement of microprocessor and transistor technology. As this trend for technological leap-frogging continues today, so does the development of video gaming and interactive media.

As there is more than one origin of video games, with much cross-pollination of ideas and resources, I feel a reasonably detailed history of this medium and it's turbulent evolution is important to the theme of the thesis.

This history can be divided into a number of categories that influenced its course. The first is the birth of the video game and the course of events, which shaped it up until 1984. This year saw the great console crash in which virtually no video gaming hardware or software was sold due to the advent of the home personal computer.

The second important area of regard is the advent of Nintendo into Japan and then the U.S.A in 1985. This caused resurgence of interest in video gaming and the initial split between computer games and video games. In this birth of a new gaming era, Nintendo, a new arrival, and the established Sega vied for top spot through the years while effortlessly batting away annoying forays into the market by other companies.

This duopoly on the market was uncontested until Sony's well planned and blockbusting PlayStation arrived, leaving the giants in its wake. Sony showed a previously unseen maturity in approach to the market, which heralded another new age of next-generation games consoles.

For this reason I have decided to devote an entire chapter to the Sony PlayStation, chartering its development step by step from a joint

Nintendo/Sony venture which turned sour compared to the darling of Wall Street it has become today. This chapter leans towards the marketing side of the story, as this was the aspect of Sony's brainchild that let it succeed.

That leaves us today, with Sony wallowing in their glory, having created a market for its product even before it existed – bringing about another new era in the world of video games and changing video game culture. I plan to discuss the current state of affairs in the world of video games consoles, how their applications are broadening into other fields and perhaps what is likely to happen in the near and not so near futures. A new millennium looms with a new generation of entertainment to fill peoples disposable time. But first, the birth of a medium.

1 the birth

Video games as we know them today bear little resemblance to the behemoth machines on which they first appeared, multi-million dollar mainframe computers that occupied the floorspace of a small house. In the late 1950s these computers were supplied to MIT colleges in the United States by DEC, a fledgling computer manufacturing firm funded mainly by NASA (who were hoping to employ hundreds of enthusiastic graduates of the subsequently formed 'Computer Science' courses). "At that time, the only form of computer programming available to the public was the batch-processing system dominated by IBM" (Haddon, p55 prg4). This was a laborious and slow system wherein the client would submit a program to an operator, who would have the results of the program calculations ready for collection later.

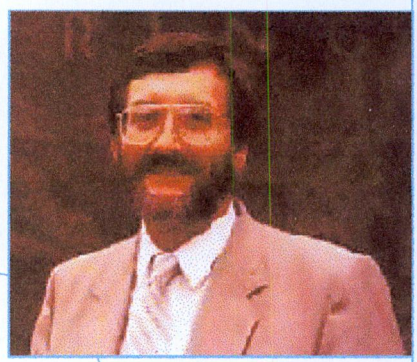
Computer Science students began to research a more direct form of computing which would revolutionise the way computing and computers themselves would be perceived and applied. They aspired to create a way in which a user could obtain instant feedback from a program without having to wait. MIT researchers were soon to invent what would be known as 'real-time' interactive software.

These 'real-time' programs were constantly changed, improved and updated by the student researchers in efforts to outdo each other in a light-hearted competitive nature, to display one's programming prowess. Although these programs stretched the mainframe computers to their limits, enhancing and exploring machines' capabilities, they were rarely of any direct use to the faculty.

"For example, these enthusiasts worked on programs to play a form of chess and to solve simple puzzles" (Haddon, p56 prg2) which failed to

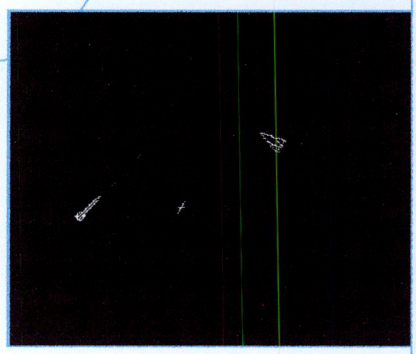
amuse the course's co-ordinators. The multi-million dollar machines kindly donated to them being perverted and treated as toys. It was impossible for them to ignore, however, the interest these 'real-time' programs aroused in students – while attempting to program visually stunning interactive programs, students were learning difficult computer theory and gaining practical experience quicker and less painfully than ever before.

One MIT student, Steve Russell (fig#1) was not content with the shoddy unfinished interactive programs and sought to program something more instantly gratifying. A fan of sci-fi B-movies and novels, he attempted to program an interactive computerised space battle, calling it 'Spacewar' (fig#2).



fig#1: Steve Russell

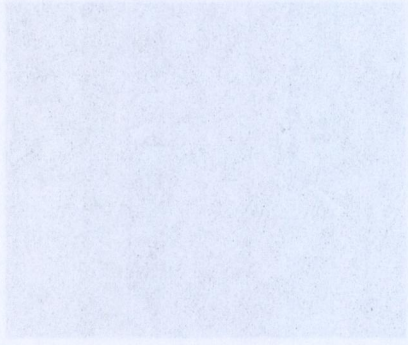
The first version of Spacewar was programmed in 1961 by Russell himself (others continued to improve the game) and let two players control one Spaceship each in an attempt to destroy the other with torpedoes. The graphics reacted instantly to the controller's movements and provided the player with a fast-paced highly playable game, the first of it's kind. The first computer joysticks (a multi-directional stick controller) ever made were also used to control the movement in Spacewar.



fig#2: Spacewar screenshot

Owing to its incredible popularity amongst the student base, the MIT accepted Spacewar as a learning tool, including the program on its curriculum and encouraging students to play and dissect it. This contrast heavily with today, where fines are often imposed on students if games are discovered on college hard drives.

In 1962, the MIT showcased Spacewar to the general public, who were duly awed at a machines capability to react to a users movements. DEC obtained the latest copy from Russell and began



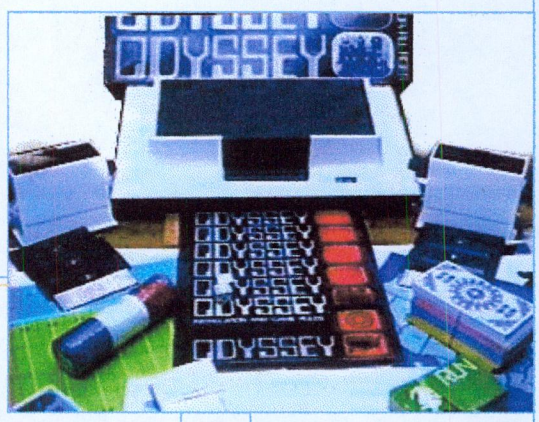
supplying Spacewar with all their new computers, using it in sales pitches to show the friendly side of their machines.

Little happened to the face of video game technology for a number of years, with games still only available on the enormous mainframes. Mechanical and electronic composite games appeared in the form of Sega's (Service and Games Enterprises) arcade shooting game, entitled 'The Periscope'. Using no monitor. Lights were projected on a semi-reflective screen and detected by a plastic 'rifle' containing a photo-sensor. Although not a true arcade video game, it paved the way for the future, clearing space among pinball tables and fruit machines.

In 1966, an employ of Sanders Associates defence technology firm, Ralph Baer initiated another of the lineages of the video game console. Baer was frustrated at the waste of technology he saw in the television set. He began to research an interactive T.V. that would give the user an element of feedback from his or her actions.

The first of his 'television gadgets' was adapted to play an extremely simple game where two players controlled square sticks either side of the screen, bouncing a square ball back and forth until one missed. Unfortunately for Baer, this game is rarely credited as the predecessor to 'Pong' (seen by many to be the game responsible for the success of video games today).

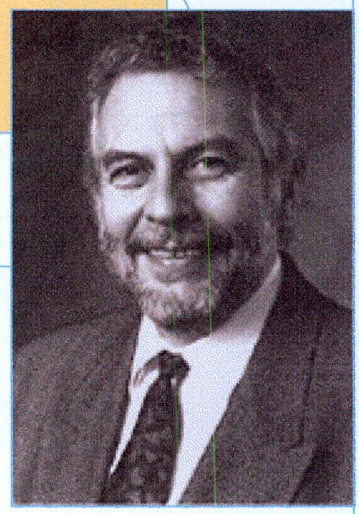
The T.V. games technology was purchased by Magnavox and developed into a system called the 'Odyssey' (fig#3), a T.V. plug-in console that played the simple tennis game. However, the system flopped less than a year after its release in 1972.



fig#3: The Magnavox Odyssey

Meanwhile Nolan Bushnell, a graduate of the computer science course in the University of Utah

employed at Nutting Associates (fig#4), began working on his own version of Steve Russell's Spacewars (to which he was exposed at college). Because mainframe machines still cost too much to feasibly be used purely for entertainment purposes, Bushnell developed a much-simplified dedicated machine that could only play Russell's game. With no copyright laws being observed in digital media at that time, Nutting released a coin operated version of the game, calling it 'Computer Space'.

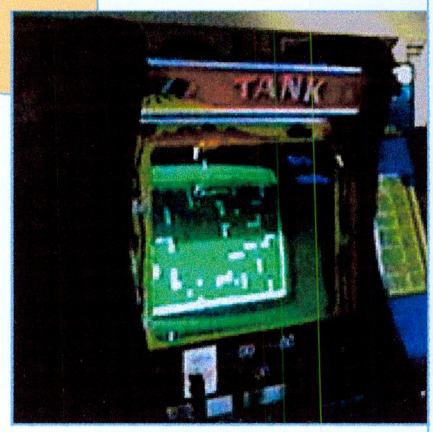


fig#4: Nolan Bushnell, co-inventor of Pong

Alas, this game was too difficult for the uneducated public to grasp, too big a step into the world of computing, thusly the first arcade game sank into obsolescence. Dismissed from Nutting Associates, Bushnell and some former college colleagues began work on a much more simple and intuitive table tennis game, blatantly plagiarising Baer's Odyssey. With their own funding, 'Pong' (fig#5) was released into arcades in Utah, and subsequently across the U.S. due to its massive success. Bushnell and his associates consolidated their partnership by founding the first dedicated video game company- Atari.

Fig#5: arcade Pong

In 1974, while Pong continued its phenomenal success in the arcades (with several other copycat games appearing from companies including Nutting), a number of top executives defected from Atari to a company called Kee Games, releasing that year's biggest game – Tank (fig#6). Public support seemed plentiful for Kee, who had taken many more risks than Atari, gaining wider access in public distribution routes. Later that year, Kee were discovered to be a subsidiary company of Atari, and merged back with their parent. This wasn't the first time Atari would mislead the public for it's own end.



fig#6: Tank, An Atari in wolf's clothing

That year, the ever-growing Atari developed the 'Home Pong' video game system (fig#7), much like the Odyssey it attached to any television system but could only play one game. The similarity between these two machines worked against Atari however, as retailers were sceptical of the console, wary of the previous incarnations poor sales and refusing to stock it. This prompted Atari to contact Tom Quinn, a buyer for Sears Roebuck, who upon seeing the system ordered 150,000 units for the Christmas Sears Catalogue, in which the 'Home Pong' machine was the best selling item.

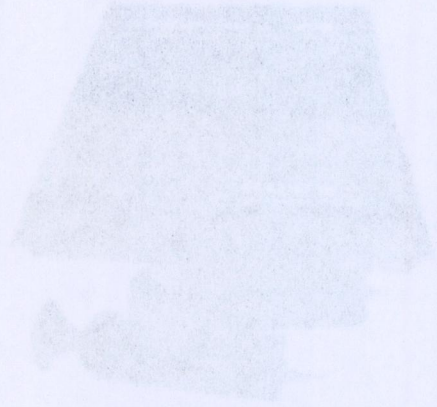
fig#7:Home Pong

This meant that the first time the public leisure market was exposed to the home video game phenomenon on a large scale, they saw the Atari Home Pong game system advertised in the children's toys section of the Sears Catalogue. The toy moniker is one which video game consoles have always found difficult to elude.

As was expected a rush of copycat home systems flooded the market, each playing only one game, a version of Pong shamelessly close to the original. This trend continued at least until the arrival of the first machine ever to be hailed as 'the next generation of video gaming', the Fairchild 'Channel F' (fig#8). The console was the first to boast interchangeable game cartridges and also possessed a feature, which Pong did not, removable and separate joystick controllers (both of Pong's were mounted on the unit itself). Although not commercially successfully, with these attributes the Channel F certainly paved the way for every single console made since.

fig#8:
The Fairchild
'Channel F'

Due to the saturation of the market, and with no immediate way to stay competitive and very little share in



the market. Nolan Bushnell panicked and in 1976, sold all of Atari's shares to Warner Communications. This injection of financial power into the company left it at the top of the video game ladder with a rather big budget to meet. "In February 1977 Bushnell started the Pizza-Time franchise of video-arcade restaurants, opening the first 'Chuck-E-Cheese' branch in New York to coincide with the launch of Atari's new video game console (fig#9), the 'Video Computer System' or 'Atari 2600' as it was also known" (p1 prg3, Various 1998). The VCS followed the trend of programmable video game systems that accepted games on cartridge rather than having them built-in. The unit relied initially on versions of Atari's arcade hits, which were converted for home play until exclusive titles arrived.

fig#9:The Atari VCS, or 2600

Unimpressive sales of the unit spawned tension between Bushnell and Warner, eventually forcing him to leave in 1978, maintaining the Pizza-Time franchise but signing a 5 year agreement not to enter into competition with the company he himself started.

That same year Japan entered into the fray with a sweeping sensation, Midway, an American company, imported two games from Namco and Taito, relatively new Japanese manufacturers of arcade games. Both of the games used a new form of microprocessing technology, as opposed to the hard-wired boards of other machines. The first was the little known 'Gunfight' from Taito in which two blocky cowboy characters either side of the screen move up and down, shooting square bullets at each other. The second, on the other hand is a household name the world over, Namco's inimitable 'Space Invaders' (fig#10). The game caused coin shortages in Japan and single-handedly revived the United States' slump in video game popularity.

fig#10: Namco's world famous 'Space Invaders'

Never ones to miss a bandwagon, Atari released 'Asteroids', another space-themed game and their biggest selling arcade game of all time. The game was ground breaking in that it was the first game to use "vector graphics, the earliest form of polygon graphics to appear in video game applications" (p2 prg4, Various 1998) a precursor to the 3-D polygon graphics used today in complex computer animation.

The VCS enjoyed strong year-round sales, and to keep interest at a peak Atari purchased the rights to convert Space Invaders to the VCS for home play, the first time the rights for a game were ever purchased. Upon the game's release in 1980, sales of the 2600 soared incredibly. This was the start of what has been dubbed 'the Golden Age of Video Gaming'. Over the next three years the industry enjoyed unprecedented success spawning the best selling games in history, 'Pac-Man' and it's sequel 'Ms. Pac-Man' sold over half a million units worldwide (originally called 'Puck-Man' until executives saw vandalistic potential in scratching out part of the letter 'P'). "U.S. arcade profits reached their highest revenues ever, $5 billion dollars. Americans spent more than 75,000 man years playing video games in 1982 alone." (p3 prg5, Various).

Scores of companies scrambled to find a niche in the market where they too could reap rewards from this on-going megatrend. Among these was a tiny Japanese tabletop games company by the name of Nintendo who unsuccessfully released a version of computer othello. The game was set into a coffee table for use in bars and was controlled by a mind-boggling array of twenty buttons. Already unsure of their future amidst everyone else's mirth, Nintendo's artists developed a more palatable kind of arcade game. Originally titled 'Monkey Kong' and starring a character called 'Jumpman', the game's name was misspelled

in translation and the character was named after the American office of Nintendo's landlord. Subsequently a game called 'Donkey Kong' was released, starring an Italian plumber called Mario.

Fortunately for the financially ailing Nintendo, the game was a hit on the home video game systems it was converted to, and later the company enjoyed a string of successful collaborations with Coleco on their new Colecovision console, keeping Nintendo alive and supporting their research and development teams.

Foolishly, Atari chose to pump funds into the development of a home computer, neglecting their dedicated console owners whom they attempted to appease with poor arcade translations and the appalling E.T. (the first licensed movie tie-in game ever). "Disgusted and disillusioned gamers boycotted these shoddy cartridges, leaving warehouses full of neglected software to end up as landfill in New Mexico" (p2, Thomas 1998). When Atari announced that year that VCS sales had failed to meet predictions "Warner Communications stock dropped 32% in a matter of hours" (p4 prg5, Various 1998).

With most companies now releasing home computers and the IBM personal computer gaining popularity in the home as well as the office, people's perception of computing technology changed. Why buy a machine that only plays games when you can buy another one which can help at home with countless other applications too?

In 1983 it finally looked like the age of video games was coming to a close. Almost overnight people started to buy home computers and stopped buying video game consoles. Countless companies went into receivership and bankruptcy seemed commonplace. The videogame industry collapsed entirely in the United States, leaving the few

remaining companies around the world to wander hopelessly in the ashes of 'The Great Console Crash'.

There was little hope for what many had now labelled a fad, with most of the former giants either out of business or changing product lines. One small Japanese company refused to admit defeat, however, launching a new console into a seemingly non-existent market, the 'Nintendo Famicom'.

2 a phoenix from the ashes - Famicom

The 8-bit Nintendo Famicom (fig#11) was launched in Japan in July 1983, intentionally designed to look like a toy to distance itself from the disastrous console –cum-workstations some companies had scrambled to produce in an effort to combat home computers. The Famicom (or NES as it was known in the U.S.) came packaged with all the necessary cables and two revolutionary control pads.

I say revolutionary because many people believe the Famicom's control pad to one of the main reasons behind its success, and those who followed. Indeed, as the player's direct interface with the game, it must be the most carefully designed aspect of a console, industrial designer and ergonomist Masuya explained what was so special about the NES's controller inparticular:

> *The holding and operating posture is absolutely unique. It gives a nice steadiness because you are holding it with both hands, and another unique feature is that you can operate it with little finger movement. Thumbs mostly – In my own opinion, video games would not have become such a big business without the invention of the Nintendo hand controller.*
>
> ***(p4 prg6, Masuya 1997)***

This approach to interface design differs greatly from Nintendo's first foray into the video games market, the awkward othello table game referred to earlier. Its confusing array of over twenty buttons scared away potential users and frustrated those who decided to play. The Nintendo Famicom quashed a lot of the mystique associated with video games with it's

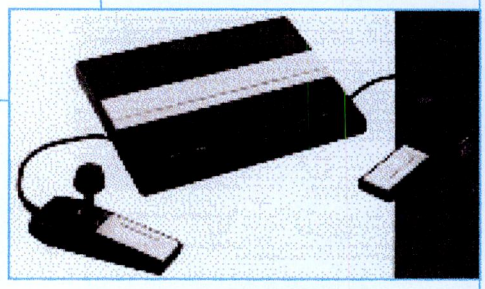
fig#11: The Nintendo 'Famicom'.

friendlier approach to the home, and opened up doors for other manufacturers, creating a new age for home entertainment.

Although the Famicom enjoyed instant success in its country of origin (mostly due to the unpopularity of home computers), Nintendo were quite hesitant to launch it in the U.S. – where people still saw video games consoles as relics from the past lying in the PC's shadow. Nintendo approached Atari (who were still reasonably powerful due to favourable sales of their home computers) in an attempt to collaborate with them in order to bring the Famicom to the United States. Atari expressed interest, meeting Nintendo for talks and holding them off while they secretly developed a new 16-bit home computer and games machine. This procrastination worried Nintendo; they needed to get the Famicom into stores by Christmas if it was to be at all successful. Wisely severing ties with Atari, they began to test market the Famicom in New York stores in 1985, calling it the Nintendo Entertainment System or NES. Retailers were so sceptical about anything to do with video games however, that Nintendo had to agree to buy back all the unsold stock. Looking for a way to sell the NES in America, Nintendo engineers invented R.O.B., a tiny robot whose simple actions could be controlled via the NES and control pad. He also interacted with two 'software packages' (not games, Nintendo insisted) on the system.

Quite amazed by these interactive 'Robot Games', the public bought into Nintendo's plan, failing to realise that R.O.B. was little more than a Trojan horse enabling them to get their foot in the door. All software development for the robot was discontinued as Nintendo's other games began to sell. With a healthy inventory of games (including Nintendo's first arcade port – Super Mario Bros.) and a great deal of success in New York, the NES moved nation-wide using R.O.B. for the

role he performed so well. Soon the NES became a runaway success with American teens, who flocked to a new system with exciting new games. Other manufacturers observed Nintendo's popularity and attempted to cash in on the resurgence in the video game market, after a two-year drought this was the only chance for many to stay alive. Unfortunately this resulted in many companies releasing rushed second-rate 8-bit consoles with very little support and few games, even the once great Atari unleashed the dismal 7800 (fig#12) on a snickering public now used to far better examples of modern technology.



fig#12:
The dismal Atari 7800

This all resulted in a gathering of support for Nintendo, third party software developers flocked to program for the NES. They signed contracts to work exclusively for Nintendo, who were now outselling their closest developers by as much as 10:1.

In an attempt to mirror their contemporary's explosion back onto the scene, Sega released the 8-bit 'Master System' in the U.S. (it had already enjoyed moderate success in Japan) through toy distributors Tonka. Their choice in distributors did nothing for the Master System's popularity as it was marketed purely as a toy, something which had worked for the NES to get a foot in the door until they moved on, whereas the Master System seemed a year behind in marketing terms. Spending $199 on a child's plaything seemed excessive to say the least, when for the same price they could invest in the 'next generation of entertainment' in the NES (which stood unchallenged in it's field). Tales circulated throughout the press of 'Nintendo Widows', a phrase coined to describe the woman whose spouse had little time for her while his NES was in the picture.

In 1987, a disillusioned Atari attempted to mix video game and home computer systems together with the 'Atari XE' Games System. This already outdated system used their old XE computer chip technology and came with it's own keyboard and tape drive for saving and loading programs. A behemoth console, it was dead on arrival as there was "little cross-market interest in a computer that was a console too. Most people already owned one and only wanted the other." (p3 prg4, Thomas 1998)

Atari and Nintendo locked horns on a number of issues over the next few years, beginning when Atari brought them to court in 1988 claiming that they possessed an unfair monopoly on the video games market as a result of exclusive programming contracts. The case was quashed, although Nintendo subsequently loosened their chokehold on developer contracts after a brief and victorious battle with Atari for the rights to produce the arcade game Tetris for home use. Perhaps feeling sorry for the next crushing blow they were about to deal in the form of 1989's Nintendo 'Gameboy' (fig#13) (Although commonly believed to be the first ever handheld game console in history, the Gameboy lost this title 7 years previous to the Milton Bradley 'Microvision' (fig#14). This handheld was doomed to fail, as display technology was unable to rise to the task asked of it. The unit's tiny 16x16-pixel screen was incapable of producing complicated or distinguishable graphics, which severely limited its games' potential).

fig#13:
The Nintendo
'Gameboy'

While Nintendo concentrated on producing pint-sized products Sega committed themselves to bigger and better things. In time for Christmas 1989 they released the first true 16-bit home video game console: the Sega 'Genesis', or 'Megadrive' as it was called in Europe (fig#15). For once a console actually lived up to the hype of

fig#14:
The Milton Bradley
'Microvision'

an arcade experience in the home, a massive following grew in the months to come.

fig#15: The Sega 'Genesis' or 'Megadrive'

For the first time since the early 80s Nintendo found themselves lagging behind in the popularity race. They quickly finished 'Super Mario Land 3' and tossed it to an eager public while they began work on their own 16-bit machine to contend with the increasingly popular Genesis. Ready for an early 1990 unveiling, the 'SuperFamicom' (fig#16) boasted better audio than Sega's console and what were, at the time, mind-blowing 3-D graphics capabilities.

fig#16: The Nintendo 'Super Famicom' or 'SNES'

Over the next four years, Nintendo and Sega waged a war at the pinnacle of video game success, both with technically impressive 16-bit machines armed with constantly updated and improving software. Nintendo's flagship character 'Mario' made a suped-up appearance which turned things slightly in their favour and Sega's purchase on the market seemed lost. This prompted the invention of their own cartoon-esque star; 'Sonic the Hedgehog'- an instant hit in Japan and America. Many sequels of both flagship games ensured a domination of the entire 16-bit market for both companies. Atari scrapped plans for a 16-bit console that they had proposed, realising the hopeless task of toppling the two giants required more financial support than they were capable of.

Eventually it was Sega who made the first move towards a more modern machine in 1992 with the launch of the 'MegaCD', essentially a Genesis that used compact discs as a storage medium. This move towards a reasonably fresh storage technology was a brave step taken by Sega, the storage potential of compact disc technology provided the potential for graphically and sonically amazing games. The console was

lacking in the power department though, with only a standard Megadrive's components under the shell. This, however, was not an entirely original idea. As early as 1990, Nintendo began research into a peripheral, which would greatly improve the SuperFamicom's audio and visual capabilities using compact disc technology. With little experience in storage media outside printed circuit boards Nintendo entered into collaboration with Sony, who were quite excited by this marriage, their first foray into the video game world. The project was dubbed 'PlayStation'.

3 a case study of success - PlayStation

While Nintendo and Sega were busy battling it out at the zenith of video game power, they lost sight of what it was that had gotten them there in the first place. Each was rushing to release the next generation of video game console, and at the same time staving the public off with thoughtless game releases. It would not be the fact that they had the most powerful machines on offer that would place them at the top of the pecking order, the soon to be deceased Atari laid claim to that trophy with the 64-bit Jaguar which had gotten them nowhere. The console crown would and had always been won with a fresh attitude to the market with enough support and advertisement to show a commitment to the platform in question. Nintendo had done it originally with the NES and opened up the new world of video games. Sega repeated it with the Megadrive, the first near arcade experience at home (what the public had often been promised but never given). Both companies were extraordinarily successful, selling some 14 million consoles in Europe alone and controlling 97% of the console market worldwide. But they were by their own hand, toy companies. These two giants became caught up in something of a petty war between their two character mascots (Sonic and Mario), distracting them to tunnelvision.

The whole video game market was essentially very young, primarily made up of teenagers to the age of 17 who quickly grew out of what was thought of as a child's pastime.

> *For the mainstream of society, it was something that other and younger people did. The market revolved around new product launches. Kids would flock like sheep to buy into the latest games experience. Sega and Nintendo didn't try to build relationships with the consumer; they simply tried to leapfrog each other with a regular procession of new games and hardware*

Neil Hourston, PlayStation advertising manager

Sony had long recognised the potential to create a new kind of videogame on CD-ROM through its vast entertainment resources within Sony Music and Sony Pictures (formerly Columbia Tristar). With hardly any experience in the volatile video game market, when the chance arrived to make an easy entry with an already established games giant they were needlessly quite excited and set their finest research and development teams to work on the resulting project PlayStation with Nintendo. An agreement was signed in which Nintendo maintained rights to the final design for the Famicom CD add-on, but Sony reaped publishing profits from Famicom CD games. Nintendo were not 100% pleased with this arrangement, but allowed Sony to continue development of the project.

As the PlayStation began to take shape, Nintendo felt increasingly sidelined and less relevant to Sony's plans. As Sony's engineers toiled to perfect and produce working prototypes of the unit, Nintendo distanced themselves from the partnership, citing lack of resources and personnel for the scarcity of their support. Becoming paranoid, Nintendo perceived that Sony's software success could threaten its survival. To the surprise and annoyance of Sony it announced in 1991 that it had entered an agreement with Philips to develop a CD-ROM platform for the Super Nintendo (SuperFamicom) which would also be compatible with the ill-fated 'Philips CD-i' platform. The contracts bent profits more in their favour than in the Sony deal, and in light of this, mid 1992 Nintendo announced the discontinuation of project PlayStation. After much legal wrangling Nintendo succeeded in extricating itself from the contract previously signed with Sony, leaving

an extremely bitter company with apparently little hope of success in the industry. However, the development of PlayStation continued.

Having come so far Sony were not about to abandon the idea completely and the engineers and designers went back to their drawing boards and started again. When the newly named PS-X surfaced in 1993 it took the industry pundits by storm. Sony had created its own thoroughbred games machine and advanced it far beyond existing formats ever dreamed. They had already learned (from observing other industry failures) the lesson that in addition to the best hardware it needed the support and recognition of the best software developers. The company recruited the best and ensured that companies like Konami, Taito and Namco were involved from the earliest days. Sony undertook a 'you scratch our back, we'll scratch yours policy' which convinced the arcade kings it would be a good move to use PlayStation as a breeding ground for arcade products.

> *(Sega and Nintendo) were so reliant on those particular characters (Sonic and Mario) that they suffered a disproportionate drop-off. Kids grew out of Sonic and Mario like we grew out of Airfix – they weren't using games to support the story of a larger experience, and people's understanding of brand marketing had moved way beyond were these people were.*
>
> ***Chris Willingham, PlayStation advertising executive***

From their previous (although limited experience in the industry, Sony knew the key factors which led to success. They had learned from the failures of many others like them in the past, who with technically superior machines and little else were unable to break the Sega/Nintendo stranglehold (most notably the fallen Goliath Atari whose 64-bit Jaguar had fallen by the wayside with lack of software and retailer support). A company was only as good as the quality of software and the amount of software titles. Sony worked closely with third party

developers such as Konami, Taito and Namco and discussed the possible hardware configuration needed to get the best from a home arcade machine. This level of support enabled Sony to supply an admirable collection of games to reviewers even before its official launch.

Carefully chose public figures (DJs, Journalists, sports stars, band members) in order to form a credible product brand even before a product officially existed. Units were shipped to major events, with PlayStation tents at Glastonbury and predominant clubs around Britain, quickly allying the console with good times in the minds of an older market than the norm.

Although Sega were first to launch a 32-bit games console (the Saturn) the blow from Sony's early marketing strategy caused them to panic; they rushed deadlines, releasing the Saturn months before the official date (the much hyped-up 'Sega Saturn Saturday'). As a result, they launched an incredibly sub-standard affair with only two games to its name; interest waned shortly after the release. PlayStation's campaign had already gained too much momentum at an early stage and was quite unstoppable, all according to the plans of David Patton, a Sony Computer Entertainment Europe (SCEE) advertising executive;

> *Once a product is announced to the consumer it is effectively launched in their minds. PlayStation was very visible during the launch of the Saturn, so people who might have been turned on by it decided to hold off until they saw PlayStation.*
>
> **David Patton, a SCEE advertising executive**

When the PlayStation officially launched in 1994, it blew all the competition out of the water, as expected. At $299, it was retailing at $100 less than expected yet still outperformed all existing units. The key

to its instant success was its appeal to the mass market. Sony wanted to lunch a consumer durable that would be appealing to all age groups;

"The strategy from the start was to target an older market"
Carl Johnson, PlayStation advertising manager

Sony believed that a lot of older people still wanted to play video games, perhaps those who had played games during the 80s but were now 'too old' and needed an excuse to take it more seriously. Other consoles felt like cheap toys, whereas Sony wanted to create something that could be placed beside the Hi-Fi, video or T.V. in a sitting room.

The first T.V. advertisement for PlayStation in Europe ran on the English channel I.T.V. during the popular soap opera 'Coronation Street'. This was the latest such a product had ever been advertised. A post 7:30 PM slot guaranteed an older audience and Sony knew that if the older market succumb, the younger would soon follow. Almost overnight they managed to raise the age level of the market, and suddenly all the younger kids who were playing Sega and Nintendo wanted to do what their big brothers were doing. Sony portrayed the PlayStation as the more intelligent way of gaming.

fig#17: a still from the SAPS campign

The slogan used at the launch of the PlayStation has been kept to this day; "*Never underestimate the power of PlayStation*". This billed the console as a threat to be heeded, which was bound to appeal to the public, in the way that telling somebody not to do something is the perfect way to ensure that they actually do it. A fictitious band of militant vigilantes known as the '*Society against PlayStation*' or 'SAPS' was created who protested against the evil of PlayStation (fig#17). A host of publicity stunts were staged as advertisements for the console, including

a parade down Dublin's O' Connell St. as well as invasions of radio stations and postings of warning stickers on shop windows. They organised noisy mock protests outside stores stocking PlayStations and numerous other events in order to gain pseudo 'bad press' for the console. Even with PlayStation's successful mass-market campaign well underway, Sony were aware of the need to keep the product perceived as being slightly 'underground'. Cards were placed in telephone boxes advertising 'Young Randy Bandicoots In Town' to herald the release of one of the console's first games, 'Crash Bandicoot'. The PlayStation hotline number was scrawled on each one.

While they sponsored major worldwide events such as the UEFA cup, Sony were careful not to 'sell out' and forget the niche markets responsible for its credibility. More underground activities such as skateboarding, breakdance competitions and dance music events were also supported.

The aim is to associate ourselves with adrenaline and passion – values you associate with PlayStation
David Patton, SCEE executive

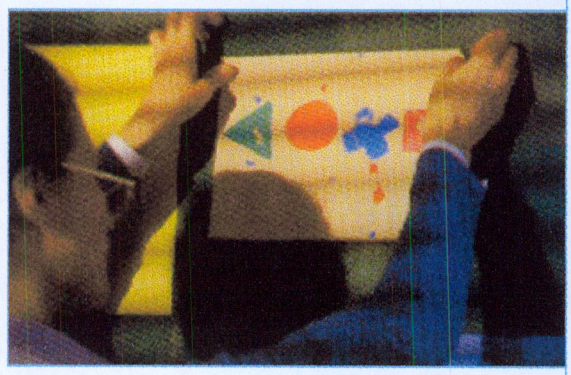
With up to 40 dedicated PlayStation magazines in circulation around Europe alone, and numerous fashion and style magazines carrying PlayStation columns featuring reviews of the latest hard and software, the public has no fear of lack of support or difficulty finding information on their chosen console. The PlayStation site is one of the top 10 websites visited in Europe (Webchart information 1998), only one year after opening. The eager public is saturated with PlayStation.

The next hurdle for Sony to contend with was the up and coming release of Nintendo's 64-bit cartridge based console late in 1996, the

N-64. Sony produced 3 advertisements, all of which were translated from their original T.V. incarnations to magazines, billboards and bus shelters. Shot in a documentary style, the commercials sold the PlayStation on the basis of an individual testimonial in each ad by someone whose life had changed because of PlayStation. The ads boasted about PlayStation's already existing catalogue of 250 plus games, a number that increased every week. This displayed the flaw in Nintendo's campaign; there were only 4 titles available for their N-64 with few immediately developing. As Sony no longer possessed the upper hand in the power race, this and a huge price cut to $129 resulted in a successful sabotage of Nintendo's launch.

> *The commercials were revolutionary within the computer games category. It was the first time an advertiser had targeted an adult audience with games advertising. We really upped the stakes, took PlayStation to a more mature plateau. It was cool and credible and didn't rely on the graphics or the gameplay. Rather, it hinted at something more intelligent and creative.*
>
> ***Chris Willingham, PlayStation advertising executive***

Further advertisement campaigns showed PlayStation to be the most mature and intriguing of all the 'super-consoles'. Basing ads not on language or humour idiosyncratic to certain regions, they communicated mostly on a visual and many other levels. The most famous of these campaigns is probably the 'Shapes' campaign (figs# 18 & 19), which featured the four symbols seen on the buttons of the control pads, □○△✕ Beautifully simplistic yet mysterious looking hieroglyphs which appeared in all manner of



figs 18 & 19:Shots from the 'Shapes' campaign

occasions, from thumbprints of criminals to children's paintings and toe-tags on victims of violent crimes. Sony even commissioned directors of arthouse films to produce one-off advertisements for them, most of which could not be shown in mainstream cinema. One of these, Dan Nathan's 'Le Petit Chef' won gold at Cannes in the 'Product Advertisement' category. The newly released 'Double Life' advert has taken PlayStation a level further still, soliciting praise from all aspects of the advertising and videogame industry. The ad portrays people from all walks of life, from young executives to skateboarding youths and ledaen female models to faceless gangsters, all of whom release themselves during their free time with '*the power of PlayStation*'. As they say, '*at least they can say they've lived*'. This purports PlayStation to be a lifestyle choice rather than an idle past time. Something anyone can proudly say they partake in and set time aside for, as opposed to waste time with. For the first time a console manufacturer wasn't turning peoples heads of its latest all-singing and dancing game, but turning them back on the whole, focusing us on the fact that it was the console as a brand which was truly a great thing.

We couldn't have done that as last year. It needed three to four years build up in terms of PlayStation positioning.
Neal Davies, PlayStation Advertising Account Director

Having put the emphasis of their campaign in the correct place, with over $500 million spent on promotion alone (p3 Thomas 1998), Sony rightfully stand at the summit of a mountain many thought impossible to climb. With over 450 titles in production at the moment and an existing library of 250, it seems as if PlayStation can do just about whatever it chooses. The best people in all aspects of the industry,

from software developers to film directors are clamouring to Sony for a chance to work with such a prestigious brand. More than 37 million PlayStation consoles have been sold worldwide, with the games industry accounting for 25% of Sony's gross annual profits. After just 4 years in the business, they reduced Nintendo and Sega to squabbling over 20% of the market while Sony themselves control the remaining 80%. A well deserved penalty for not observing the motto;

'Do Not Underestimate the Power of PlayStation'.

4 general discussions and future projections

In retrospect, many of today's opinions pertaining to computers and video games are mirrored by those in the past. For instance, one of the main persistent concerns about video games is to do with their potential influence over their users. Taking the immense user base and the user's average age into account, arcade and video games manufacturers would seem to be in a position of great responsibility. This is not reflected or honoured in practise, however. The trend whereby there always seems to be a video or arcade game causing an uproar due to it's disgraceful sexual or violent content is not a new one. Since as far back as 1976 arcade game content has occasionally tended towards the macabre with Exidy games releasing their only majorly successful game, 'Deathrace 2000' (fig#20) that year. In this game player gained points for running down pedestrians en-route to the main rally event. Public outcry eventually pressured the American government into forcing the withdrawal of the units.

fig#20: DeathRace 2000

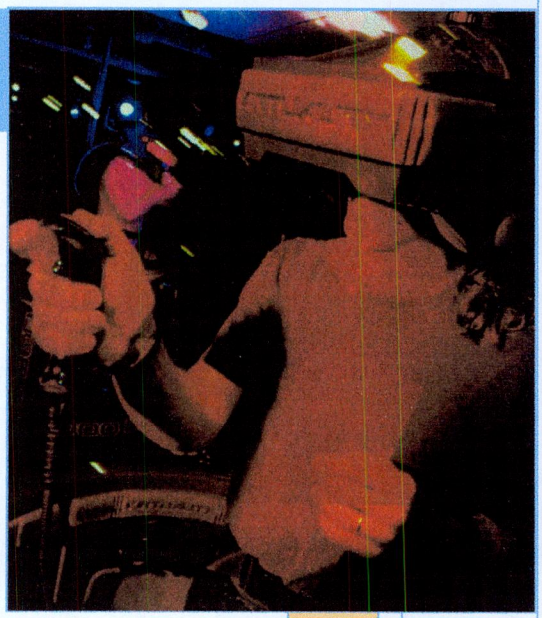
Technology advanced over the years and computers attained the ability to render clearer, more lifelike graphics, which resulted in the production of more 'shock value' games. In these games the main attraction is the dismissive portrayal of violence controlled by the player on-screen, and in most cases this is undoubtedly the only attraction. Production companies concentrate on special effects and gore while budgets are spent on hiring actors to digitise (digitally capture their movements to animate on-screen) and much sought-after computer graphic designers. Playability is rarely considered and the game lasts only until the next generic 'shocker' is released.

This kind of abuse of an audience is also observed in the automatic 'movie tie-in' games, which saturate the markets nowadays. No Hollywood blockbuster goes without it's own video game, some even make it to the shelves in a publicising effort before the movies are released. Obviously not every movie's subject matter is suitable for transportation to the 'small screen', which results in hoards of underachieving and uninspiring games, the first of these being the absolutely abysmal ET by Atari. So terrible was the game in fact, that Atari were forced to dump thousands of copies as landfill in New Mexico.

One recent change to consider shows just how powerful the video game industry is. Not only are movies being converted into video games, but also many video games have been converted into major motion pictures. The first of these was 1992's 'Super Mario Bros.' Starring Bob Hoskins as Mario himself, and is a prime example of the typical result of a game-to-cinema conveyance. Unfortunately the same greed inspired production ethics apply for these media crossovers and poor quality special effects bonanzas see daylight for a few weeks of pocket-money draining publicity.

As poorly executed as these efforts may be, they effectively display the amount of money the video games industry is worth to the entertainment world. It is quite easy to forget that all the major leaps and bounds in computer technology have been funded and researched primarily by the American military. From the outset of the entire industry the US. Government defence agencies supported DEC and MIT in their computer projects hoping for technological innovations applicable to their ends. To take the military's point of view, the investment has paid off. From the invention of the Head Up Display (HUD), where vital information is projected onto a pilot's cockpit window, to the striking

'smart weapons' exhibited to us during the Gulf War. Pilots who flew during the Gulf War were heard to comment on how "it all seemed like a big video game" in the way one just pointed and pressed a button, the computers did the rest.



fig#21: a typical arcade Virtual Reality setup

Another emerging technology which has it's shady beginnings attached with the military is Virtual Reality, or VR. VR is the name given to the process whereby a user is immersed into a digital virtual environment by means of a variety of equipment (fig#21). The user wears a headset which houses surround sound speakers and two small LCD monitors creating a stereoscopic visual effect. Further accoutrements enable the user to become deeper immersed in the virtual world, such as the DataGlove (a glove worn on the hand which provides the user with a corresponding virtual image of his or her hands in the implied world) and bodysuits (some of which enable a degree of sensory feedback through touch).

Virtual Reality surfaced amidst an explosion of media hype heralding VR as the biggest breakthrough in interactive technology since the microchip, with applications possible in media, medicine, entertainment ad infinitum. This hype is self-perpetuating in a way that it damages public perception and so instils frantic research and development to deliver the expected, which has by then exceeded current technical possibilities. In practise, VR falls quite short of the hype projected. Basic graphics coupled with a nausea-inducing time lag between user control and computer reaction make a mockery of the expectations, but still fail to damage the perceived potential.

So what does the future hold for the humble video game? In a world which works as quickly as this one, projections are foolish to make. Undoubtedly, Virtual Reality will feature greatly in all our lives when technology reaches a platform high enough for it to be feasible, but until then? The new millennium brings us PlayStation II.

conclusion

Video games were not an amazing discovery through an alignment of microchips processing an array of commands. They were inevitability. Humans have been interacting on so many different levels in a physical form, but only ever in one way or with one sense. The video game has provided a continuous loop of perennial interactivity since it's humble beginnings in 1956. And since then computer technology has continued to improve at a geometric rate. People require more and better, so the industry tries to meet demand, feeding them even more hype than before. Nobody can blame the public for expecting far greater things than what may be plausible (note that we're not flying around in hovercars yet). The computer world is one that never fails to promise, but always fails to deliver. People's expectations always exceed current technology's capability. VR is a prime example.

Development of the 'total immersion' technology is unsurprisingly slow. Virtual Reality is the first major change in the video game-interaction world in almost four decades, and at the blisteringly expeditious pace at which the electronics industry moves, any severe change always takes more time. As David Liddle said in his address at the Doors of Perception design week:

> *-this is very much like the fact that in a small aircraft you can fly at quite a high speed if you don't do any manoeuvring, but you have to slow down a great deal if you are going to make even the slightest turns*
>
> ***(p2, prg3, Liddle 1998)***

This image is apparent in all regions of video game history. As soon as some bright spark has a new idea and releases it, a spate of identical games or consoles appear, all trying to outdo each other with the same traits. Companies fall into the rigmarole of endlessly churning

out black boxes into a saturated and unexcited market, there is little time for planning or strategy if one is to beat the competitor at his own game.

The company who slows down and plans carefully will inevitably surface with a fresh aspect to excite the exhausted masses, as Sony did with PlayStation. Of course Nintendo began to imitate the better player, as did Sega with their Dreamcast, like teens on a dancefloor. Both tried to improve the technology in the ways that they *could*, not in the ways they *should* have.

Virtual Reality is most definitely the future of not just video games, but entertainment and interaction with computer systems. After the technology produced by government funds had been let into the open, it found it's way straight to the arcades like the video games of yesteryear. But the '*can we?* instead of *should we?*' problem arises again. Realistic applications in medicine and warfare abound in VR, but the potential for the kind of escapism offered by such a technology is not amazing, but petrifying. As the experience improves and the lines between actual and virtual reality blur, who will want to withhold themselves in the real world?

Note: because of the constant updating of websites by faceless contributors, their authors have just been referred to as 'various'

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P.S. – The author also quoted various members of TBWA- PlayStation's advertising agency from his own correspondence through e-mail.

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